

PHASE I ENVIRONMENTAL SITE ASSESSMENT

3811 ½ Tannehill Lane (Property ID 199328), Austin, Travis County, Texas 78723



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August 9, 2017

EXECUTIVE SUMMARY

This report documents the methods, findings, opinions, and conclusions of a Phase I Environmental Site Assessment (ESA) performed by INTERA Incorporated (INTERA) for an 8.922-acre portion of the Travis County parcel number 199328, located at the northeast corner of the intersection of Tannehill Lane and Jackie Robinson Road, Travis County, Texas (Site or Subject Property) for the City of Austin's Brownfields Revitalization Office. The City of Austin is using resources from its Brownfields Revitalization Office and funds from the United States Environmental Protection Agency (EPA) Brownfields assessment program to assist the City of Austin to perform due diligence for a potential property transaction and future redevelopment of the subject property.

INTERA conducted this ESA in accordance with Standard Practice E1527-13 of ASTM International (ASTM), entitled *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process*. The Phase I ESA included a review of the Subject Property and adjoining properties' historical and current land use records, standard environmental regulatory agency records, a Site reconnaissance, and interviews with individuals having knowledge of past and/or present uses of the Subject Property. These activities were performed to assess sources of surface and subsurface contamination that potentially exist at the Site and within ASTM-specified distances from the Site. This information was integrated with the physical setting data and the development plans for the Site to form an opinion concerning whether properties found to be a potential source of contamination may, in fact, be a recognized environmental condition (REC) with regards to the Subject Property as defined by ASTM. The Phase I ESA was performed by environmental professional(s) as defined in 40 CFR §312.10 and as identified in this report. This report documents the findings, opinions, and conclusions of the Phase I ESA effort.

Based on the findings for this Phase I ESA, no RECs were identified on the Subject Property, nor at adjoining and vicinity properties. One historical REC was identified for the Federal Express facility adjoining the Subject Property to the northeast. Soil and groundwater contamination occurred from a gasoline release from a 10,000-gallon underground storage tank (UST) located at the facility. The UST was removed on October 10, 1996, the site is inactive, and fueling operations no longer are conducted at the Federal Express facility. Assessment and removal action activities addressed the environmental subsurface impacts to the satisfaction of the Texas Commission on Environmental Quality. This is indicated by the final concurrence status given to the site in 2006. The assessment documents indicated that the affected groundwater zone was not part of a major or minor aquifer and there was no documented use of the affected zone within 0.5 mile of the Federal Express tank release area. Groundwater gradient of the shallow alluvial groundwater-bearing unit was documented as relatively flat, with groundwater flow to the east and southeast.

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ACRONYMS AND ABBREVIATIONS

AAI	all appropriate inquiry
AID	Altoga soils and Urban land
AISD	Austin Independent School District
AMSD	approximate minimum search distance
amsl	above mean sea level
AST	above ground storage tank
ASTM	ASTM International
AUL	Activity and Use Limitation
Banks	Banks Environmental Data
BEG	Bureau of Economic Geology
bgs	below ground surface
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
Client	City of Austin's Brownfields Revitalization Office
CORRACTS	RCRA Corrective Action Sites
EPA	U.S. Environmental Protection Agency
ESA	Environmental Site Assessment
FEMA	Federal Emergency Management Agency
ft	foot or feet
HsD	Houston Black soils and Urban land
IC	Institutional Controls
INTERA	INTERA Incorporated
IOP	Innocent Operator Program
LPST	Leaking Petroleum Storage Tank
LNAPL	light non-aqueous phase liquid
LQG	Large Quantity Generator
MSW	municipal solid waste
PIR	public information request
PST	Petroleum Storage Tank
RCRA	Resource Conservation and Recovery Act
REC	recognized environmental condition
Site <i>or</i> Subject Property	3811 ½ Tannehill Lane, Austin, Texas 78723
SQG	Small Quantity Generator
SWLF	Solid Waste Disposal or Landfill

TCAD	Travis Central Appraisal District
TCEQ	Texas Commission of Environmental Quality
TPWD	Texas Parks and Wildlife Department
TuD	Travis soils and Urban land
TWDB	Texas Water Development Board
USDA	United States Department of Agriculture
USGS	United States Geological Survey
UST	Underground Storage Tank
VCP	Voluntary Cleanup Program

1.0 INTRODUCTION

INTERA Incorporated (INTERA), under contract to provide services to the City of Austin's Brownfields Revitalization Office (Client) (Contract Number: MA 6100 SA150000006), was tasked to perform a Phase I Environmental Site Assessment (ESA) for undeveloped land located at the northeast corner of the intersection of Tannehill Lane and Jackie Robinson Street and south of and adjacent to the property with the address of 4001 Tannehill Lane, hereafter referred to as the Site or Subject Property (Property ID 199328, no number address listed). The location of the Subject Property is illustrated on **Figure 1**.

The City of Austin is using consultant resources from its Brownfields Revitalization Office and funds from the United States Environmental Protection Agency (EPA) Brownfields assessment program for the assessment of the Subject Property for a potential acquisition. The City of Austin is planning to purchase the Subject Property from the current owner, the Austin Independent School District (AISD). Future site use is unknown at the time of this report preparation.

1.1 Purpose

This Phase I ESA was performed to identify, to the extent possible, any recognized environmental conditions (RECs), defined below in **Section 1.2**, that could potentially impact future property transfers and/or development, and to collect reasonably ascertainable information about the environmental condition of the Subject Property. This is performed consistent with good commercial and customary practice, to allow future development of the Subject Property and to qualify the City of Austin for statutory limitations on potential liability under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

This Phase I ESA may also provide the Client and property owner with information that will allow the planning of administrative and engineering controls, and/or personal protective equipment to be utilized during redevelopment to minimize construction worker exposure, unanticipated work delays, cost overruns, and risk of financial liability due to required responsive action to environmental conditions.

1.2 Detailed Scope of Services

The objective of a Phase I ESA is to identify, in accordance with ASTM International (ASTM) Standard E 1527-13, any RECs, historical or otherwise, at or near the Subject Property that could pose potential liability to a person or interest seeking to purchase or improve a parcel of real property (ASTM, 2013). This process is also referred to as an All Appropriate Inquiry (AAI). The EPA issued requirements for conducting AAI and allowed the use of ASTM E1527-13 to meet the requirements of AAI. This Phase I ESA was performed in accordance with ASTM E 1527-13, with exception of any deviations listed in **Section 7.4**. The ASTM methodology establishes a good commercial and customary practice for conducting an environmental assessment of a parcel of real property with the goal of identifying RECs. For the purposes of this Phase I ESA report, the definition of the term "*Recognized Environmental Condition*" is as outlined in Section 3.2.78 of ASTM Standard E 1527-13:

“[T]he presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment. *De minimis conditions* are not *recognized environmental conditions*.” (ASTM, 2013, p. 8)

An additional term related to this Phase I ESA report is “*de minimis condition*.” It is defined as:

“[A] condition that generally does not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. Conditions determined to be *de minimis conditions* are not *recognized environmental conditions* nor *controlled recognized environmental conditions*.” (ASTM, 2013, p. 4)

In general, the Phase I ESA scope of services included the following four components:

- A historical records review;
- Site reconnaissance;
- Interviews; and
- Report.

Non-scope environmental considerations such as those identified in ASTM E 1527-13 (including, but not limited to, cultural and historical resources, ecological resources, endangered species, health and safety, indoor air quality unrelated to releases of hazardous substances or petroleum products, industrial hygiene, asbestos-containing building materials, lead-based paint, lead in drinking water, mold, radon, regulatory compliance, and wetlands) were not evaluated as part of this ESA.

1.3 Significant Assumptions

The significant assumptions underlying the preparation of any Phase I ESA are specified in the principles set forth by ASTM Standard E 1527-13. The principles are presented in their entirety in Section 4.5 of ASTM Standard E 1527-13 (ASTM, 2013, p. 10). Additional significant assumptions pertaining to this Phase I ESA are briefly summarized as follows:

- Environmental database information (and facility locations) generated by Banks Environmental Data (Banks), information obtained from the Public Information Request through the City of Austin Law Department, and information obtained from the City of Austin reviewed for this Phase I ESA are accurate and complete;
- The Client has provided INTERA with all the information in its possession that would help determine the presence of RECs; and
- Interview information provided to INTERA by various parties and individuals is accurate and was provided without bias.

1.4 Limitations and Exceptions

Any Phase I ESA is by nature limited and qualitative in scope, being based predominantly on the examination of selected maps, agency records, interviews, and visual and/or physical observations made during the site visit. As such, this Phase I ESA should not be construed to be a complete characterization of environmental regulatory compliance of conditions above or below ground surface at the Subject Property. Instead, the ESA process is designed to provide information regarding apparent existing or potential adverse environmental conditions related to the Subject Property in accordance with good commercial and customary practice. Any significant data gaps that would further limit the scope of the ESA are identified in **Section 7.4**.

This Phase I ESA is limited to the information available or known to INTERA as of the date of this report. Consistent with ASTM E Standard 1527-13, no intrusive testing or sampling of concealed or subsurface conditions was performed at the Subject Property. The findings, opinions, and conclusions contained in this report are limited to those that could be identified during a Phase I ESA performed in accordance with ASTM Standard E 1527-13. INTERA has accepted as true the information provided by interviewees on current and historical uses of the Subject Property and surrounding area. INTERA does not warrant or guarantee the accuracy or completeness of information provided by other sources.

INTERA represents that the Phase I ESA was performed in a competent manner by environmental professionals, consistent with the practices and procedures contemplated under ASTM E 1527-13. However, even with proper application of the ASTM methodology, environmental conditions may be present that cannot be identified within the scope of the Phase I ESA or that may not be reasonably identifiable from the available information. As such, no warranty is expressed or implied as to the findings, conclusions, and/or recommendations presented in this report beyond matters amenable to empirical review and visual confirmation within the limits under ASTM E 1527-13 and/or the specified scope of work.

1.5 Special Terms and Conditions

No special terms or conditions were imposed on this Phase I ESA.

1.6 User-Reliance

This Phase I ESA has been prepared for the use of the City of Austin. There are no third-party rights or benefits conferred under this report. Use of or reliance on this Phase I ESA report by any third party is at the sole risk of that party.

2.0 SITE DESCRIPTION

As required by ASTM Standard E 1527-13, INTERA gathered information concerning the location, characteristics, current land uses, and physical improvements of the Subject Property, adjoining properties, and vicinity. Sources for this information were United States Geological Survey (USGS) 7.5-minute historical topographic maps, geologic and hydrologic publications, aerial photographs, observations made during the site reconnaissance, and interviews.

2.1 Location and Legal Description

The Subject Property is located at the northeast corner of the intersection of Tannehill Lane and Jackie Robinson Street in Austin, Travis County, Texas, 78723 and is located south of and adjacent to property with the address of 4001 Tannehill Lane (**Figure 1**). The Subject Property consists of 8.922 acres and is identified by Travis County as parcel number 199328 (Travis Central Appraisal District [TCAD], 2017) (**Figure 2** and **Appendix A**). The Travis County Plat Records for the Subject Property were obtained from Travis Central Appraisal District (TCAD, 2016) (**Appendix A**); there were no deed history records associated with the Subject Property. Subject Property information from the TCAD is summarized in **Table 1**. An Environmental Lien Search of the Subject Property was conducted by Banks because a property transaction is planned. Environmental Liens and Activity Use Limitations (AULs) were not found for the Travis County parcel number 199328 (Banks, 2017a).

Table 1. Summary of Subject Property Tax Parcel Information

Owner Name	AUSTIN INDEPENDENT SCHOOL DISTRICT
Property ID No.	199328
Geographic ID No.	0209230468
Legal Description	ABS 22 SUR 29 TANNEHILL J C ACR 8.922 (TCAD, 2016)
State Code	F1
Address	3811 ½ TANNEHILL LANE TX 78723
Mapsco:	586R
Size (acres)	8.922
Taxing Jurisdictions	01, 02, 03, 0A, 2J, 68

2.2 Site and Vicinity General Characteristics

This section of the report describes general physical characteristics of the Subject Property and its vicinity. ASTM Standard E 1527-13 specifies that only one standard physical setting source must be checked during the Phase I ESA for information pertinent to contaminant fate and transport. The primary physical setting source used for this Phase I ESA was the most recent topographic map for the site (Banks, 2017b); however, other documents from various physical setting sources were reviewed, and the results of this review are discussed in the following subsections.

The Subject Property (Property ID 199328) is located east of the Dovie Bunton and Truman Heights Subdivisions in East Central Austin, Texas. Currently, the Subject Property spans 8.922 acres and is located south of and adjacent to Norman Elementary School (4001 Tannehill Lane) (**Figure 2**). The Site is owned by AISD and has not been developed. On November 16, 1994, Frost National Bank-Austin built and donated the Front Ropes Course to AISD. The Subject Property currently consists of the ropes course obstacles, consisting primarily of utility poles, cables and wooden climbing/hiding structures and a metal storage building. Photographs of the Subject Property are shown in the photograph log (Photograph Nos. 1 through 13 – **Appendix B**).

The area surrounding the Subject Property is located between a mixed residential area to the west and commercial area to the east (**Figure 3**). Details about the physical setting of the Site and general characteristics of the vicinity are discussed in **Section 2.3**. Details about the adjoining properties are discussed in **Section 2.4**. Photographs of adjoining properties and vicinity findings are shown in the photograph log (Photograph Nos. 13 through 21 – **Appendix B**).

2.3 Physical Setting

Several sources were reviewed to determine the physical setting of the Subject Property. The results of the review of documents from these physical setting sources are described in the following subsections.

2.3.1 Topography and Watershed

The USGS “Austin East” quadrangle provides coverage of the Subject Property. Topographic maps of this quadrangle are provided in **Appendix C** and were reviewed for surface topography and drainage information in the vicinity of the Subject Property.

Surface elevation is approximately 550 to 560 feet (ft) above mean sea level (amsl) at the Subject Property (Banks, 2017b and USGS, 2013). The Subject Property surface topography is generally flat with a gentle downward slope toward the southwest (USGS, 2013). Surface water drainage runs off to the southwest toward a dry run-off ditch across Tannehill Lane.

The Subject Property is located up-gradient of an unnamed tributary to Boggy Creek; the unnamed tributary is located approximately 1800 ft southwest of the Subject Property. Both the unnamed tributary and Boggy Creek are intermittent streams (USGS, 2013). In the vicinity of the Subject Property, the unnamed tributary flows approximately 4,000 feet north to south and discharges into Boggy Creek. At its closest point to the Site, Boggy Creek is at an elevation of approximately 470 ft amsl (USGS, 2013). Boggy Creek flows west to east approximately 1.0 mile, where it discharges into the Colorado River. The Colorado River is a major waterway of central Texas that flows generally southeast toward the Matagorda Bay and the Gulf of Mexico (Texas Parks and Wildlife Department [TPWD], 2017a).

According to the TPWD Texas Watershed Viewer, the Subject Property is in the City of Austin-Colorado River watershed and in the Colorado River basin (TPWD, 2017b). The City of Austin’s “FloodPro” Mapping

Model shows that the Subject Property is not located within the 100-year Federal Emergency Management Agency (FEMA) floodplain (City of Austin, 2017).

2.3.2 Soil Characterization

The United States Department of Agriculture (USDA) – Travis County soil survey (USDA, 1974) and the Soil Survey provided by Banks were reviewed to identify and describe local surface soil types. According to the Soil Survey provided by Banks in the Regulatory Database Report, soil at the Subject Property is composed of three types: Altoga soils and Urban land (AID); Travis soils and Urban land (TuD), and Houston Black soils and Urban land (HsD) (Banks, 2017c page 11-13 – **Appendix D**). The soil survey map on page 10 of the Banks report shows that the majority of on-site soils are included in the TuD group.

- AID unit is mainly on single side slopes but is partly on gently sloping ridges. Altoga soils make up about 65 percent of this unit, Urban land about 30 percent, and other soils about 5 percent. In undisturbed areas of Altoga soils, the surface layer is brownish-gray silty clay about 6 inches thick. The next layer is very pale brown silty clay loam about 18 inches thick. The underlying material is pale-yellow silty clay loam. Works and structures on Urban land are mostly single-unit dwellings and streets, driveways, sidewalks, and patios. The soil characteristics that affect urbanization are mainly shrink-swell potential, corrosivity, percolation rate, and alkalinity (USDA, 1974).
- TuD (undifferentiated group) occupies high terraces. It consists of about 45 percent Travis soils, about 35 percent Urban Land, and about 20 percent other soils. More than 95 percent of the acreage is gravelly. Travis soils have a surface layer of gravelly fine sandy loam about 18 inches thick. It is brown in the upper part and light reddish brown in the lower part. The next layer, to a depth of 50 inches, is red gravelly sandy clay. The Urban land is mostly occupied by single-unit dwellings and streets, driveways, sidewalks, State institutions, shopping centers, and apartment complexes. Some soil characteristics that affect urban construction are shrink-swell potential, as it affects structures; corrosivity (metal pipes); percolation rate, as it effects septic systems (USDA, 1974).
- HsD occupies ridges and foot slopes and urban areas. It consists of about 56 percent Houston Black clay, 30 percent Urban land, and about 14 percent other soils, including Heiden clay and Burleson clay. The Houston Black soils have a surface layer of very dark gray clay or gravelly clay about 30 inches thick. The next layer, to a depth of 75 inches, is dark-gray clay. The underlying material is mottled clay. Urban land is mainly occupied by single-unit dwellings and streets, driveways, sidewalks, and patios. There are also a few service stations, schools, churches, and small shopping centers and their paved parking lots. The soils of this unit present problems with used urbanization. These are special problems in designing and maintaining foundations, traffic ways, other works of concrete and asphalt caused by a shrink-swell potential; the corrosion of steep pipe; erosion hazard in cutting banks; and a percolation rate that presents hazards for septic systems (USDA, 1974).

2.3.3 Hydrogeology

The “Geologic Atlas of Texas, Austin Sheet” (Bureau of Economic Geology [BEG], 1981) and the USGS Texas Geology Web Map Viewer (2017) were reviewed to determine general geologic setting at the Subject Property. The geologic maps show that the Subject Property is underlain by Quaternary fluvial terrace deposits. These terrace deposits are described as gravel, sandy, lenticular, stratified, cross-bedded, locally cemented by calcite; clasts granule- to cobble-size, well-rounded to subangular, composed of metamorphic rocks, quartzite, milky quartz, chert, and fine-grained igneous rock from distant westerly sources, also minor clasts of local bedrock; contiguous terraces of different ages separated by solid line. (BEG, 1981).

In the vicinity of the Subject Property, the terrace deposits are considered upper deposits, which are gravelly, sandy, red deposits.

Soil borings were reviewed to assess the soil thickness and depth to groundwater in the shallow subsurface at and in the vicinity of the Subject Property. Data were reviewed from several soil borings installed east and north of the Subject Property at a former leaking petroleum storage tank (LPST) site. The borings to the east encountered alluvium consistent with terrace deposits (Texas Water Development Board [TWDB], 2017). Monitoring wells at the former LPST site were completed at a depth of 40 ft below ground surface (bgs); those wells were screened in the alluvium. Depth to water for the LPST site monitoring wells ranged from 27 to 37 ft bgs with a relatively flat groundwater gradient generally to the east and southeast. The Subject Property lies above the Trinity Aquifer, which is considered a major aquifer.

INTERA reviewed the Texas Commission on Environmental Quality (TCEQ) online Edwards Aquifer mapping system to determine if the Site is located within the Edwards Aquifer recharge zone. The mapping system revealed that the Site is not located within the recharge zone (TCEQ, 2017).

2.4 Descriptions and Current Uses of Adjoining Properties

Properties adjoining the Site are identified on **Figure 2**, and are described below. Other properties in the immediate vicinity of the Subject Property are also identified on **Figure 2**.

- To the north is Norman Elementary School, located at 4001 Tannehill Lane.
- To the west are private properties, including
 - a 7-acre lot with a walking trail owned by Greater Works Baptist Church located at 3800 Tannehill Lane, and
 - a residential lot located at 5608 Jackie Robinson Street.
- To the southwest is a residential, single family home, located at 5601 Jackie Robinson Street.
- To the south are two lots owned by Travis County and a private residential lot, including
 - An undeveloped lot, located at 5701 Jackie Robinson Street,
 - Travis County International Cemetery, located at 1312 Axel Lane, and
 - A residential lot, located at 3717 Axel Lane.
- To the east is commercial property housing two large warehouses, located at address 3714 Bluestein Drive.
 - Building 6 leased spaces are occupied by Austin Rig & Crate in Suite 600, Chip Semiconductor in Suite 630, and Veggie Noodle Co., LLC in Suite 650.
 - Building 7 leased spaces are occupied by Action Box in Suite 700, Star of Texas Events in Suite 750, and Interstate Plastics in Suite 790.
- To the northeast is commercial property, Federal Express Distribution Center, located at 5811 Techni Center Drive.

3.0 USER-PROVIDED INFORMATION

Ms. Christine Whitney, Brownfields Program Manager for the City of Austin, provided a surrounding area aerial photograph, which was included in the Southwest Strategies Group land brochure.

Environmental topics provided in the User Questionnaire included in Appendix X3 of ASTM Standard E 1527-13 were discussed with the Subject Property owner's representative, Mr. Paul Turner, Executive Director of Facilities, Office of Facilities, AISD, in a telephone conversation dated July 7, 2017. The information provided by the knowledgeable person for this site, Mr. Turner, is discussed in more detail in **Section 5.0**.

4.0 RECORDS REVIEW

In accordance with ASTM requirements, INTERA reviewed previous reports and standard federal, state, local, and tribal environmental regulatory agency documents. A listing of the records reviewed and a brief description of each are provided in the subsections below.

4.1 Historical Use of the Site and Adjoining Properties

INTERA contracted Banks to search for and provide historical topographic maps, historical aerial photographs, historical city directories, and historical fire insurance maps for the Subject Property and surrounding properties. INTERA reviewed the historical sources of information to develop a history of development and prior land uses associated with the Subject Property and adjoining properties, and to identify past land uses that would indicate that hazardous substances or petroleum products were used at the Subject Property and/or adjoining properties. Locations of findings identified during review of the historical sources of information are shown on **Figure 3**, and are discussed further in this section and **Section 7.0**.

4.1.1 Historical Topographic Maps

INTERA reviewed historical topographic maps provided by Banks dated 1896, 1910, 1954, 1955, 1966, 1973, 1988, 2010, 2013, and 2016 (Banks, 2017b – **Appendix C**). A brief description of the Subject Property and surrounding area as derived from a review of the historical topographic maps is provided below.

- 1896: The Subject Property and adjoining properties appear undeveloped. A creek south of the Subject Property at the current location of Boggy Creek is identified on the 1896 topographic map as flowing from west to east towards the Colorado River, which is not identified in the topographic map. Additionally, the unnamed tributary to Boggy Creek is located approximately 1800 ft southwest of the Subject Property. The unnamed tributary is flowing from northeast to southwest.
- 1910: The Subject Property and adjoining properties appear relatively unchanged from the 1896 topographic map.
- 1954: Significant development has occurred west of the Subject Property since the 1910 topographic map. Tannehill Lane is present, although no street label is present. A small surface water body is located east of the central portion of the Subject Property, and an unnamed stream located approximately 500 feet west of the Subject Property flowing west to east towards Walnut Creek is mapped. No development is shown on the topographic map for the Subject Property or adjoining properties other than a small structure on the property currently addressed as 1312 Axel Lane. From current site knowledge, the small structure at 1312 Axel Lane was most likely a residential structure. The Austin City limits boundary also cuts across the western portion of the Subject Property in a north-south direction.

- 1955: The Subject Property and adjoining properties appear relatively unchanged from the 1954 topographic map.
- 1966: The Subject Property and adjoining properties appear relatively unchanged from the 1955 topographic map.
- 1973: Development to the north, specifically the main school building is documented. There is no other development at the Subject Property nor at the other adjoining properties.
- 1988: Development to the northeast is documented with the current Federal Express building, as well as additional buildings, east of 5811 Techni Center Drive. Development to the south (south of 1312 Axel Lane) is documented with the boundaries of the International Cemetery. There is no other development at the Subject Property nor at the west, southwest, south or eastern adjoining properties. The small surface water body and the unnamed stream that was located east of the Subject Property are no longer mapped.
- 2010: The Subject Property appears unchanged from the 1988 topographic map. However, the USGS does not identify buildings or land development features on the 2010 topographic map; therefore, development of the Subject Property and adjoining properties cannot be determined from the 2010 topographic map.
- 2013: The Subject Property appears unchanged from the 2010 topographic map. However, the USGS does not identify buildings, other than the location of Norman elementary on the 2013 topographic map; therefore, development of the Subject Property and adjoining properties cannot be determined from the 2013 topographic map.
- 2016: The Subject Property appears unchanged from the 2013 topographic map. However, the USGS does not identify buildings, other than the location of Norman elementary on the 2016 topographic map; therefore, development of the Subject Property and adjoining properties cannot be determined from the 2016 topographic map.

4.1.2 Historical Aerial Photographs

INTERA reviewed historical aerial photographs provided by Banks dated 1940, 1953, 1966, 1973, 1980, 1988, 1995, 2004, 2008, 2012, and 2016 (Banks, 2017d – **Appendix E**). A brief description of the Subject Property and adjoining properties as derived from a review of the historical aerial photographs are provided below.

- 1940: Image Resolution Good
 - The Subject Property and adjoining properties appear developed as agricultural land. No buildings or structures are developed on the Subject Property or adjoining properties. Roads to the west and south of the Subject Property are in the current locations of Tannehill Lane and Axel Lane.
- 1953: Image Resolution Fair
 - The Subject Property and adjoining properties appear developed as agricultural land. No buildings or structures are developed on the Subject Property or adjoining properties,

other than the small building structure (most likely a residence) visible at the 3717 Axel Lane property. Roads to the west and south of the Subject Property are in the current locations of Tannehill Lane, Jackie Robinson and Axel Lane.

- 1966: Image Resolution Good
 - Besides vegetation growth, the Subject Property and adjoining properties appear relatively unchanged from 1953 aerial photograph
- 1973: Image Resolution Fair
 - The Subject Property and the east adjoining property appear relatively unchanged from 1966 aerial photograph.
 - Norman Elementary is constructed on the north adjoining property.
 - Vegetation clearing is visible to the adjoining properties west and southwest of the Subject Property.
- 1980: Image Resolution Good
 - The Subject Property and adjoining properties appear relatively unchanged from 1973 aerial photograph, except that the disturbed areas to the west and southwest are no longer visible.
- 1988: Image Resolution Good
 - There is some vegetation removal at the Subject Property and the southwest adjoining property.
 - There is no development at the west, south or eastern adjoining properties.
 - To the north, additional building structures are identifiable at Norman Elementary School.
 - Development to the northeast now includes Techni Center Drive and what is the current Federal Express building, as well as additional buildings, east of 5811 Techni Center Drive.
- 1995: Image Resolution Good
 - Vegetation clearing consistent with the present-day pattern for the Frost ropes course is visible at the Subject Site. There are no visible buildings, but the ropes course structures are somewhat visible.
 - The adjoining properties to the north, northeast, east, south and west appear unchanged from the 1988 aerial photograph except that additional buildings have appeared at Norman Elementary while others have been removed and Techni Center Drive is now connected to Tannehill Lane.
 - There appears to be some clearing and what could be a residential building at the adjoining property to the southeast (5601 Jackie Robinson Street).

- 2004: Image Resolution Good
 - The Subject Property appears unchanged from 1995 aerial photograph, except for the addition of the storage building and mobile home type structure located near the western entry gate of the Site. The mobile home structure was most likely related to the busted water lines at the Subject Property and used as either a restroom or wash room.
 - To the north, additional building structures are identifiable at Norman Elementary School.
 - The adjoining property to the northeast appears unchanged from the 1995 aerial photograph.
 - At the east adjoining property, Buildings 6 and 7 are visible and appear to match the current site condition.
 - The adjoining properties to the south appear unchanged from the 1995 aerial photograph.
 - Residential structures are clearly visible at the adjoining properties to the southwest at addresses 5601 Jackie Robinson Street and 5608 Jackie Robinson Street.
 - At the west adjoining properties, site clearing has occurred at the Greater Works Baptist Church walking park, and the church building stands on the northern portion of that property.
- 2008: Image Resolution Good
 - The Subject Property and adjacent properties appear unchanged from 2004 aerial photograph, except that structures have been removed from the Norman Elementary property and the larger of the two structures has been removed from the Subject Property.
- 2012: Image Resolution Good
 - The Subject Property and adjacent properties appear unchanged from 2008 aerial photograph except that the amount and types of structures have again changed at Norman Elementary and the walking trail is visible on the Greater Works Baptist Church property.
- 2016: Image Resolution Good
 - The Subject Property and adjacent properties appear unchanged from 2012 aerial photograph, except that the amount and types of structures have again changed at Norman Elementary and several of the structures at 3717 Axel Lane have been removed.

4.1.3 Historical City Directories

City directories list businesses by address and therefore provide a method for researching the historical uses of a property. INTERA reviewed historical city directories obtained from Banks to determine current and historical uses of the Subject Property and adjoining properties (Banks, 2017e – **Appendix F**). Historical city directories were requested for radial area extending 330 yards around the Subject Property, which included the following addresses: 3800-4100 Tannehill Lane, 3640-3800 Axel Lane, 1700-1740

Hillcrest Lane, 5620-5800 Jackie Robinson Street, 5600-5800 Sam Houston Avenue, and 5800-5950 Techni Center Drive. INTERA used the city directory information to assess if hazardous substances or petroleum products were used at the Subject Property and/or adjoining properties.

The city directory search radius did not include the 3714 Bluestein Drive, but TCAD records from 2012 through 2017 describe the property to be occupied by Commercial Interstate Plastics, Inc.

The city directory listing for the Subject Property was reviewed to evaluate potential uses of the Subject Property, which is an undeveloped lot due south of 4001 Tannehill Lane; however, no listings for the Subject Property were found because the property has never been developed. A summary of the adjacent property findings identified from the city directories review is summarized in **Table 2** below.

Table 2. Summary of Current and Past Uses of Adjacent Properties

Direction	Address	City Directory Year Ranges	City Directory Listing
North	4100 Tannehill Lane	1973-2017	AISD Norman Elementary School
Northeast	5811 Techni Center Drive	1987	Attorney General of Texas Staff Service Division, Federal Express and Imperial Lithographs
		1997	Federal Express Corp.
		2007	No Current Listing
		2012	Fedex Express Ship Center, CIE Vending Service (vending machines) and Creative Innovation Enterprise (janitor service)
		2017	Offices (5 tenants listed), Fedex Ship Center and CIE Management Services
South	3717 Axel Lane	1997	Daniel H. Kaderka
		2002	Daniel H. Kaderka and Thomas Zelaya
		2007	Daniel H. Kaderka
		2012	Pedro J. Jr. Delgado
		2017	Apartments (2 tenants listed)
South	1312 Axel	--	No Past or Current Listing
South	5701 Jackie Robinson Street	--	No Past or Current Listing
Southwest	5601 Jackie Robinson Street	--	No Past or Current Listing
West	5608 Jackie Robinson Street	--	No Past or Current Listing
West	3800 Tannehill Lane	--	No Past or Current Listing

4.1.4 Fire Insurance Maps

Historical fire insurance maps can be used to identify historical uses of a property. INTERA subcontracted Banks to search for and provide historical fire insurance and Sanborn™ maps. The Subject Property was not mapped, and fire insurance/Sanborn™ maps were not provided (Banks, 2017f – **Appendix G**).

4.2 Environmental Records Review

Banks was contracted to provide a listing of standard environmental records for the Site and for properties within the ASTM-specified approximate minimum search distance (AMSD) from the Site. Banks searched twenty-four separate federal, state, tribal, other reasonably ascertainable databases using the ASTM-specified AMSD for each database. The ASTM E 2527-13/AAI Compliant Regulatory Database report is included in **Appendix D** (Banks, 2017c). Based on the results of the environmental record searches, Banks mapped several facilities within the AMSD from the Subject Property that are listed in environmental databases (Banks, 2017c). A discussion of these facilities is provided below, and their locations are shown on **Figure 3** and **Figure 4**.

4.2.1 Petroleum Storage Tank

The Petroleum Storage Tank (PST) database is derived from TCEQ datasets and contains information on above ground tanks (ASTs) and underground storage tanks (USTs), compliance, and releases in the state of Texas. The PST database is regulated under Subtitle I of the Resource Conservation Recovery Act (RCRA). The ASTM-specified AMSD for registered tank sites is the Subject Property and adjoining properties. No USTs or ASTs were identified on the Subject Property. One (1) UST facility was identified on an adjoining property, as listed below (Banks, 2017c):

- Federal Express Austin, located at 5811 Techni Center Drive, 0.06 mile northeast, up-gradient and adjoining the Subject Property.

This UST is described in more detail in **Section 7.0**.

4.2.2 Leaking Petroleum Storage Tank

The LPST facilities database is derived from TCEQ's LPST dataset, which contains an inventory of reported LPST incidents in Texas. The AMSD for LPST sites is 0.5 mile. One (1) LPST site was identified within 0.5 mile of the Site (Banks, 2017c), and is listed below.

- Federal Express Austin (Map ID 1), located at 5811 Techni Center Drive, 0.06 mile northeast, up-gradient and adjoining the Subject Property.

4.2.3 State/Tribal Brownfield

The State/Tribal Brownfield data are derived from EPA's, TCEQ's and Railroad Commission's datasets. These datasets provide information on Brownfields properties, which are abandoned or underutilized sites due to real or perceived environmental issues. The AMSD for Brownfields sites is 0.5 mile. There were no Brownfields sites identified within the AMSD (Banks, 2017c).

4.2.4 RCRA Generators and Hazardous Waste Sites

The AMSD for RCRA generators of hazardous wastes is the Subject Property and adjoining properties. This includes RCRA Non-Generators, Small Quantity Generators (SQG), and Large Quantity Generators (LQG). Additionally, the state of Texas requires facilities to register with the TCEQ if specific criteria are met for industrial and hazardous waste registration and reporting; these facilities are listed in the TCEQ Industrial Hazardous Waste Site database. Specific criteria include the following: if more than 100 kilograms of nonhazardous Class 1 waste is generated per month; if waste generation category is a RCRA SQG or LQG; if the facility is a transporter of industrial Class 1 waste or hazardous waste; or if a facility receives industrial Class 1 or hazardous waste.

The hazardous waste database contains information on facilities which store, process, or dispose of hazardous waste as maintained by the industrial and hazardous waste permits section of the TCEQ.

The AMSD for these facilities is Subject Property and adjoining properties. Four (4) hazardous waste facilities were identified within the AMSD. No RCRA generator sites were identified within the AMSD (Banks, 2017c).

- Federal Express Austin (Map ID 1), located at 5811 Techni Center, 0.06 mile northeast, up-gradient and adjoining the Subject Property.
- Sears Roebuck 8337 (Map ID 2), located at 6001 Techni Center Drive, 0.11 mile east, up-gradient but not adjoining was listed as a hazardous waste facility.
- CDS Leopold (Map ID 3), located at 6013 Techni Center Drive, Suite A, located 0.18 mile east, up to cross-gradient but not adjoining to the northeast was listed as a hazardous waste facility.
- Support Systems of Texas (Map ID 4), located at 6014 Techni Center Drive, Suite 108, located 0.22 mile east, up to cross-gradient but not adjoining was listed as a hazardous waste facility.

4.2.5 RCRA

The RCRA (Non-ASTM/Non-AAI Required) database is derived from the EPA dataset and lists all sites that fall under RCRA but are not classifiable as treatment, storage, and/or disposers of hazardous material, are not hazardous waste generators, and/or are not subject to corrective action activity. The AMSD for RCRA sites is 0.25 mile. Three (3) RCRA sites are located within the AMSD of the Subject Property (Banks, 2017c).

- Federal Express Austin (Map ID 1), located at 5811 Techni Center, 0.06 mile northeast, up-gradient and adjoining the Subject Property was listed as a RCRA facility.
- Sears Roebuck 8337 (Map ID 2), located at 6001 Techni Center Drive, located 0.11 mile east, up-gradient but not adjoining was listed as a RCRA facility.
- Support Systems of Texas (Map ID 4), located at 6014 Techni Center Drive, Suite 108, located 0.22 mile east, up to cross-gradient but not adjoining was listed as a RCRA facility.

4.2.6 RCRA Corrective Action Sites

The RCRA Corrective Action Sites (CORRACTS) database is derived from the EPA dataset and lists sites that are registered hazardous waste generators or handlers that fall under RCRA and are subject to corrective action activity. The AMSD for RCRA sites is 1 mile. Two (2) RCRA CORRACTS sites are located within the AMSD of the Subject Property (Banks, 2017c).

- Freescale Semiconductor Ed Bluestein Site (Map ID 7), located at 3501 Ed Bluestein Blvd., 0.62 mile southeast and cross-gradient from the Subject Property was listed as a RCRA CORRACTS site.
- BAE Systems IESI Site (Map ID 8), located at 6500 Tracor Lane, 0.64 mile east and cross-gradient from the Subject Property was listed as a RCRA CORRACTS site.

4.2.7 Voluntary Cleanup Program

The Voluntary Cleanup Program (VCP) database is derived from the TCEQ VCP database and contains an inventory of reported VCP sites in Texas. The AMSD for VCP sites is 0.5 mile. Two (2) VCP sites are located within the AMSD of the Subject Property (Banks, 2017c).

- Techni-Center Building No. 2 (Map ID 4), located at 6014 Techni Center Drive, Suite 108, 0.22 mile east and up to cross-gradient but not adjoining the Subject Property was listed as a VCP site.
- Springdale Park (Map ID 6), located at 1300 Nickols Avenue, 0.47 mile west and cross-gradient but not adjoining the Subject Property was listed as a VCP site.

4.2.8 Solid Waste Disposal or Landfill Site

The Solid Waste Disposal or Landfill (SWLF) database is derived from the TCEQ dataset and contains records of municipal solid waste facilities that may accept various types of municipal solid waste for processing or disposal, depending on the type of facility. A Municipal Solid Waste (MSW) facility may also accept certain special wastes and non-hazardous industrial solid wastes if approved by the TCEQ executive director. The AMSD for SWLF sites is 0.5 mile. One (1) SWLF site is located within the AMSD of the Subject Property (Banks, 2017c).

- Springdale Park (Map ID 5), located at the southwest intersection of Webberville Road and Fort Branch Blvd., 0.39 mile northwest and cross-gradient but not adjoining the Subject Property was listed as a SWLF site.

4.2.9 Institutional Control

The State/Tribal databases derived from the TCEQ and RRC datasets includes VCP or Innocent Operator Program (IOP) sites that have been remediated and have had institutional controls (ICs) placed on them. ICs are administrative restrictions, such as legal controls, that help minimize the potential for human exposure to known contamination by ensuring appropriate land or resource use. The AMSD for IC sites is 0.25 mile. One (1) IC site is located within the AMSD of the Subject Property (Banks, 2017c).

- Techni-Center Building No. 2 (Map ID 4), located at 6014 Techni Center Drive, Suite 108, 0.22 mile east and up to cross-gradient but not adjoining the Subject Property was listed as an IC site.

4.2.10 Public Information Request

INTERA submitted a public information request (PIR) through the City of Austin Law Department on June 26, 2017. The PIR was assigned ID number 35300. INTERA received a response on June 30, 2017 from the City of Austin; the City had no responsive information for the PIR (**Appendix H**).

5.0 SITE RECONNAISSANCE

This section discusses the Site reconnaissance activities performed by INTERA to obtain information for the evaluation of RECs at the Subject Property.

5.1 Methodology and Limiting Conditions

The methodology for the Site reconnaissance was based on the requirements listed in ASTM Standard E 1527-13 (ASTM, 2013). INTERA physically inspected the Subject Property and adjoining properties for identifying RECs or evidence of RECs as specified in Section 9.4.2 of ASTM Standard E 1527-13 (ASTM, 2013). Key observations were recorded using Site photographs (**Appendix B**). INTERA conducted Site reconnaissance on July 10 and 13, 2017. INTERA could not access the Subject Property on July 10, 2017 due to locked gates, so an additional site visit was coordinated with the AISD facilities manager on July 13, 2017. The findings of the Site reconnaissance are summarized below and in **Section 7.0** of this report. Locations of findings observed during the Site reconnaissance are illustrated on **Figure 3**.

5.2 General Site Setting

Currently, the Subject Property is entirely fenced, vacant and unoccupied. The Subject Property is densely vegetated and contains the Frost Bank ropes course structures and a storage building (**Figure 3**).

Conditions observed are presented below; a check mark in any box indicates that INTERA observed evidence of the item during the Site reconnaissance.

- | | | |
|--|--|--|
| <input type="checkbox"/> Hazardous substances and/or petroleum products | <input type="checkbox"/> Unidentified substance containers | <input type="checkbox"/> Stressed vegetation |
| <input type="checkbox"/> Storage tanks | <input type="checkbox"/> PCBs | <input type="checkbox"/> Solid waste |
| <input type="checkbox"/> Odors | <input type="checkbox"/> Drains and Sumps | <input type="checkbox"/> Wastewater |
| <input type="checkbox"/> Pools of liquid | <input type="checkbox"/> Pits, ponds, or lagoons | <input type="checkbox"/> Wells |
| <input type="checkbox"/> Drums/Containers | <input type="checkbox"/> Stained soil or pavement | <input type="checkbox"/> Septic systems |
| <input type="checkbox"/> Hazardous substance and/or petroleum product containers | <input type="checkbox"/> Stains or Corrosion | |

5.2.1 Wells

During the site visit, INTERA personnel did not identify any wells on the Subject Property.

5.2.2 Stained Soil or Pavement

No stained soil or pavement was observed on the Subject Property.

5.2.3 Drains and Sumps

Uncapped PVC piping was identified on the central/western portion of the Subject Property that appeared to run towards a clean-out pipe located just outside of the west gate of the Subject Property (Photographs

Nos. 11 and 13 – **Appendix B**). No drains were on the Subject Property. Multiple storm drains were identified outside of the Subject Property along Tannehill Lane and Jackie Robinson Street (**Figure 3**).

5.2.4 Other Subject Property Findings

The Subject Property is currently vacant and not in use. Petroleum products and hazardous chemicals were not identified at the Subject Property. A can of wasp spray and a fire extinguisher were identified. Litter was identified throughout the Subject Property and wood shaving piles were identified near the northwest area of the Subject Property. Multiple wooden rope course stations were identified, as well as a 5-foot concrete culvert. A storage building and concrete slab were also identified during the Site visit (Photograph No. 9 – **Appendix B** and **Figure 3**).

A Kidde Multi-Purpose Dry Chemical (Monoammonium Phosphate) Extinguisher was identified at the Subject Property lying on the ground (Photograph No. 8 – **Appendix B** and **Figure 3**). The extinguishing powder is considered non-hazardous under 29 CFR 1910.1200; however, it can irritate the eyes, skin and respiratory system. Per the container type, the contents are under pressure and may explode if heated. The product, when discarded or disposed of, is not a hazardous waste per Federal regulations (40 CFR 261.4 (b)(4)). Under RCRA, it is the responsibility of the user of the product to determine, at the time of disposal, whether the product meets RCRA criteria for hazardous waste and it should be disposed of in accordance with local regulations.

A storage building is located near the western boundary of the Subject Property near the western gate (**Figure 3**). The building overhead door was not opened due to damaged slide track, but photos were obtained through a breach in the metal door. The storage building contained sports equipment, multiple empty buckets, trash cans, plastic tubs, wooden shelving, maintenance supplies/equipment and ropes. No staining on the floor was observed nor were chemical storage containers observed. A concrete slab was also identified south of the storage building (Photograph No. 12 – **Appendix B** and **Figure 3**).

INTERA personnel walked through cleared areas and viewed the dense vegetation from the cleared paths; there were no signs of staining, corrosion or releases at the Subject Property although not all areas of the densely-vegetated areas were accessed due to Health and Safety concerns.

5.2.5 Adjoining Properties

Adjoining commercial properties were observed from the public parking areas and residential properties were observed from public right of way during the site reconnaissance (Photograph Nos. 14 through 21 – **Appendix B**) and are described in **Section 2.4**.

Two pole-mounted transformers were identified west of the Subject Property along the eastern sidewalk of Tannehill Lane (**Figure 3**). The transformers appeared to be new and in good condition. No concrete staining was observed beneath the transformers. A “Non-PCB” sticker was observed on the transformer.

At Norman Elementary, an infiltration basin was identified at the southwestern portion of school grounds with a concrete culvert where storm water exits the basin towards Tannehill Lane storm drains. The infiltration basin receives rain water run-off from atop the school building through a gutter system.

Due to the dense vegetation on the eastern boundary of the Subject Property, INTERA field personnel observed the adjacent property by driving along the west alley of Building 6 located at 3714 Bluestein Drive. No environmental conditions were observed.

INTERA field personnel also drove along the west alley of the Federal Express building located at 5811 Techni Center Drive. The former location of the USTs and dispensers were identified by a concrete replacement pattern common for PST systems with a former dispenser island and above-head lighting. No environmental conditions were observed.

No other environmental conditions were observed on properties adjoining the Subject Property that would indicate findings or RECs.

6.0 INTERVIEWS

In accordance with requirements of Sections 10 and 11 of ASTM Standard E 1527-13, Ms. Barbara Rigney of INTERA interviewed a person knowledgeable of the site history. Ms. Rigney discussed the environmental history of the Subject Property with the owner's representative, Mr. Paul Turner, Executive Director of Facilities, Office of Facilities, AISD.

Mr. Turner indicated that the Subject Property was zoned as Public property and was considered raw land that was used by the AISD as a ropes course. The property was formerly owned by Mr. Tannehill, a well-known property owner in the area who sold the Subject Property to AISD in the 1950s. He had no knowledge of chemicals used at the Subject Property or adjoining properties. He had no knowledge of any historical spills, chemical releases or environmental cleanups that have taken place on the Subject Property. Mr. Turner also indicated that he did not know of any AULs for the Subject Property.

7.0 FINDINGS

This section presents the findings of the Phase I ESA for the Site and summarizes the results of the Phase I ESA records review, Site reconnaissance, and interviews as they relate to the presence of potential RECs. A general description of the historical use of the Subject Property, and Subject Property findings related to the use, storage, and disposal of hazardous substances and petroleum products is presented in **Section 7.1**. The locations of the findings are shown on **Figure 3** and **Figure 4**. **Sections 7.2** and **7.3** discuss findings on adjoining and vicinity properties, respectively. The findings presented in this section are the basis for the Phase I ESA opinions and conclusions presented by INTERA in **Sections 8.0** and **9.0**, respectively, of this Phase I ESA report.

7.1 Subject Property Findings

The Subject Property is located at the northeast corner of the intersection of Tannehill Lane and Jackie Robinson Street in Austin, Travis County, Texas, 78723 and is located south of and adjacent to property with the address of 4001 Tannehill Lane. The Subject Property 8.922-acres in size, is zoned public, and has not been developed to date. A team-building ropes course, which was donated by Frost Bank, has been constructed at the site, and the course was still in place at the time of the site visit.

The following subsections detail subject property findings that relate to the storage, use, and disposal of hazardous materials and petroleum products. INTERA's opinion concerning whether the finding is a REC is presented in **Section 8.1**.

Water Wells and Monitor Wells

During the site reconnaissance, INTERA did not identify any water wells or monitor wells on the Subject Property.

Stained Concrete or Soil

No staining was observed on Site soils or the small concrete slab located just south of the storage building.

Drains and Sumps

PVC piping was identified near the western gate of the Subject Property. It is unclear what this piping was used for, but it appears to run off-site towards a cleanout trap located along Tannehill Lane outside of the Subject Property (Photograph Nos. 11 and 13 – **Appendix B**). This area may have contained temporary restroom facilities or hand washing area utilized for the ropes course participants.

Petroleum Products and Hazardous Chemicals

No evidence of use of petroleum products or hazardous chemicals on the Subject Property was found during performance of the Phase I investigation.

7.2 Adjoining Property Findings

PST and LPST Sites

- Federal Express Austin (Map ID 1), located at 5811 Techni Center, 0.06 mile northeast, up-gradient and adjoining the Subject Property.
 - The Subject Property is listed on the PST and LPST database under TCEQ UST number 29044 and LSPT number 111747. INTERA conducted an online Central Registry query for the adjoining LPST listing and submitted a records request for the TCEQ file. The UST owner is listed as Federal Express Corporation (Austin); both program IDs are inactive. One 10,00-gallon below ground PST was listed for the adjoining property. The facility was listed as a fleet refueling facility, the tank was installed on August 31, 1987.
 - A leak was discovered on October 8, 1996. The tank was removed from the ground on October 10, 1996. A release affecting groundwater was reported to the TCEQ through a release determination report submitted on October 21, 1996. A risk-based assessment, response action, product recovery and monitoring was conducted beginning in 1997 through 2006. Eleven (11) monitoring wells were installed at the Federal Express facility as well as at Norman Elementary; those wells have since been plugged and abandoned.
 - The assessment documents indicated that the affected groundwater zone was not part of a major or minor aquifer, nor was there documented use of the affected zone within 0.5 mile of the Federal Express tank release area. Based on monitoring data, the groundwater gradient in the shallow alluvial groundwater bearing unit was determined to be relatively flat with groundwater flow to the east and southeast.
 - A soil vapor extraction system was installed to remove the light non-aqueous phase liquid (LNAPL) to the maximum extent practicable. The TCEQ Correspondence Tracking sheet and the TCEQ Central Records File for LPST number 111747 are included in **Appendix H**. The TCEQ issued a case closure letter on August 24, 2006, indicating the completion of corrective action requirements for the release incident.

Hazardous Waste Facilities

- Federal Express Austin (Map ID 1), located at 5811 Techni Center, 0.06 mile northeast, up-gradient and adjoining the Subject Property.
 - The facility is listed in the hazardous waste database under Register number 66605, EPA ID TXD108551680 and additional State ID 21873.
 - Hazardous waste descriptions included under the RCRA record for this site include ignitable waste.
 - The generator status indicates inactive and no violations were identified.

RCRA

- Federal Express Austin (Map ID 1), located at 5811 Techni Center, 0.06 mile northeast, up-gradient and adjoining the Subject Property.

- The EPA Handler ID is TXD108551680, this facility is not a generator and no violations were identified.
- Hazardous waste descriptions include ignitable waste.

7.3 Vicinity Property Findings

Hazardous Waste Facilities

- Sears Roebuck 8337 (Map ID 2), located at 6001 Techni Center Drive, 0.11 mile east, up-gradient but not adjoining was listed as a hazardous waste facility.
 - The facility is listed on the hazardous waste databased under Register number 85798, EPA ID TXR000020479 and additional State ID 108038.
 - Listed waste codes include 0002219H for waste gasoline from small engine repair in February 1, 1981 and 0001203H for petroleum naphtha from parts washing in January 1992.
 - The generator status indicates inactive and no violations were identified.
- CDS Leopold (Map ID 3), located at 6013 Techni Center Drive, Suite A, located 0.18 mile east, up to cross-gradient but not adjoining to the northeast was listed as a hazardous waste facility.
 - The facility is listed on the hazardous waste databased under Register number 82531 and additional State ID 98522.
 - Listed waste codes include 00033072 for aluminum chips from machining aluminum parts, 000102051 for spent machine coolant from machining of aluminum parts, 00022062 for spent lube oil from machinery and 00012052 for spent water-soluble oil for machine cooling.
 - The generator status indicates inactive and no violations were identified.
- Support Systems of Texas (Map ID 4), located at 6014 Techni Center Drive, Suite 108, located 0.22 mile east, up to cross-gradient but not adjoining was listed as a hazardous waste facility.
 - The facility is listed on the hazardous waste databased under Register number 83559, EPA ID TX0000893149 and additional State ID 100783.
 - There are multiple listed waste codes for this Site which are described as spent caustics, spent corrosive acids, glass, aluminum oxide media, caustic rinsewater, inorganic sludge/solid, corrosive rinse water, neutralized rinse water and soapy rinse water.
 - The generator status indicates inactive and no violations were identified.

RCRA Corrective Action Sites

- Freescale Semiconductor Ed Bluestein Site (Map ID 7), located at 3501 Ed Bluestein Blvd., 0.62 mile southeast and cross-gradient from the Subject Property was listed as a RCRA CORRACTS site.

- The facility is listed on the RCRA CORRACTS database under EPA Handler ID TXD069450997.
 - The facility is considered an LQG, and operations include semiconductor and related device manufacturing.
 - There are multiple chemicals associated with the operations of this Site including 2-propanone or acetone, acetic acid, arsenic, arsenic oxide AS205, barium, benzene, cumene, O-dichlorobenzene, M-dichlorobenzene, P-dichlorobenzene, xylene, cadmium, carbon tetrachloride, chloroform, methane, chromium, corrosive waste, cyanides, methyl chloroform, formaldehyde, hydrofluoric acid, hydrogen phosphide, ignitable waste, lead, mercury, methylene chloride, methanol, methyl ethyl ketone, nitrogen dioxide, phenol, potassium cyanide, reactive waste, silver, silver cyanide, sodium cyanide, tetrachloroethylene, spent halogenated solvents, spent non-halogenated solvents and wastewater treatment sludges from electroplating operations.
 - Two violations were documented in January 2015, and four corrective actions were documented in June 1989, February 1992 and September 1992.
 - There was no documentation of any releases to soil or groundwater media.
- BAE Systems IESI Site (Map ID 8), located at 6500 Tracor Lane, 0.64 mile east and cross-gradient from the Subject Property was listed as a RCRA CORRACTS site.
 - The facility is listed on the RCRA CORRACTS database under EPA Handler ID TXD008110249.
 - The facility is considered an SQG, and operations include printed circuit assembly (electronic assembly) manufacturing.
 - There are multiple chemicals associated with the operations of this Site including 1,1-dichloroethylene, 1,2-dichloroethane, 1,4-dichlorobenzene, uracil mustard, 2-butanone, 2-propenoic acid, barium, benzene, chlorobenzene, toluene, cadmium, chlorobenzene, chloroform, trichloro-methane, chromium, corrosive waste, dichlorodibluoromethane, methyl chloroform, formaldehyde, hydrofluoric acid, ignitable waste, lead, mercury, methanol, methyl ethyl ketone, phenol, plating bath residues, reactive waste, selenium, silver, tetrachloroethylene, spent halogenated solvents, and spent non-halogenated solvents.
 - Four violations were documented in November 2005, and no corrective actions were documented.
 - There was no documentation of any releases to soil or groundwater media.

RCRA

- Sears Roebuck 8337 (Map ID 2), located at 6001 Techni Center Drive, located 0.11 mile east, up-gradient but not adjoining was listed as a RCRA facility.
 - The EPA Handler ID is TXR000020479, the status indicated is inactive.

- The facility is not a generator, and operations include consumer electronic repair and maintenance.
 - Hazardous waste descriptions include benzene, ignitable waste, lead, tetrachloroethylene and trichloroethylene.
 - There were no violations identified.
- Support Systems of Texas (Map ID 4), located at 6014 Techni Center Drive, Suite 108, located 0.22 mile east, up to cross-gradient but not adjoining was listed as a RCRA facility.
 - The EPA Handler ID is TX0000893149; the status indicated is inactive.
 - The facility is not a generator nor were there any listed facility operations.
 - Hazardous waste descriptions include corrosive waste.
 - There were four violations listed for November 1998.
 - There was no documentation of any releases to soil or groundwater media.

Voluntary Cleanup Program Facilities

- Techni-Center Building No. 2 (Map ID 4), located at 6014 Techni Center Drive, Suite 108, 0.22 mile east and up to cross-gradient but not adjoining the Subject Property was listed as a VCP site.
 - The Texas VCP facility ID is 1211 and the facility type was etching/computer parts cleaning.
 - The contaminants of concern for this facility were metals and lead, and the affected media were soils.
 - An institutional control was placed on this property indicating site use is non-residential.
 - A VCP Certificate of Completion was issued on April 20, 2001.
- Springdale Park (Map ID 6), located at 1300 Nickols Avenue, 0.47 mile west and cross-gradient but not adjoining the Subject Property was listed as a VCP site.
 - The Texas VCP facility ID is 0123, and the facility type was undeveloped land (see landfill site section below).
 - The contaminants of concern for this site were lead and pesticides, and the affected media were soils.
 - A remedy was implemented for this site which included excavation and off-site disposal.
 - A VCP Certificate of Completion was issued on February 24, 1997.

Solid Waste Disposal or Landfill Sites

- Springdale Park (Map ID 5), located at the southwest intersection of Webberville Road and Fort Branch Blvd., 0.39 mile northwest and cross-gradient but not adjoining the Subject Property was listed as a SWLF site.

- The TCEQ closed this landfill inventory formerly numbered 1699.
- Refer to VCP section for discussion on contaminants of concern and affected media.

Institutional Controls

- Techni-Center Building No. 2 (Map ID 4), located at 6014 Techni Center Drive, Suite 108, 0.22 mile east and up to cross-gradient but not adjoining the Subject Property was listed as an IC site.
 - The Texas VCP facility ID is 1211, and the facility type was etching/computer parts cleaning.
 - The contaminants of concern for this facility were metals and lead, and the affected media were soils.
 - An institutional control was placed on this property indicating site use is non-residential.
 - A VCP Certificate of Completion was issued on April 20, 2001.

7.4 Data Gaps

No data failures or significant data gaps were encountered during the preparation of this Phase I ESA, other than the physical inability to access the densely-vegetated portions of the Subject Property.

8.0 OPINIONS

The findings presented in **Section 7.0** revealed no conditions discovered on the Subject Property that have the potential to cause environmental contamination at the Site. One adjoining property is considered a *historical recognized environmental condition (REC)*, and properties located within the vicinity are considered either *historical RECs* or a *de minimis* condition. INTERA's opinions concerning the potential of these findings to contaminate Site soils and groundwater and whether the finding is a REC are provided below.

8.1 Opinions of Subject Property Findings

No findings on the Subject Property are considered a REC, a historical REC or a de minis condition.

8.2 Opinions of Adjoining Properties

Federal Express – 5811 Techni Center Drive – PST and LPST

Environmental records document that groundwater contamination had occurred from an LPST located at the facility. This finding is not considered a REC because assessment and removal action activities have addressed the environmental impacts to the satisfaction of the TCEQ. This is indicated by the final concurrence status given to the site in 2006. The UST tank was removed October 10, 1996, and the site is inactive.

TCEQ records for the Federal Express indicated that the affected groundwater zone was not part of a major or minor aquifer, and there was no documented use of the affected zone within 0.5 mile of the Federal Express tank release area. Groundwater gradient of the shallow alluvial groundwater bearing unit was documented as relatively flat with groundwater flow to the east and southeast.

Federal Express – 5811 Techni Center Drive – Hazardous Waste Facility

The Hazardous Waste Facility status of the Federal Express site and the hazardous substances identified for the facility are not considered a REC. No violations were reported for the Federal Express site in the government records report, and there was no information that indicated a spill or release of hazardous substances that affected soil or groundwater at this facility.

Federal Express – 5811 Techni Center Drive – RCRA Facility

The RCRA Facility status of the Federal Express site and the hazardous substances identified for the facility are not considered a REC. No violations were reported for the Federal Express site in the government records report and there was no information that indicated a spill or release of hazardous substances that affected soil or groundwater at this facility.

Pole-Mounted Transformers

The pole-mounted transformers identified west and south of the Subject Property along Tannehill and Jackie Robinson are not considered a REC. The pole-mounted transformers appear to be fairly new and in good condition, were labeled as non-PCB, and there was no information indicating a release of hazardous substances from the transformer to the environment.

8.3 Opinions of Vicinity Properties

Hazardous Waste Facilities

The three identified Hazardous Waste facilities in the vicinity of the Site are not considered RECs because environmental impacts at these facilities are not likely to have impacted the Subject Property. The Subject Property is unlikely to have been impacted by these facilities because no violations were reported in the government records report, nor was there information that indicated a spill or release of hazardous substances that affected soil or groundwater at these facilities.

RCRA Corrective Action Sites

Both identified vicinity RCRA Corrective Action Sites are not considered RECs because environmental impacts at these facilities are not likely to have impacted the Subject Property because they are both cross-gradient relative to the Subject Property, nor was there information that indicated a spill or release of petroleum or hazardous substances had affected soil or groundwater at these facilities.

RCRA

Both identified vicinity RCRA facilities are not considered RECs because there was no information that indicated a spill or release of petroleum or hazardous substances that affected soil or groundwater at these facilities.

VCP

The two VCP facilities identified in the vicinity of the Site are not considered RECs because the facilities received Certificates of Completion through the Texas VCP Program. Soils were the only affected media for both the Techni-Center Building and Springdale Park sites. Although a remedy was not conducted at the Techni-Center Building, groundwater was not affected, so the possibility of contaminant migration to the Subject Property does not appear to be a concern.

Solid Waste Disposal or Landfill Sites

The Springdale Park site is not considered a REC because it received completion status through the Texas VCP Program. It is a closed landfill, and a remedy was implemented to address lead and pesticide contaminants in soil which included excavation and off-site disposal. Springdale Park is located west and cross-gradient to the Subject Property.

Institutional Controls

The Techni-Center Building site is not considered a REC because the facility received a Certificate of Completion through the Texas VCP Program. Soils were the only affected media for site. Although a remedy was not conducted at the Techni-Center Building, groundwater was not affected, so the possibility of contaminant migration to the Subject Property does not appear to be a concern.

9.0 CONCLUSIONS

INTERA has performed a Phase I ESA in conformance with the scope and limitations of ASTM Standard E 1527-13 for the Subject Property located south of and adjacent to Norman Elementary School (4001 Tannehill Lane) in Austin, Travis County, Texas. Any exceptions to, or deletions from, this practice are described in **Section 1.4** of this report, and data gaps and data failures are described in **Section 7.4**. This assessment has revealed no evidence of RECs in connection with the Subject Property.

10.0 REFERENCES

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- . 2017d. *Historical Aerial Photographs, AISD Tannehill Lane, Austin, TX 78721. Report Number ES-124711*, June 23, 2017.
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U.S. Geological Survey (USGS), 2013. Austin East 7.5 Minute Quadrangle, Topographic Map.

———. 2017. Texas Geology Web Viewer. <https://txpub.usgs.gov/dss/texasgeology/>. Accessed July 12, 2017.

11.0 DISCLAIMER

The findings and conclusions contained in this report were derived using the methodologies provided in the ASTM Standard E 1527-13 (ASTM, 2013). The findings and conclusions contain all of the limitations inherent in these methodologies. There is the possibility that, even with proper application of these methodologies, conditions may exist at the Site that could not be identified within the scope of the Phase I ESA or that were not reasonably identifiable from the available information.

INTERA has prepared this report in substantial accordance with the generally accepted environmental professional practices in use at the time of our study. This report may be used only by the City of Austin and only for the purposes stated, within a reasonable time from its issuance as outlined in ASTM Standard E 1527-13 (ASTM, 2013). Land use, Site conditions (both on-site and offsite), or other factors may change over time, and additional work may be required with the passage of time. Any party other than City of Austin who wishes to use this report shall notify City of Austin of the intended use. Non-compliance with any of these requirements will release INTERA from any liability resulting from the use of this report.

INTERA does not warrant or guarantee in any manner, expressed or implied, that the conclusions and findings reported in this Phase I ESA, or the information obtained for this Phase I ESA from the records review or from other sources, including site reconnaissance observations, personal interviews, and correspondence, are accurate or complete beyond the limits of the methods applied. The methodologies of this Phase I ESA assessment are intended to meet the scope of a Phase I ESA in accordance with ASTM Standard E 1527-13 (ASTM, 2013).

INTERA conducted this Phase I ESA and AAI into previous property ownership and uses in a manner consistent with ASTM Standard E 1527-13 definitions of good commercial and customary ESA and AAI practices in the United States of America.

This Phase I ESA report is intended for use solely by the City of Austin. Any party other than the City of Austin is explicitly denied any rights to rely on the findings, opinions, and conclusions of this Phase I ESA report.

12.0 QUALIFICATIONS AND SIGNATURES OF ENVIRONMENTAL PROFESSIONALS

Complete copies of resumes outlining the qualifications of the individuals completing this Phase I ESA report are included as **Appendix I**.

"I declare that, to the best of my professional knowledge and belief, I meet the definition of environmental professional as defined in Section 312.10 of 40 CFR 312. I have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the Subject Property. I have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR part 312."

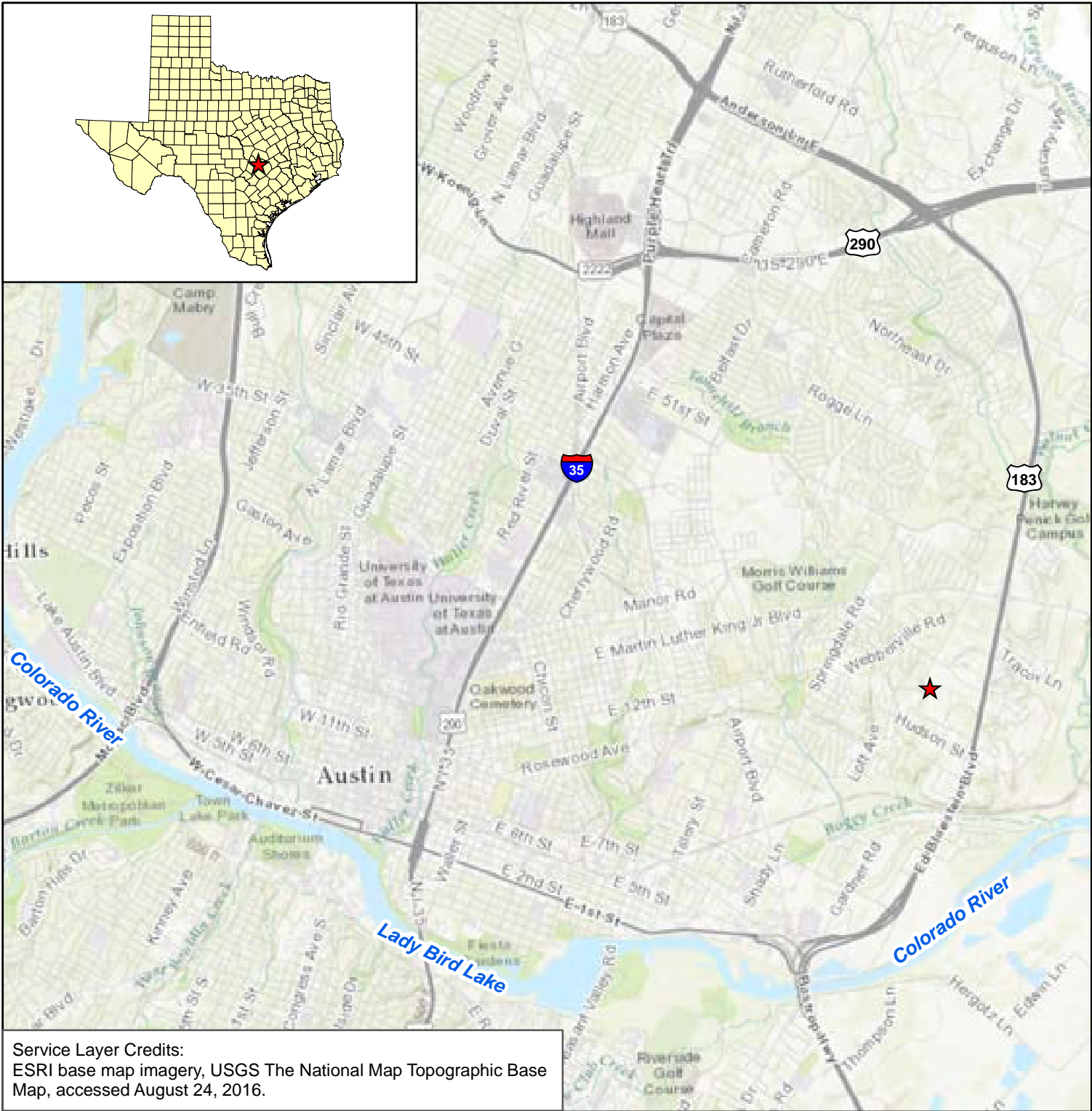
Barbara L. Rigney, Environmental Professional

Signature:  _____

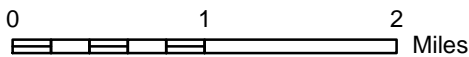
Noreen Baker, Senior Hydrogeologist

Signature:  _____

FIGURES



Service Layer Credits:
 ESRI base map imagery, USGS The National Map Topographic Base Map, accessed August 24, 2016.



★ Subject Property

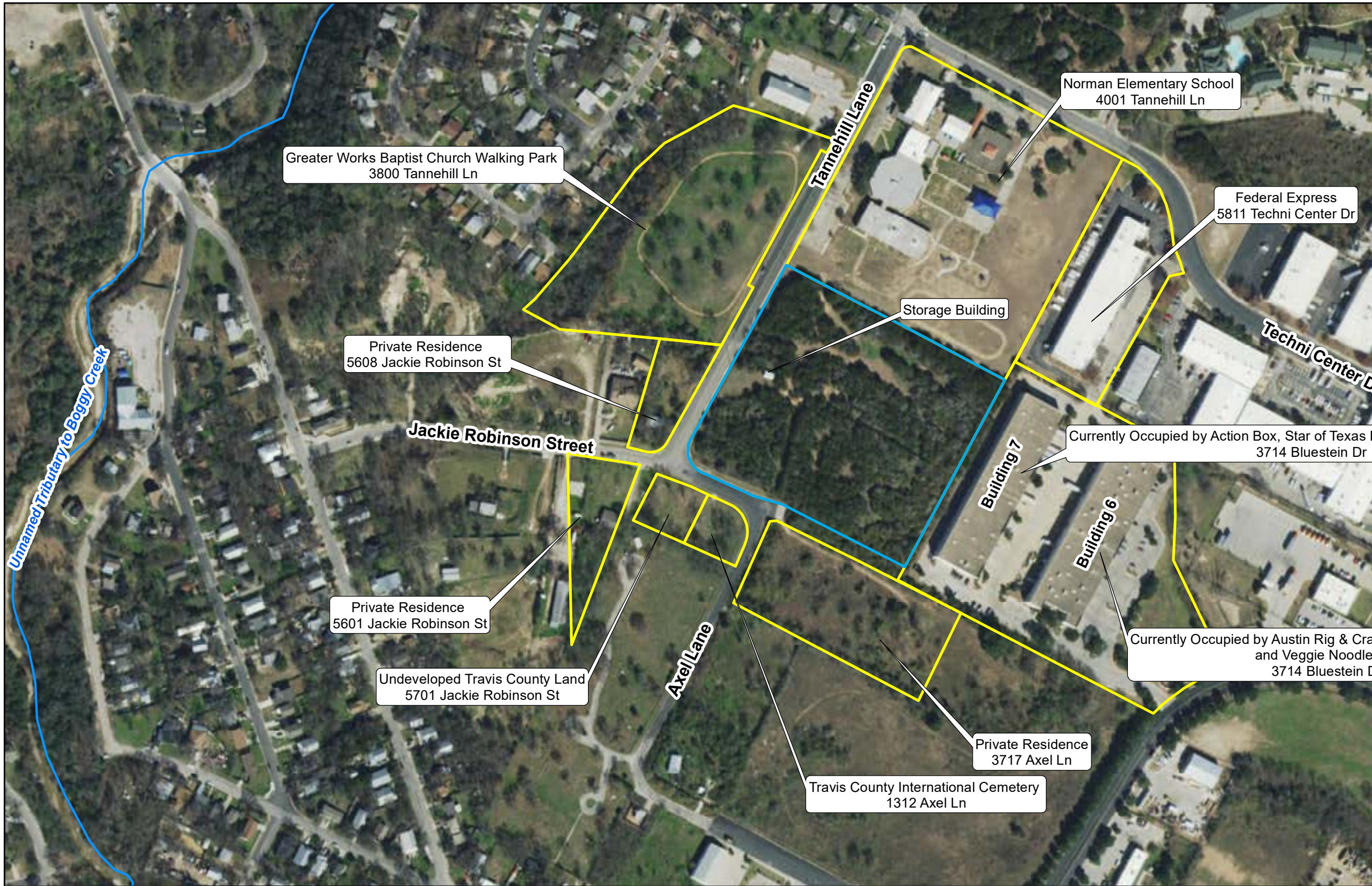
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 File: Fig1_Location.mxd

Site Location Map

Phase I Environmental Site Assessment

**AISD at Tannehill Lane
 Austin, Texas 78723**

Figure 1



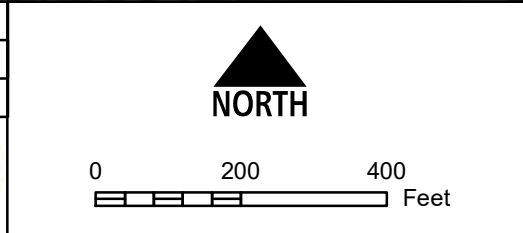
Explanation

- Subject Property Boundary
- Adjoining_Property
- Surface Water Body

Note: INTERA performed the site reconnaissance on July 10, 2017.

Date: 7/9/2017
 Ref: COAUS.M006.BRNFLD 35.1
 File: Fig2_SitePlan11x17.mxd

INTERA
INTEGRATED ENVIRONMENTAL & REGULATORY SOLUTIONS
 Firm PE Registration No. F-4722
 Firm PG License No. 50189

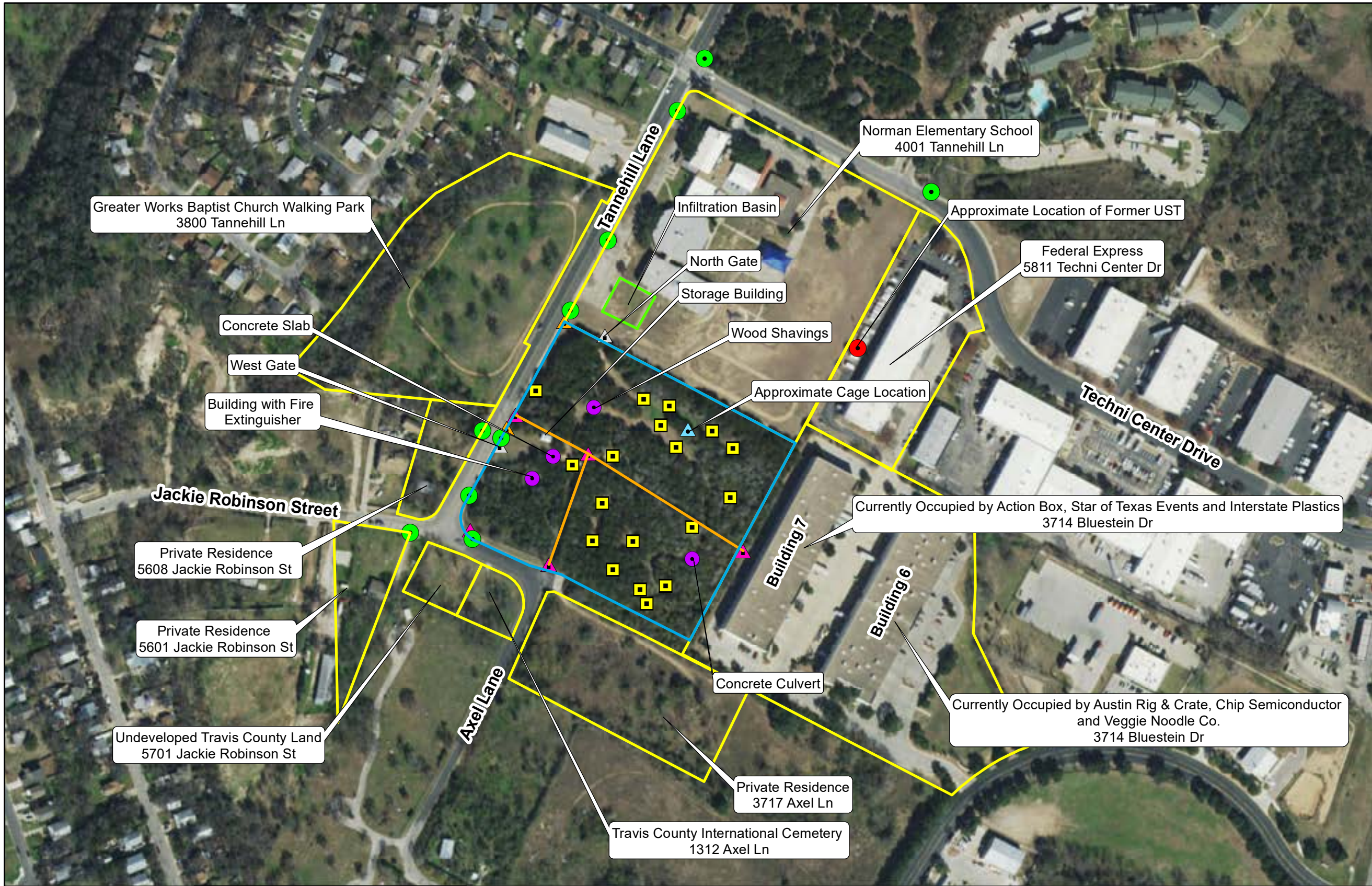


Site Plan
Phase I Environmental Site Assessment

AISD at Tannehill Lane
Austin, Texas 78723

Figure 2

Notes: (1) Service Layer Credits: ESRI base map imagery, World Imagery, accessed 7/9/2017; (2) Parcel boundaries were obtained from the ArcGIS online, Travis County Parcels (2015), accessed 7/9/2017; (3) Subject property boundary was identified by the City of Austin; (4) Surface Water Body shapefile obtained from U.S. Geological Survey (2017).



Explanation

- Subject Property Boundary
- Adjoining Property
- Infiltration Basin
- Electric Power
- Rope Course Structure
- Site Features
- Storm Drains
- Historical REC LPST #111747
- ▲ Pole-Mounted Transformer
- ▲ Electric Pole - No Transformer
- ▲ Cage
- ▲ Gates

Note: INTERA performed the site reconnaissance on July 10, 2017.

Date: 7/9/2017
 Ref: COAUS.M006.BRNFLD 35.1
 File: Fig3_SitePlan11x17.mxd

Firm PE Registration No. F-4722
 Firm PG License No. 50189

▲
NORTH

0 200 400
 Feet

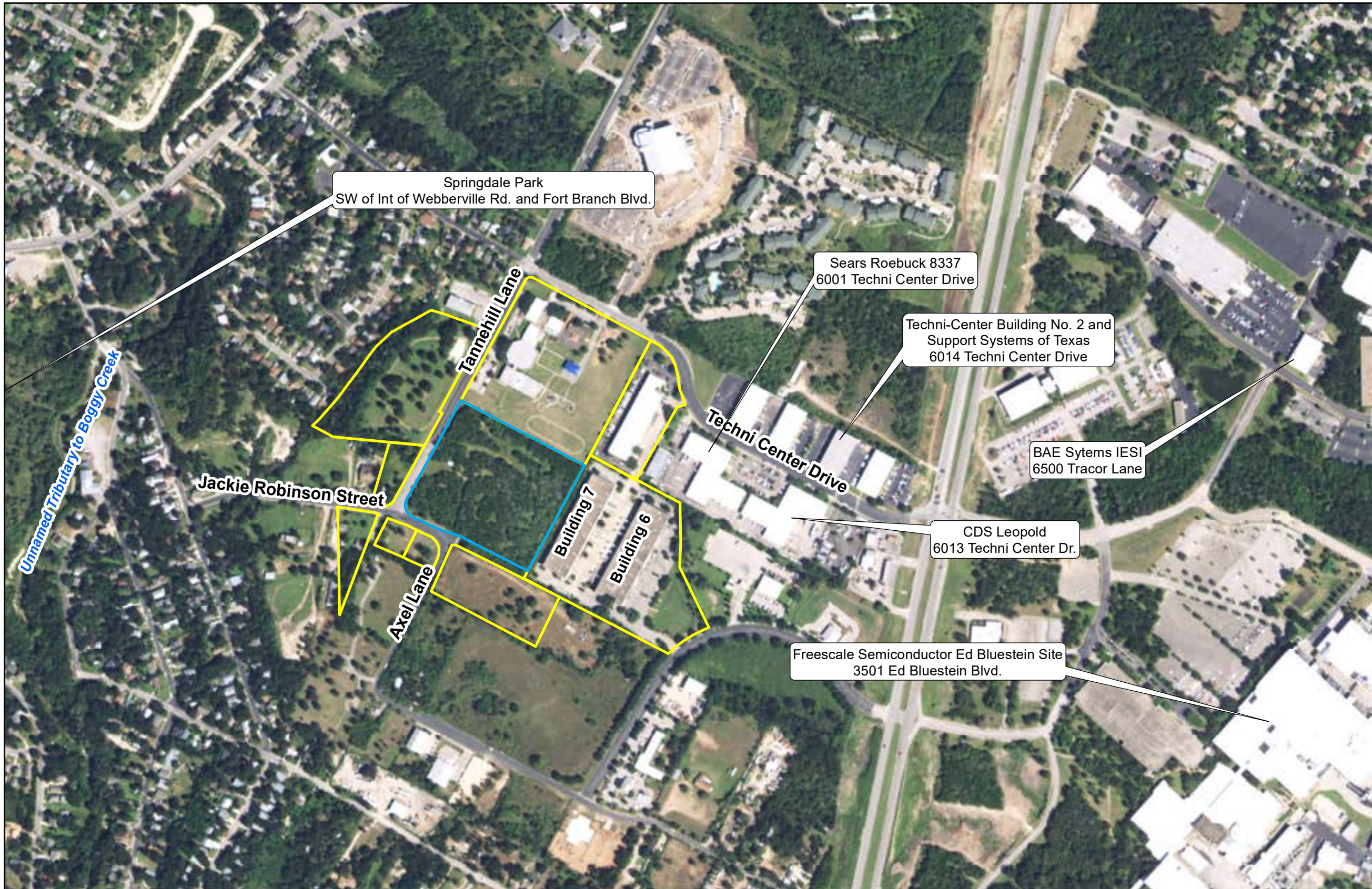
Subject Property and Adjoining Property Findings and RECs

Phase I Environmental Site Assessment

AISD at Tannehill Lane Austin, Texas 78723

Figure 3

Notes: (1) Service Layer Credits: ESRI base map imagery, World Imagery, accessed 7/9/2017; (2) Parcel boundaries were obtained from the ArcGIS online, Travis County Parcels (2015), accessed 7/9/2017; (3) Subject property boundary was identified by the City of Austin; (4) Surface Water Body shapefile obtained from U.S. Geological Survey (2017).



Explanation

- Subject Property Boundary
- Adjoining Property

Note: INTERA performed the site reconnaissance on July 10, 2017.

Date: 7/9/2017
 Ref: COAUS.M006.BRNFLD 35.1
 File: Fig4_Subject Property and Vicinity.mxd

Firm PE Registration No. F-4722
 Firm PG License No. 50189

▲
NORTH

0 200 400
 Feet

Subject Property and Vicinity Property Findings
Phase I Environmental Site Assessment

AISD at Tannehill Lane
Austin, Texas 78723

Figure 4

Notes: (1) Service Layer Credits: ESRI base map imagery, World Imagery, accessed 7/9/2017; (2) Parcel boundaries were obtained from the ArcGIS online, Travis County Parcels (2015), accessed 7/9/2017; (3) Subject property boundary was identified by the City of Austin; (4) Surface Water Body shapefile obtained from U.S. Geological Survey (2017).

APPENDIX A
Property Tax Information and Plat Map

Travis CAD

Property Search > 199328 AUSTIN INDEPENDENT SCHOOL DISTRICT for Year 2016

Tax Year:

Property

Account

Property ID:	199328	Legal Description:	ABS 22 SUR 29 TANNEHILL J C ACR 8.922
Geographic ID:	0209230468	Zoning:	SF3
Type:	Real	Agent Code:	
Property Use Code:			
Property Use Description:			

Location

Address:	TANNEHILL LN TX 78723	Mapsco:	586R
Neighborhood:	FORMERLY EEXMP	Map ID:	021021
Neighborhood CD:	_EEXMP		

Owner

Name:	AUSTIN INDEPENDENT SCHOOL DISTRICT	Owner ID:	104697
Mailing Address:	1111 W 6TH ST AUSTIN , TX 78703-5338	% Ownership:	100.0000000000%
		Exemptions:	EX-XV

Values

(+) Improvement Homesite Value:	+	\$0	
(+) Improvement Non-Homesite Value:	+	\$0	
(+) Land Homesite Value:	+	\$0	
(+) Land Non-Homesite Value:	+	\$971,606	Ag / Timber Use Value
(+) Agricultural Market Valuation:	+	\$0	<input type="text" value="\$0"/>
(+) Timber Market Valuation:	+	\$0	<input type="text" value="\$0"/>

(=) Market Value:	=	\$971,606	
(-) Ag or Timber Use Value Reduction:	-	\$0	

(=) Appraised Value:	=	\$971,606	
(-) HS Cap:	-	\$0	

(=) Assessed Value:	=	\$971,606	

Taxing Jurisdiction

Owner: AUSTIN INDEPENDENT SCHOOL DISTRICT
 % Ownership: 100.0000000000%
 Total Value: \$971,606

Entity	Description	Tax Rate	Appraised Value	Taxable Value	Estimated Tax
01	AUSTIN ISD	1.192000	\$971,606	\$0	\$0.00
02	CITY OF AUSTIN	0.441800	\$971,606	\$0	\$0.00
03	TRAVIS COUNTY	0.383800	\$971,606	\$0	\$0.00

0A	TRAVIS CENTRAL APP DIST	0.000000	\$971,606	\$0	\$0.00
2J	TRAVIS COUNTY HEALTHCARE DISTRICT	0.110541	\$971,606	\$0	\$0.00
68	AUSTIN COMM COLL DIST	0.102000	\$971,606	\$0	\$0.00
Total Tax Rate:		2.230141			
				Taxes w/Current Exemptions:	\$0.00
				Taxes w/o Exemptions:	\$21,668.18

Improvement / Building

No improvements exist for this property.

Land

#	Type	Description	Acres	Sqft	Eff Front	Eff Depth	Market Value	Prod. Value
1	LAND	Land	8.9220	388642.32	0.00	0.00	\$971,606	\$0

Roll Value History

Year	Improvements	Land Market	Ag Valuation	Appraised	HS Cap	Assessed
2017	N/A	N/A	N/A	N/A	N/A	N/A
2016	\$0	\$971,606	0	971,606	\$0	\$971,606
2015	\$0	\$971,606	0	971,606	\$0	\$971,606
2014	\$0	\$339,036	0	339,036	\$0	\$339,036
2013	\$0	\$339,036	0	339,036	\$0	\$339,036
2012	\$0	\$339,036	0	339,036	\$0	\$339,036

Deed History - (Last 3 Deed Transactions)

#	Deed Date	Type	Description	Grantor	Grantee	Volume	Page	Deed Number
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Questions Please Call (512) 834-9317

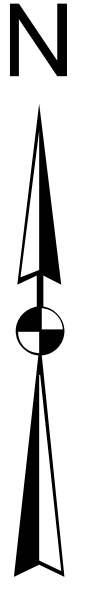
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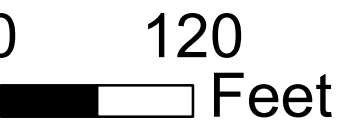
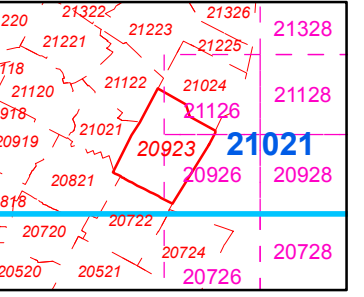
Travis Central Appraisal District
 P.O. Box 149012
 Austin, Texas 78714
Internet Address: www.traviscad.org
 Main Telephone Number (512) 834-9317
 Appraisal Information (512) 834-9318
 TDD (512) 836-3328

This tax map was compiled solely for the use of TCAD. Areas depicted by these digital products are approximate, and are not necessarily accurate to mapping, surveying or engineering standards. Conclusions drawn from this information are the responsibility of the user. The TCAD makes no claims, promises or guarantees about the accuracy, completeness or adequacy of this information and expressly disclaims liability for any errors and omissions. The mapped data does not constitute a legal document.

NAD 1983_StatePlane_Texas_Central_FIPS_4203_Feet
 Projection: Lambert_Conformal_Conic



Italic = 100 scale map
 Thin = 100 scale map
 Bold = 400 scale map



Revision Date:
 4/11/2016

20923

Prepared for:

INTERA, INC.-AUSTIN
1812 Centre Creek Drive, Ste. 300
Austin TX 78754



Environmental Lien Report

AISD Tannehill

Tannehill Lane

Austin, TX 78721

PO #: COAUS.M006-35.1

ES-124711

Wednesday, July 5, 2017

ENVIRONMENTAL LIEN REPORT	
ES-124711	July 5, 2017



LIEN SEARCH REPORT

PROPERTY DESCRIPTION

LEGAL DESCRIPTION: See Attached

SUBJECT PARCEL NUMBER: 199328

CURRENT OWNER(S): Austin Independent School District

LIEN SEARCH RESULT

No environmental liens or activity/use limitations (AUL's) found for subject property from 1985 to current. Texas appears to be a Superlien State.

ENVIRONMENTAL LIEN REPORT	
ES-124711	July 5, 2017



LIEN SEARCH REPORT

RESEARCH NOTES

Notes: No current deed was found for this property.

ASTM Notes: ASTM E 1527-13, on Historical Use Information requires a review of “Reasonably Ascertainable standard historical sources.”

“Reasonably Ascertainable means information that is publicly available, obtainable from a source with reasonable time and cost constraints, and practically reviewable.”

This task requires reviewing only as many of the standard historical sources as are necessary, and that are reasonably ascertainable and likely to be useful.

Banks Environmental Data, Inc. has determined that the ASTM E 1527-13, Section 8.3.4.4 requirements (as it pertains to methods and locations of research) have been met for the subject property searched in this report.

Environmental Liens: No environmental liens or activity/use limitations (AUL’s) identified.

ENVIRONMENTAL LIEN REPORT	
ES-124711	July 5, 2017



RESOURCES & LIMITATIONS

Banks Environmental Data, Inc. (Banks) has completed your request for an Environmental Lien Search for the above site. The information in this report has been produced from a limited search of the public land records and/or real property records of the county back to at least the mid 1980's up through the indicated date as shown on this report. This limited search includes only environmental liens and restrictions. This report is being provided for use only as a limited part of an overall Phase I Environmental Site Assessment as performed by a qualified Environmental Engineer/Consultant as specified in the ASTM Standard E 1527-13 and as specified in the Comprehensive Environmental Response, Compensation and Liabilities Act of 1980, as amended, and may not be relied upon for any other purpose.

This report is not to be considered an Abstract, a Title Commitment, Title Opinion, Title Guaranty, or a representation of the legal status of the property. The information presented is simply a report of instruments filed of record pertaining to the above property and was obtained from the county public records. No guaranty as to the integrity or correctness of said records is implied.

HISTORICAL OWNERSHIP REPORT

GLOSSARY

There are certain terms used in Chain of Title searches, which may require clarification. This glossary is designed to provide definitions for some of the most common terms.

1. ENVIRONMENTAL LIEN:	The Environmental Lien is a record of a document/instrument filed by the City, County, State or Federal Government that prevents the conveyance of a property because of severe environmental problems existing on the premises.
2. BREAK IN CHAIN:	<p>There may appear to be a break in the chain of title as indicated when the sequential tracing of ownership fails. An example of a break would be: <i>Smith to Jones... Jones to Wilson... White to Black</i>. The missing link is from Wilson to White. There are several possible reasons for this occurrence.</p> <ul style="list-style-type: none"> • Due to the size or other physical characteristics of the property, there could be multiple owners at any time when tracing the history of the ownership of the property. • There could be an “easement title” over some portion of the property, allowing for use of that portion for a specific purpose. • There could be a “multi-percentage interest” in the property, with concurrent multiple owners making up 100% of the fee title. Then, a percentage owner deeds out his particular interest or a percentage of this interest to one or more parties. This causes a perceived break in the chain.
3. EASEMENT:	An easement is the right to enter and use another person’s property: a non-possessor right to use another person’s real property. Traditionally easements are granted to utility companies and other service organizations or as a right of access to another property.
4. MULTIPLE OWNERS:	<p>When “others” or “et al” appears on the report in the owner category, it indicates multiple ownership of a single parcel, with too many names to record in summary. It is frequently used to denote more than a single owner. If the owners are a married couple, both names may appear on the report or may be denoted by “et ux”.</p> <p>The term “owners’ is usually used to indicate owners of multiple parcels, all recorded under a document that covers the multiple parcels.</p>
5. MULTIPLE PARCELS:	Some properties are created by combining several adjoining parcels into one large parcel. When this occurs; there might be several different owners until the time of unification of the property. Sometimes the ownership appears to be cloudy until each owner conveys his/her interest to the single owner of the new larger parcel.

ENVIRONMENTAL LIEN REPORT	
ES-124711	July 5, 2017



COPYRIGHT POLICY & DISCLAIMER

This report is solely for the limited use of the client and its customers. Banks Environmental Data, Inc. makes no warranties as to accuracy, validity, completeness, merchantability, quality, condition, suitability or fitness for a particular use or purpose in respect to this report and any information contained herein. All risk is assumed by the user. Banks Environmental Data, Inc. assumes no liability to any party for loss or damage whether arising out of errors or omissions, negligence, accident, or any other cause. In no event shall Banks Environmental Data, Inc., its affiliates or agents, be liable to anyone for special incidental, consequential or exemplary damages.

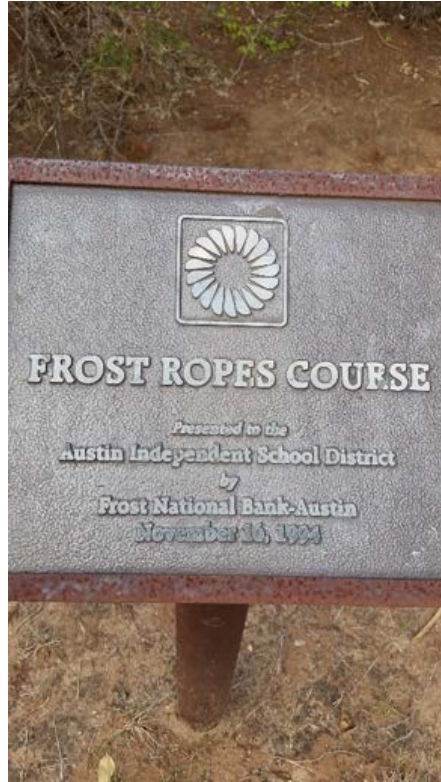
APPENDIX B
Photograph Log



No. 1 – Photograph of the Subject Property, northern gate entrance.



No. 2 – Photograph of the Subject Property, west gate entrance.



No. 3 – Photograph of the Ropes Course Donation Plaque.



No. 4 – Photograph of one of the ropes course structures on Subject Property.



No. 5 – Photograph of the wasp spray on Subject Property.



No. 6 – Photograph of the concrete culvert on Subject Property.



No. 7 – Photograph of a ropes course structure on Subject Property.



No. 8 – Photograph of the fire extinguisher on Subject Property.



No. 9 – Photograph of the Storage Building.



No. 10 – Photograph of inside of the storage building.



No. 11 – Photograph of the PVC located on western side of Subject Property.



No. 12 – Photograph of the concrete slab on the Subject Property.



No. 13 – Photograph of west side of property where cleanout is located offsite.



No. 14 – Photograph of adjoining property, , Noman Elementary School Infiltration Basin storm water structure.



No. 15 – *Photograph of adjoining properties, walking park.*



No. 16 – *Photograph of west adjoining property, walking park.*



No. 17 – *Photograph of south adjoining property, International Cemetery.*



No. 18 – *Photograph of the south adjoining property, residential private property.*



No. 19 – Photograph of the east adjoining property, Building 6.



No. 20 – Photograph of northeast adjoining property, former fuel dispensing area at Fed Ex.



No. 21 – Photograph of the former fuel dispensing area at Fed Ex.

APPENDIX C
Historical Topographic Maps

Prepared for:

INTERA, INC.-AUSTIN
1812 Centre Creek Drive, Ste. 300
Austin, TX 78754



Historical Topographic Maps

AISD Tannehill

Tannehill Lane

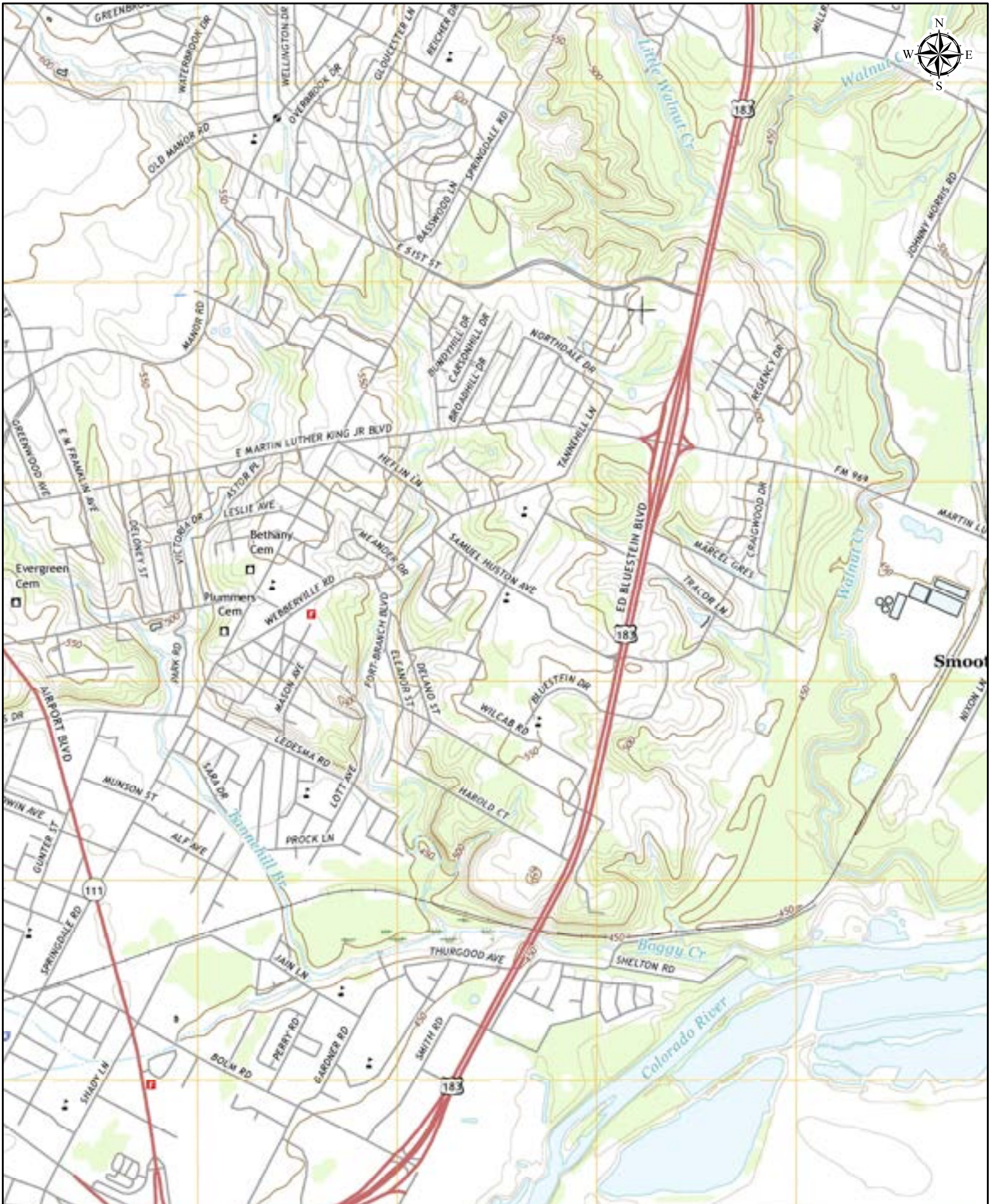
Austin, TX 78721

Travis County

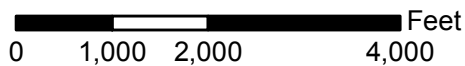
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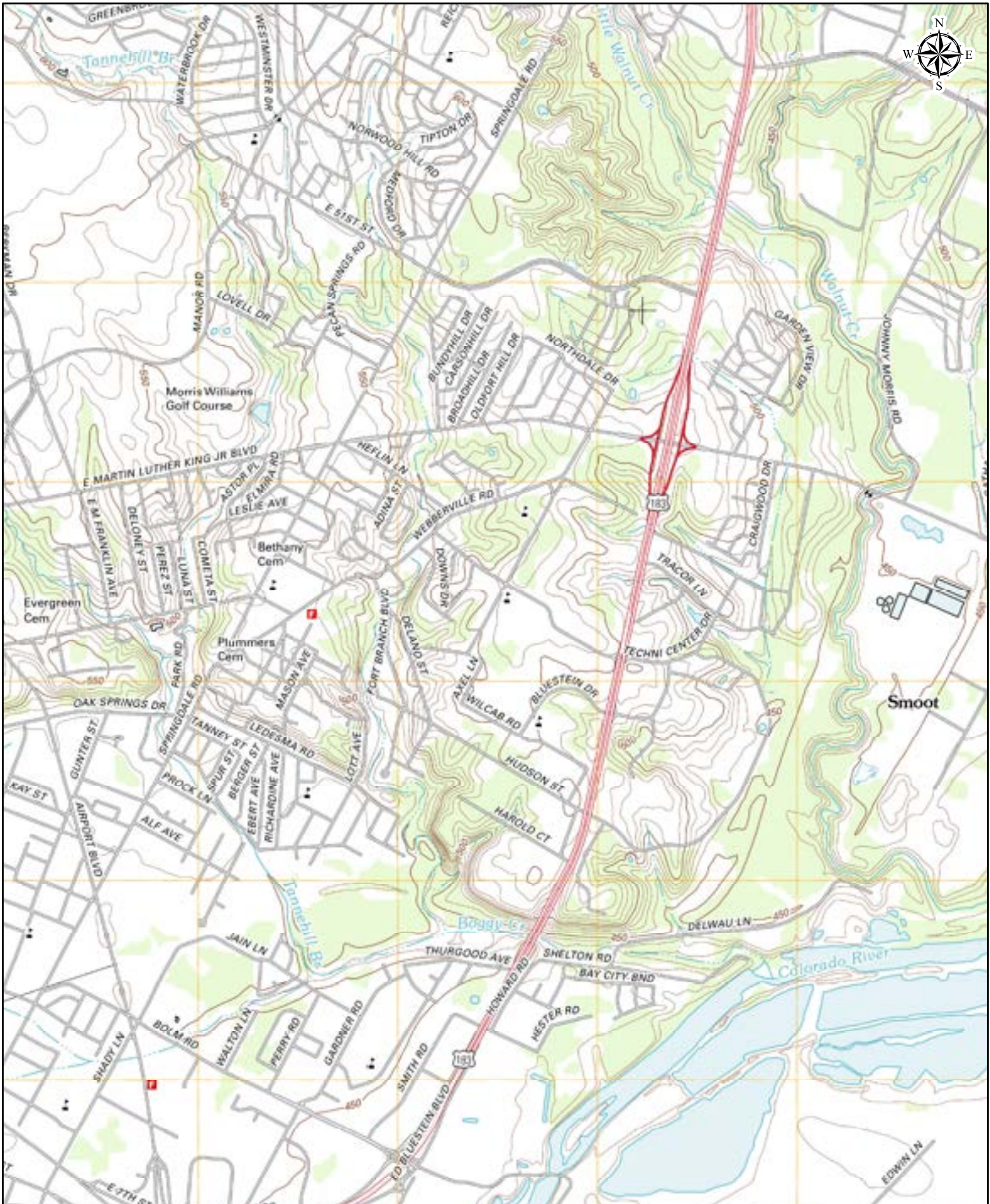
ES-124711

Friday, June 23, 2017

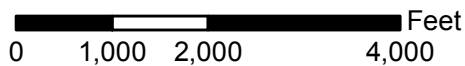


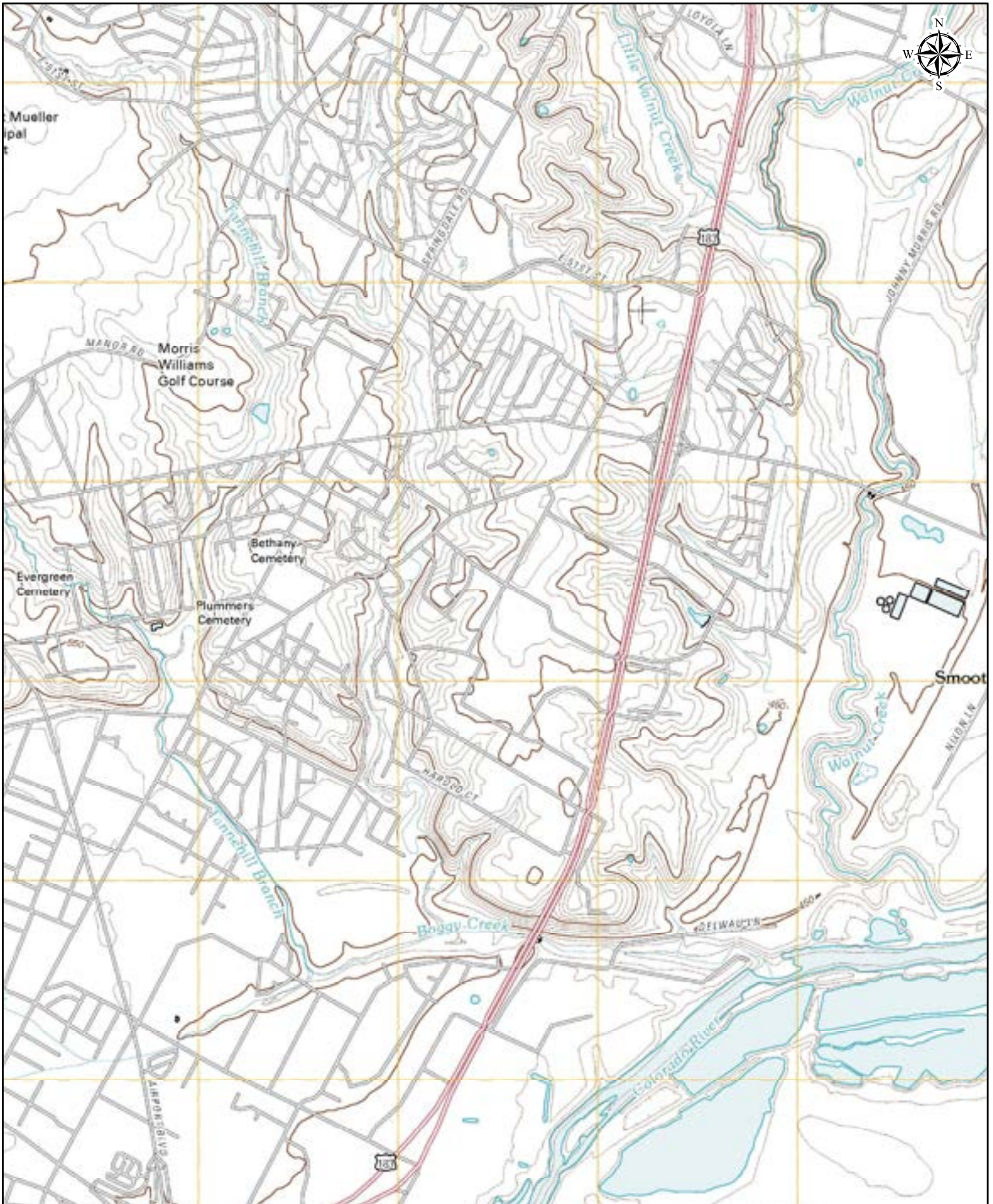
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 Quad: Austin East, TX



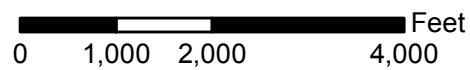


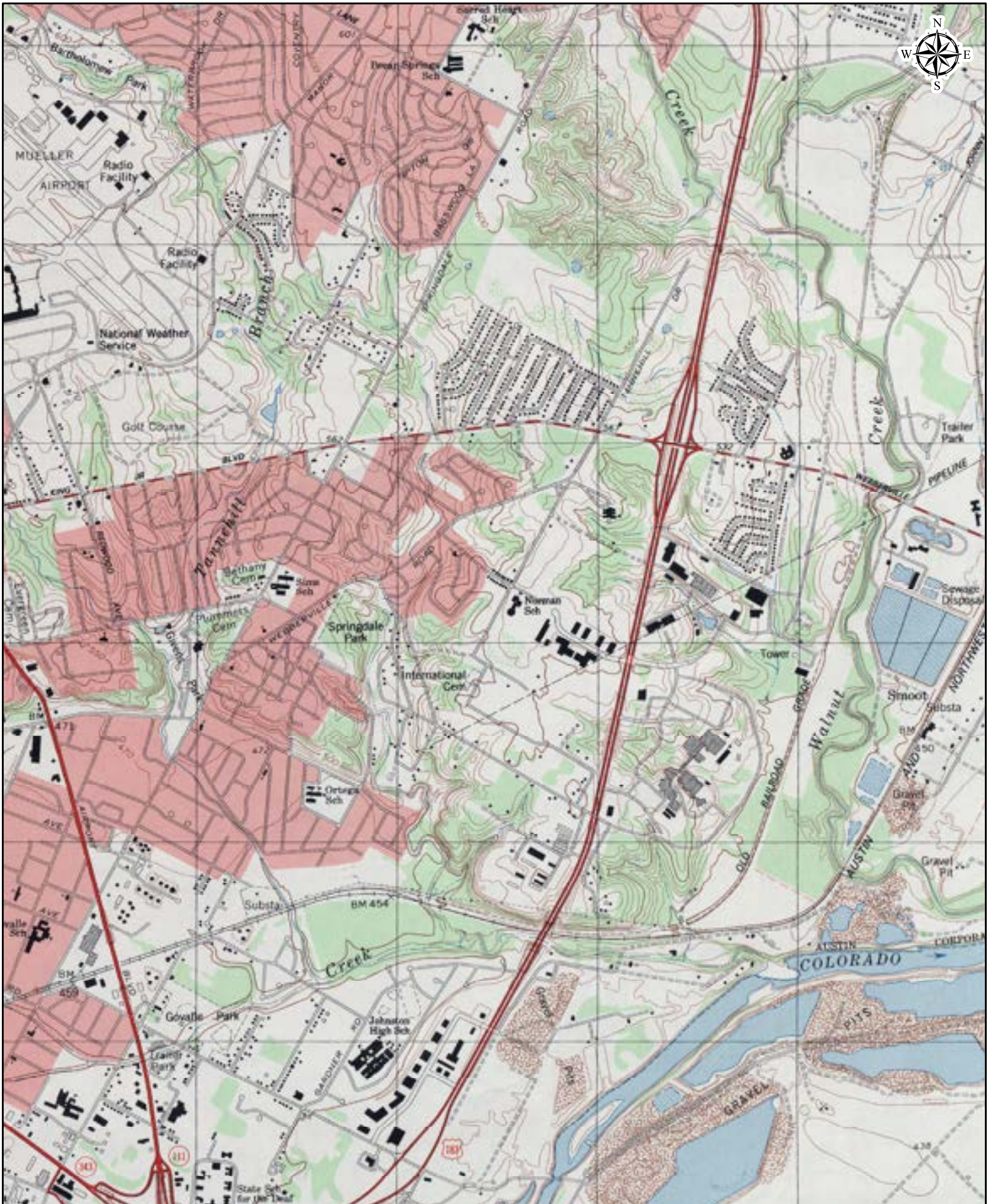
Date: 2013
 Quad: Austin East, TX



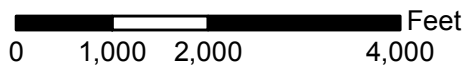


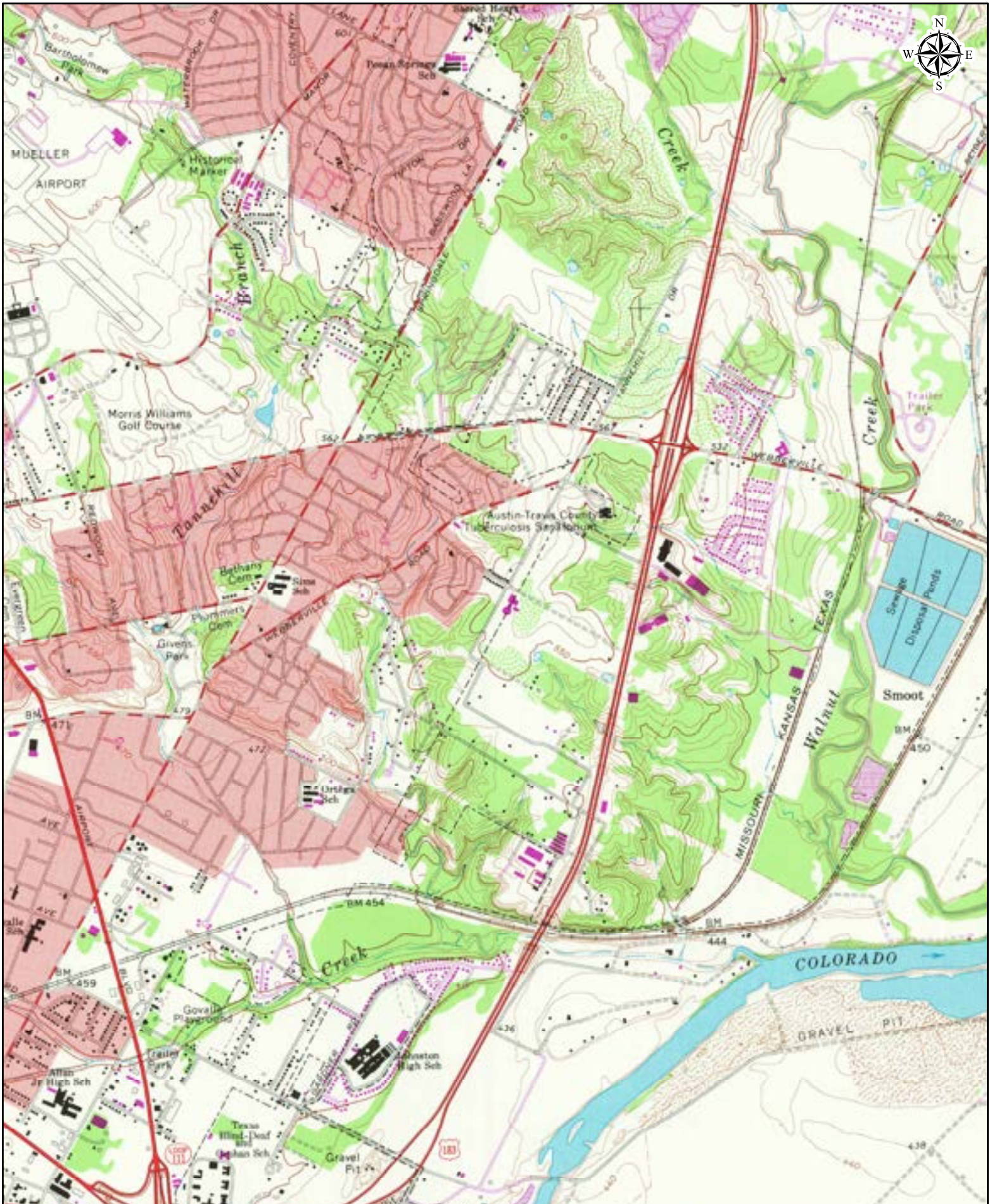
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Quad: Austin East, TX



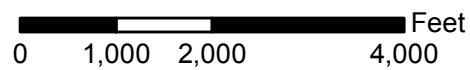


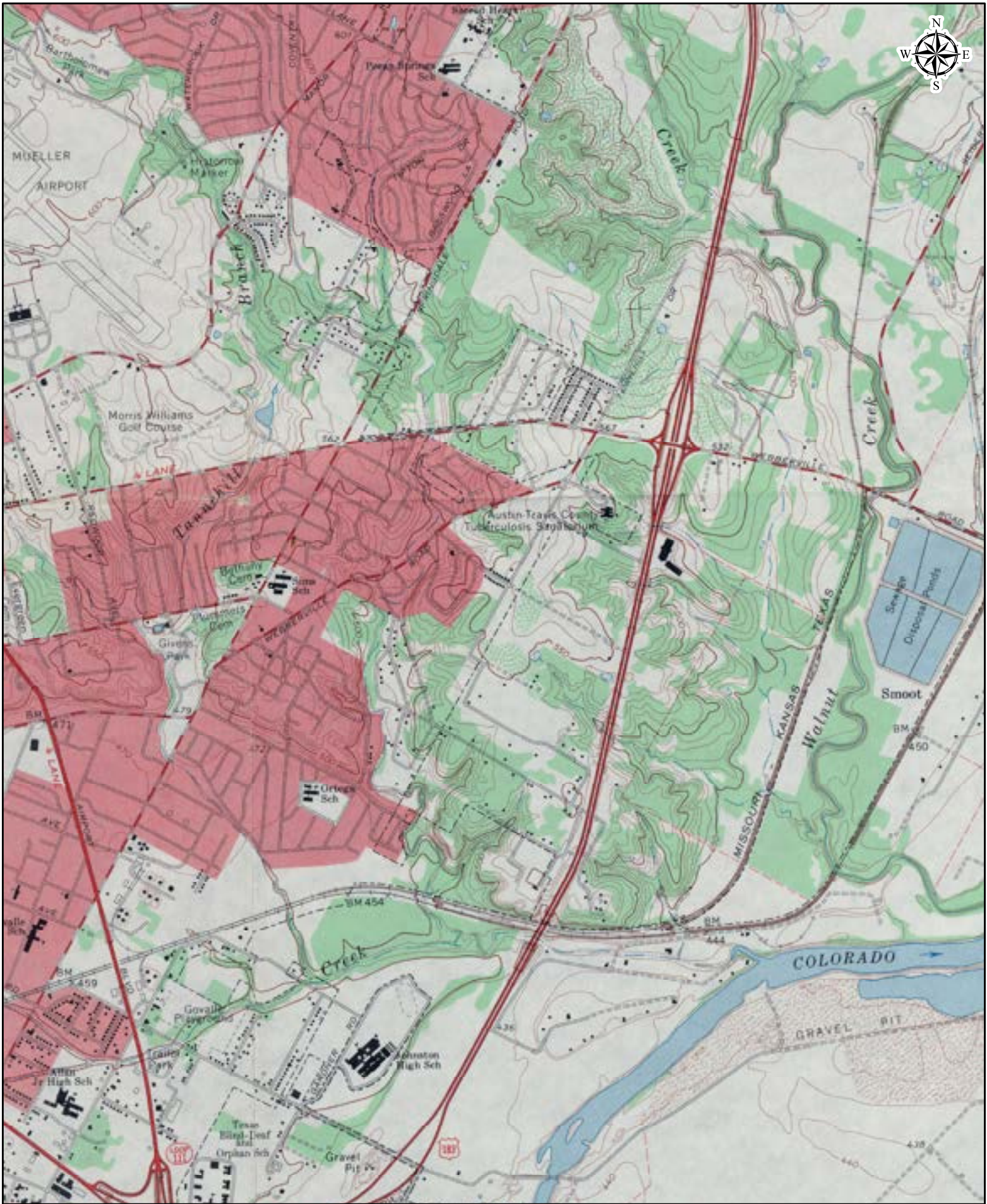
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Quad: Austin East, TX



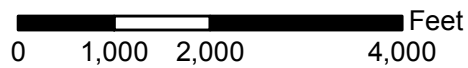


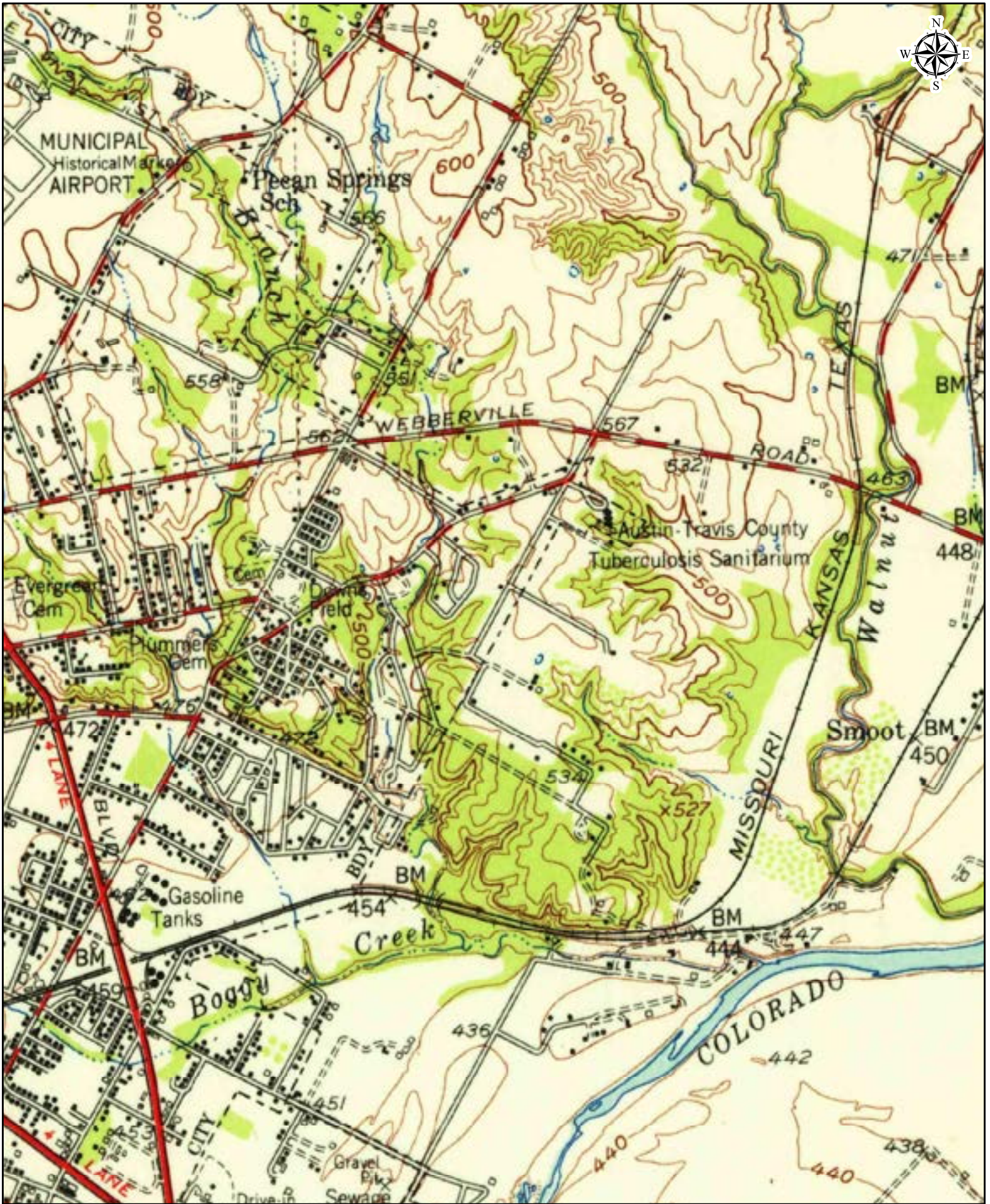
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Quad: Austin East, TX



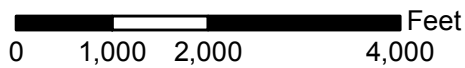


Date: 1966
Quad: Austin East, TX





Date: 1955
Quad: Austin East, TX

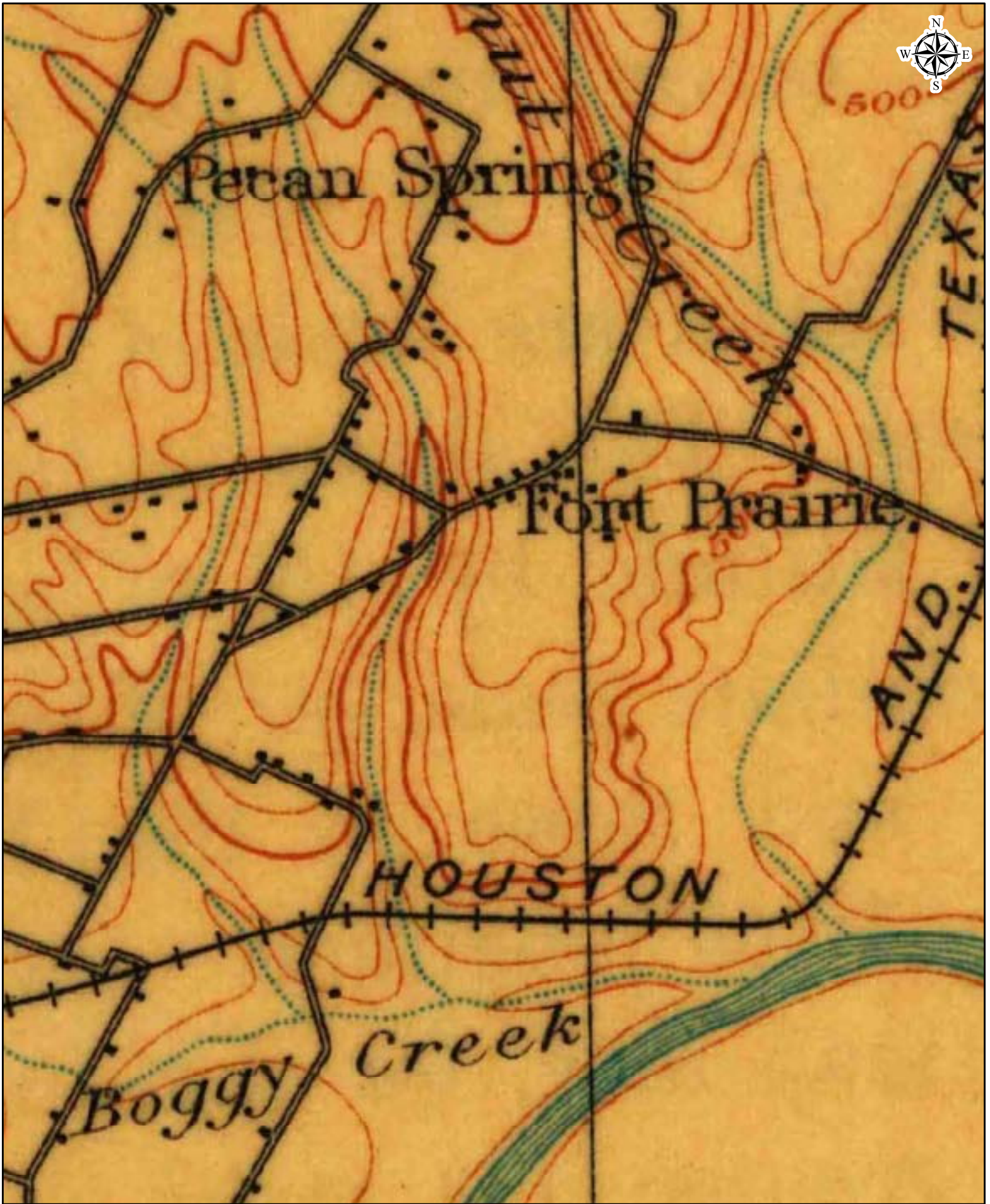




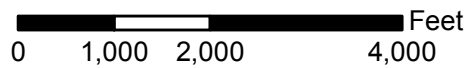
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Quad: Austin East, TX

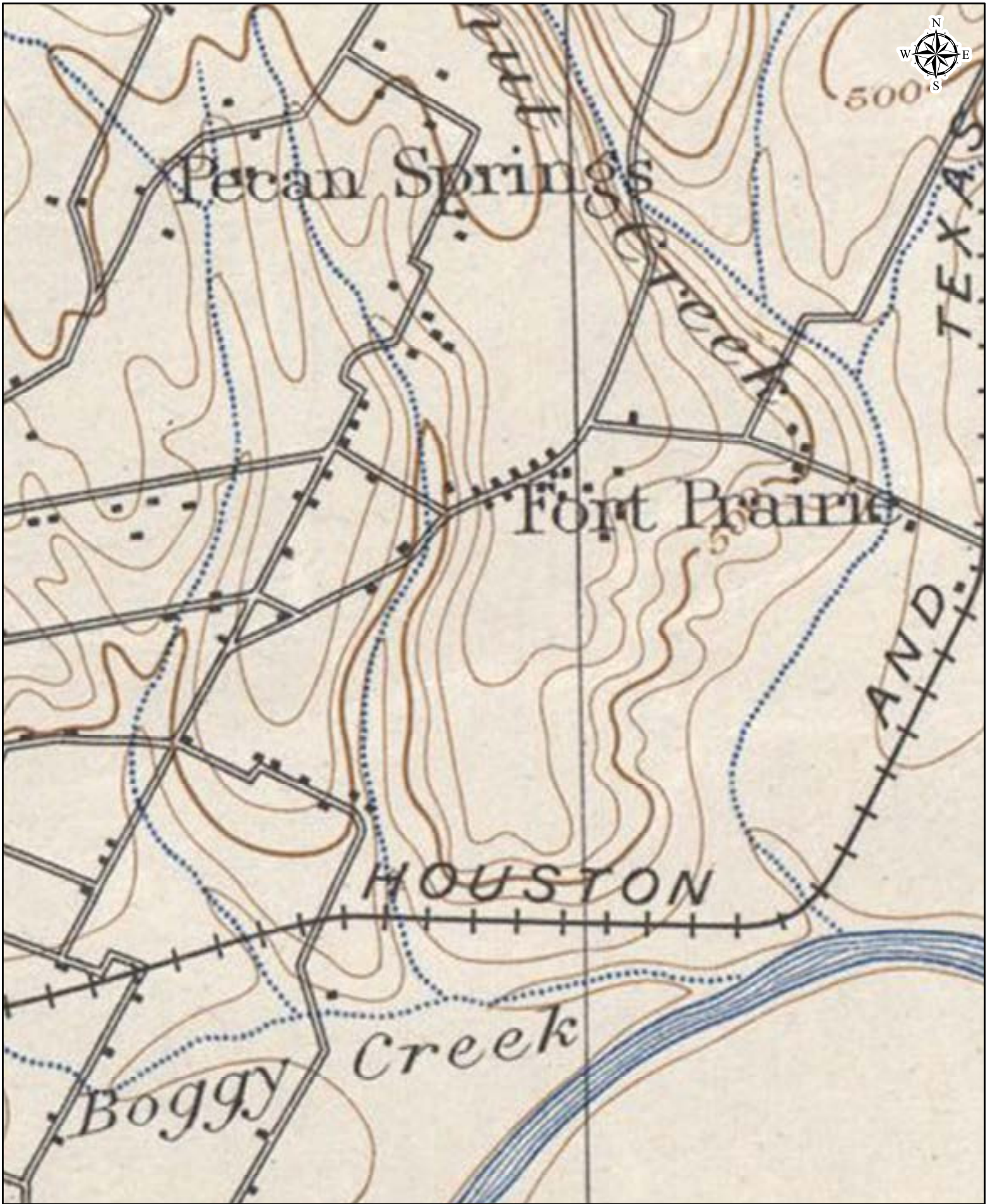
0 1,000 2,000 4,000 Feet



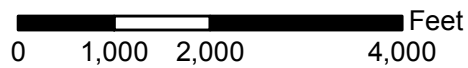


Date: 1910
Quad: Austin East, TX





Date: 1896
Quad: Austin East, TX



HISTORICAL TOPOGRAPHIC MAPS	
ES-124711	June 23, 2017



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APPENDIX D
Government Records Report

Prepared for:

INTERA, INC.-AUSTIN
1812 Centre Creek Drive, Ste. 300
Austin, TX 78754



Regulatory Database Report

ASTM E1527-13/AAI Compliant

AISD Tannehill

Tannehill Lane

Austin, TX 78721

PO #: COAUS.M006-35.1

ES-124711

Thursday, June 22, 2017

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Geographic Summary

Location

TX

Target location is 0.014 square miles and has a 0.47 mile perimeter

Coordinates

Longitude & Latitude in Degrees Minutes Seconds NA

Longitude & Latitude in Decimal Degrees NA

X and Y in UTM NA

Elevation

NA

Zip Codes Searched

Search Distance	Zip Codes (historical zip codes included)
Target Property	78721
0.25 miles	78721
0.5 miles	78721, 78725
1 mile	78721, 78723, 78724, 78725

Topos Searched

Search Distance	Topo Name
Target Property	Austin East (1975)
0.25 miles	Austin East (1975)
0.5 miles	Austin East (1975)
1 mile	Austin East (1975)

Database Summary

Databases Searched	Distance Searched	# Mapped	# Not Mapped	Total
Federal - ASTM 1527-13/AAI Required				
National Priority List (NPL)	1	0	0	0
Delisted National Priority List (DNPL)	0.5	0	0	0
SEMS (CER SEMS)	0.5	0	0	0
SEMS NFRAP (CER SEMS NFRAP)	0.5	0	0	0
RCRA CORRACTS (RCRA COR)	1	2	0	2
RCRA non-CORRACTS TSD (RCRA TSD)	0.5	0	0	0
RCRA Generators (RCRA GEN)	0.25	0	0	0
Federal Brownfields (FED BWN)	0.5	0	0	0
Federal Institutional Control (FED IC)	0.5	0	0	0
Federal Engineering Control (FED EC)	0.5	0	0	0
ERNS List (ERNS)	0.25	0	0	0
State - ASTM 1527-13/AAI Required				
State/Tribal Equivalent NPL (ST NPL)	1	0	0	0
State/Tribal Equivalent CERCLIS (ST CER)	0.5	0	0	0
State/Tribal Disposal or Landfill (SWLF)	0.5	1	1	2
State/Tribal Leaking Storage Tank (LPST)	0.5	1	0	1
State/Tribal Storage Tank (PST)	0.25	1	0	1
State/Tribal Institutional Control (ST IC)	0.25	1	0	1
State/Tribal Engineering Control (ST EC)	0.5	0	0	0
State/Tribal Voluntary Cleanup (VCP)	0.5	2	0	2
State/Tribal Brownfield (ST BWN)	0.5	0	0	0
State/Tribal Hazardous Waste (HW)	0.25	4	0	4
Non-ASTM/AAI Required Databases				
RCRA (RCRA)	0.25	3	0	3
Dry Cleaners (DRYC)	0.25	0	0	0
State/Tribal Municipal Settings Designation (MS)	0.25	0	0	0
Total Sites Found		15	1	16

Summary Map - 0.25 Mile Buffer



Sources: Esri, HERE, DeLorme, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), MapmyIndia, NGCC, © OpenStreetMap contributors, and the GIS User Community

AISD Tannehill

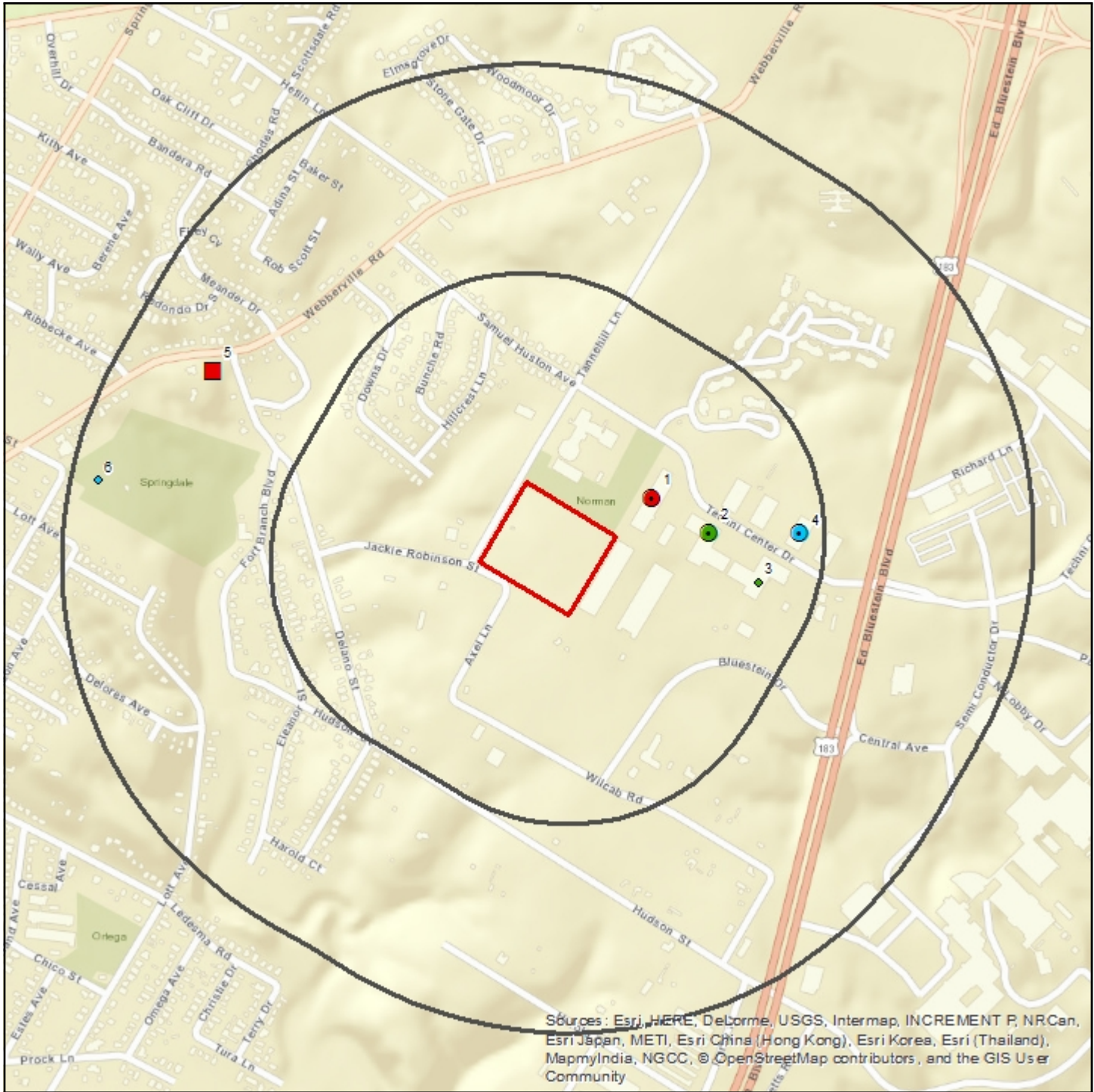
- | | | | | |
|-------------|--------------|-------------|-------------------------------|-----------------|
| Single Site | Cluster Site | Large Tract | Cluster Site with Large Tract | Target Property |
| Single Site | Cluster Site | Large Tract | Cluster Site with Large Tract | Search Buffer |
| Single Site | Cluster Site | Large Tract | Cluster Site with Large Tract | |
- RCRA COR, RCRA TSD, CER, LPST, NPL, ST NPL, SWLF
 RCRA GEN, ST & FED BWN, ST & FED EC, ST & FED IC, DNPL, CER NFRAP, PST, VCP, ST CER
 ERNS, HW, RCRA, DRYC

1 : 7,000
 1 inch = 0.110 miles
 1 inch = 583 feet
 1 centimeter = 0.070 kilometers
 1 centimeter = 70 meters

Lambert Conformal Conic Projection
 1983 North American Datum
 First Standard Parallel: 33° 00' North
 Second Standard Parallel: 45° 00' North
 Central Meridian: 96° 00' West
 Latitude of Origin: 39° 00' North



Summary Map - 0.5 Mile Buffer



Sources: Esri, HERE, DeLorme, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), MapmyIndia, NGCC, © OpenStreetMap contributors, and the GIS User Community

AISD Tannehill

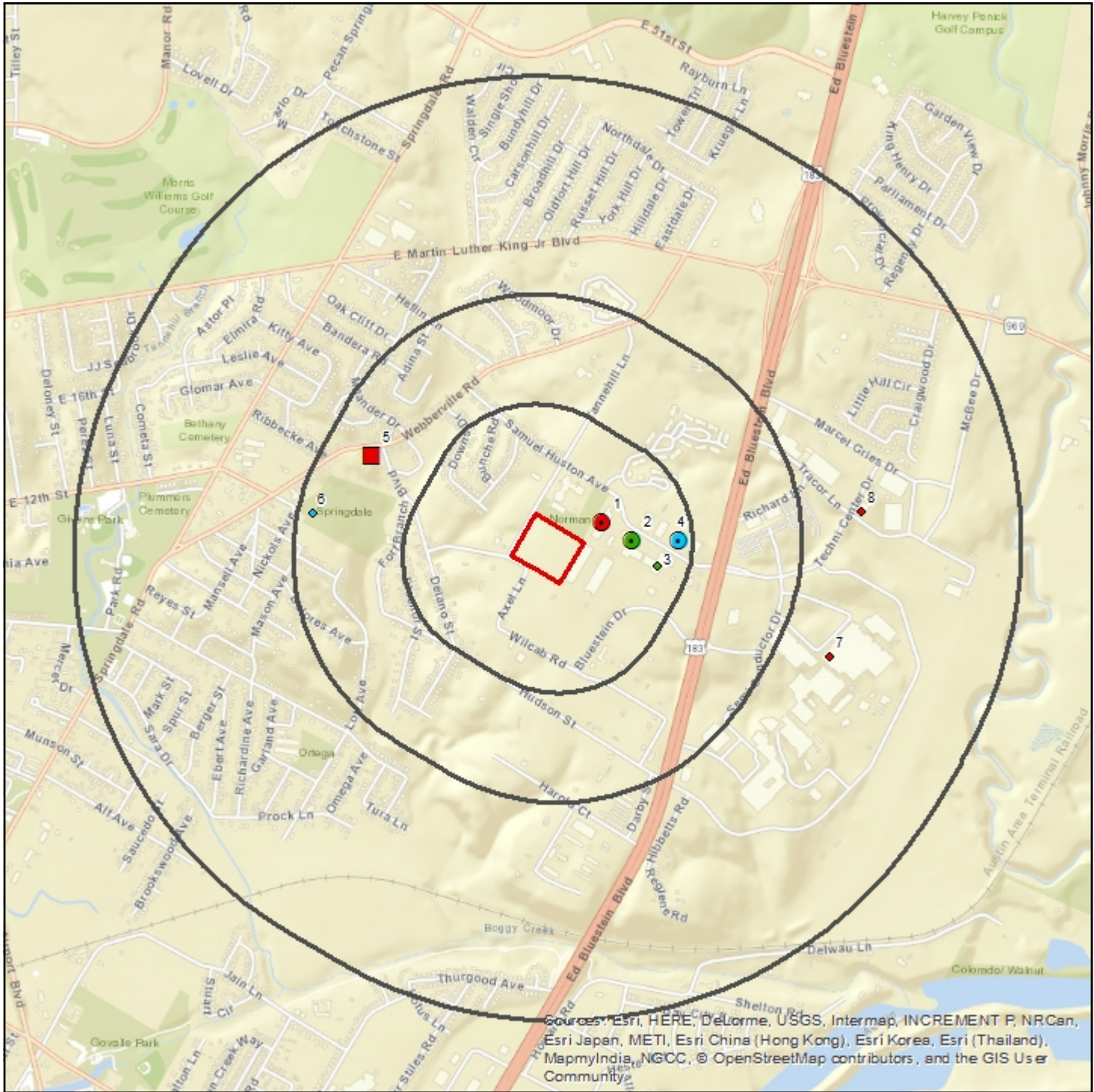
- | | | | | |
|-------------|--------------|-------------|-------------------------------|-----------------|
| Single Site | Cluster Site | Large Tract | Cluster Site with Large Tract | Target Property |
| Single Site | Cluster Site | Large Tract | Cluster Site with Large Tract | Search Buffer |
| Single Site | Cluster Site | Large Tract | Cluster Site with Large Tract | |
- RCRA COR, RCRA TSD, CER, LPST, NPL, ST NPL, SWLF
 RCRA GEN, ST & FED BWN, ST & FED EC, ST & FED IC, DNPL, CER NFRAP, PST, VCP, ST CER
 ERNS, HW, RCRA, DRYC

1 : 11,000
 1 inch = 0.174 miles
 1 inch = 917 feet
 1 centimeter = 0.110 kilometers
 1 centimeter = 110 meters

Lambert Conformal Conic Projection
 1983 North American Datum
 First Standard Parallel: 33° 00' North
 Second Standard Parallel: 45° 00' North
 Central Meridian: 96° 00' West
 Latitude of Origin: 39° 00' North



Summary Map - 1 Mile Buffer



Sources: Esri, HERE, DeLorme, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), MapmyIndia, NGCC, © OpenStreetMap contributors, and the GIS User Community

AISD Tannehill

- | | | | | |
|-------------|--------------|-------------|-------------------------------|-----------------|
| Single Site | Cluster Site | Large Tract | Cluster Site with Large Tract | Target Property |
| Single Site | Cluster Site | Large Tract | Cluster Site with Large Tract | Search Buffer |
| Single Site | Cluster Site | Large Tract | Cluster Site with Large Tract | |
- RCRA COR, RCRA TSD, CER, LPST, NPL, ST NPL, SWLF*
RCRA GEN, ST & FED BWN, ST & FED EC, ST & FED IC, DNPL, CER NFRAP, PST, VCP, ST CER
ERNS, HW, RCRA, DRYC

1 : 21,000
 1 inch = 0.331 miles
 1 inch = 1750 feet
 1 centimeter = 0.210 kilometers
 1 centimeter = 210 meters

Lambert Conformal Conic Projection
 1983 North American Datum
 First Standard Parallel: 33° 00' North
 Second Standard Parallel: 45° 00' North
 Central Meridian: 96° 00' West
 Latitude of Origin: 39° 00' North





Topographic Overlay Map - 1 Mile Buffer



Copyright: © 2013 National Geographic Society, i-cubed

AISD Tannehill

-  Target Property
-  Search Buffer

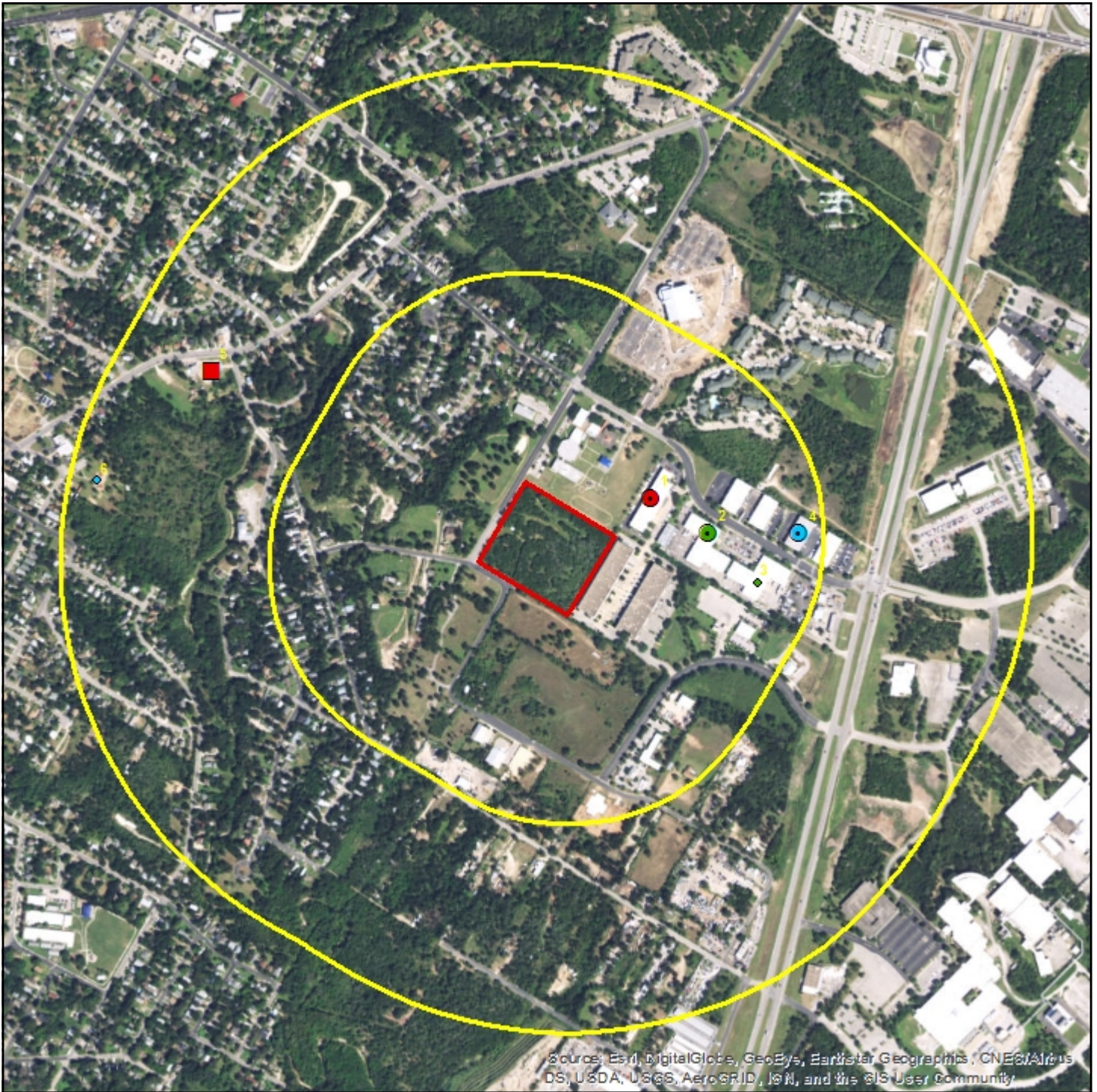
Target Property Quad Name(s)
Austin East (1975)

1 : 21,000
1 inch = 0.331 miles
1 inch = 1750 feet















Lambert Conformal Conic Projection
1983 North American Datum
First Standard Parallel: 33° 00' North
Second Standard Parallel: 49° 00' North
Central Meridian: 96° 00' West
Latitude of Origin: 39° 00' North



Current Imagery Overlay Map - 0.5 Mile Buffer



AISD Tannehill

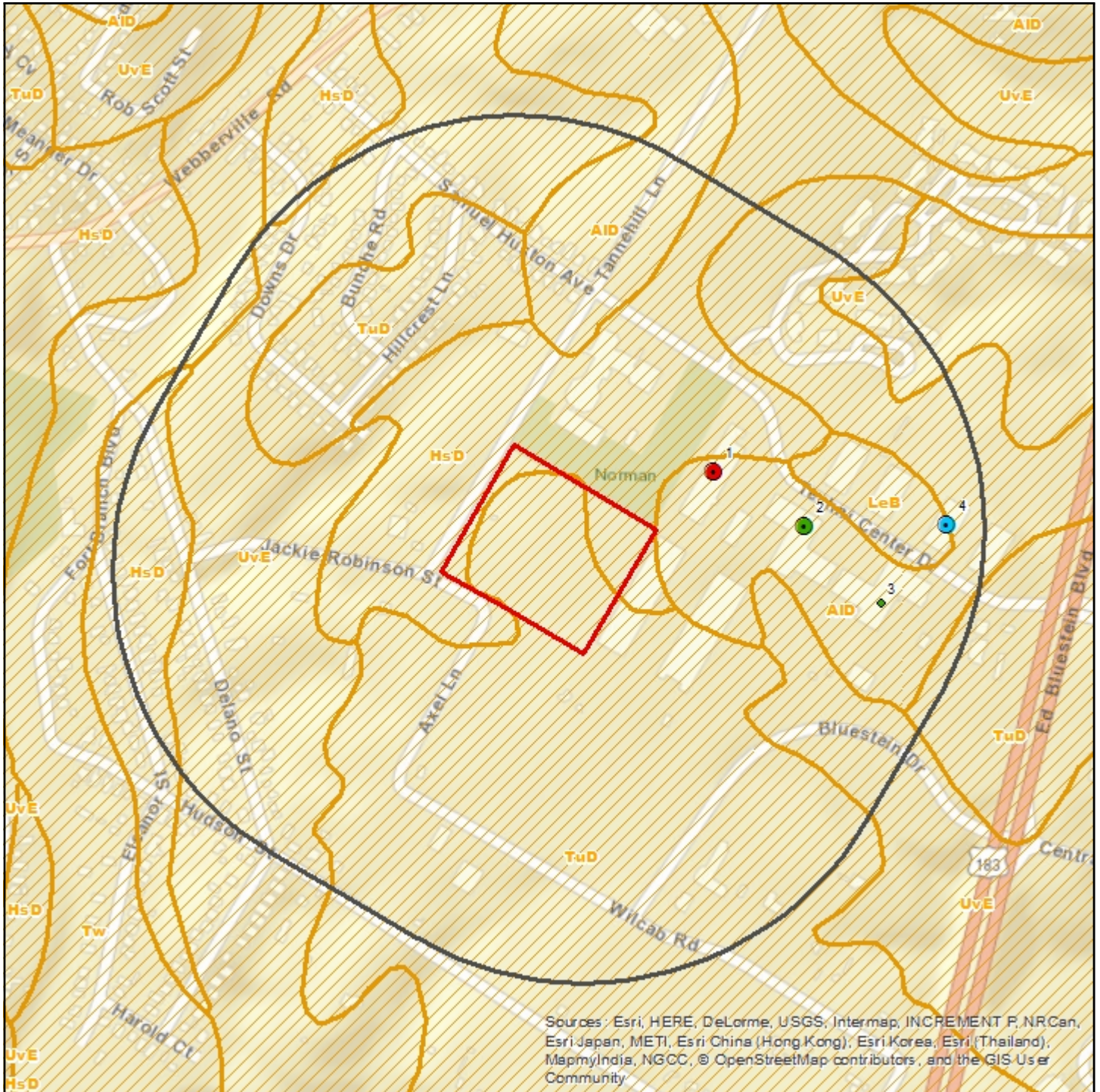
- | | | | | |
|---|--|---|---|---|
|  Single Site |  Cluster Site |  Large Tract |  Cluster Site with Large Tract |  Target Property |
|  Single Site |  Cluster Site |  Large Tract |  Cluster Site with Large Tract |  Search Buffer |
|  Single Site |  Cluster Site |  Large Tract |  Cluster Site with Large Tract | |
- RCRA COR, RCRA TSD, CER, LPST, NPL, ST NPL, SWLF*
RCRA GEN, ST & FED BWN, ST & FED EC, ST & FED IC, DNPL, CER NFRAP, PST, VCP, ST CER
ERNS, HW, RCRA, DRYC

1 : 11,000
 1 inch = 0.174 miles
 1 inch = 917 feet
 1 centimeter = 0.110 kilometers
 1 centimeter = 110 meters

Lambert Conformal Conic Projection
 1983 North American Datum
 First Standard Parallel: 33° 0' 00" North
 Second Standard Parallel: 45° 0' 00" North
 Central Meridian: 96° 0' 00" West
 Latitude of Origin: 39° 0' 00" North



Soil Survey Map - 0.25 Mile Buffer



Sources: Esri, HERE, DeLorme, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), MapmyIndia, NGCC, © OpenStreetMap contributors, and the GIS User Community

AISD Tannehill

- | | | | | |
|-------------|--------------|-------------|-------------------------------|-----------------|
| Single Site | Cluster Site | Large Tract | Cluster Site with Large Tract | Target Property |
| Single Site | Cluster Site | Large Tract | Cluster Site with Large Tract | Search Buffer |
| Single Site | Cluster Site | Large Tract | Cluster Site with Large Tract | Soils Boundary |

1 : 7,000
 1 inch = 0.110 miles
 1 inch = 583 feet
 1 centimeter = 0.070 kilometers
 1 centimeter = 70 meters

Lambert Conformal Conic Projection
 1983 North American Datum
 First Standard Parallel: 33° 00' North
 Second Standard Parallel: 45° 00' North
 Central Meridian: 96° 00' West
 Latitude of Origin: 39° 00' North



Soils

Soils Types Found

Target Property	AID, TuD, HsD
Within 0.25 miles of Target Property	UvE, TuD, AID, AID, TuD, HsD, LeB, TuD, HsD, HsD, Tw

Soil Type Descriptions

AID - Altoga soils and Urban land, 2 to 8 percent slopes

Percent Hydric 0

Minimum Depth to Bedrock

Altoga (65 percent)

Hydrologic Group	Moderately low runoff potential
Soil Drainage Class	Well drained
Corrosion Potential - Uncoated Steel	High
Depth to Restrictive Feature	

Horizon	Soil Texture	Upper Boundary	Lower Boundary	AASHTO	Unified
H1	Silty clay	0 cm	15 cm	A-7-6	CH, CL
H2	Silty clay loam	15 cm	61 cm	A-6, A-7-6	CH, CL
H3	Silty clay loam	61 cm	152 cm	A-6, A-7-6	CH, CL

Urban land (30 percent)

Hydrologic Group	High runoff potential
Soil Drainage Class	
Corrosion Potential - Uncoated Steel	
Depth to Restrictive Feature	

Horizon	Soil Texture	Upper Boundary	Lower Boundary	AASHTO	Unified
H1	Variable	0 cm	102 cm		

Unnamed (5 percent)

HsD - Houston Black soils and Urban land, 0 to 8 percent slopes

Percent Hydric 0

Minimum Depth to Bedrock

Houston Black (56 percent)

Hydrologic Group	High runoff potential
Soil Drainage Class	Moderately well drained
Corrosion Potential - Uncoated Steel	High
Depth to Restrictive Feature	

Horizon	Soil Texture	Upper Boundary	Lower Boundary	AASHTO	Unified
H1	Clay	0 cm	20 cm	A-7-6	CH
H2	Clay	20 cm	76 cm	A-7-6	CH
H3	Clay	76 cm	203 cm	A-7-6	CH

Urban land (30 percent)

Hydrologic Group	High runoff potential
Soil Drainage Class	
Corrosion Potential - Uncoated Steel	
Depth to Restrictive Feature	

Horizon	Soil Texture	Upper Boundary	Lower Boundary	AASHTO	Unified
H1	Variable	0 cm	102 cm		

Unnamed (14 percent)

LeB - Lewisville soils and Urban land, 0 to 2 percent slopes

Percent Hydric 0

Minimum Depth to Bedrock

Soils

Lewisville (68 percent)

Hydrologic Group	Moderately low runoff potential
Soil Drainage Class	Well drained
Corrosion Potential - Uncoated Steel	Moderate
Depth to Restrictive Feature	

Horizon	Soil Texture	Upper Boundary	Lower Boundary	AASHTO	Unified
H1	Silty clay	0 cm	30 cm	A-7	CH, CL
H2	Silty clay	30 cm	76 cm	A-7	CH, CL
H3	Silt loam	76 cm	183 cm	A-6, A-7	CH, CL

Urban land (25 percent)

Hydrologic Group	High runoff potential
Soil Drainage Class	
Corrosion Potential - Uncoated Steel	
Depth to Restrictive Feature	

Horizon	Soil Texture	Upper Boundary	Lower Boundary	AASHTO	Unified
H1	Variable	0 cm	102 cm		

Unnamed (7 percent)

TuD - Travis soils and urban land, 1 to 8 percent slopes

Percent Hydric	0
Minimum Depth to Bedrock	

Travis (45 percent)

Hydrologic Group	Moderately high runoff potential
Soil Drainage Class	Well drained
Corrosion Potential - Uncoated Steel	Moderate
Depth to Restrictive Feature	

Horizon	Soil Texture	Upper Boundary	Lower Boundary	AASHTO	Unified
H1	Gravelly sandy loam	0 cm	46 cm	A-2-4	SC, SC-SM, SM, SP-SM
H2	Gravelly sandy clay	46 cm	127 cm	A-6, A-7-6	CH, CL, SC
H3	Gravelly sandy clay loam	127 cm	191 cm	A-2-4, A-2-6, A-6	GC, SC

Urban land (35 percent)

Hydrologic Group	High runoff potential
Soil Drainage Class	
Corrosion Potential - Uncoated Steel	
Depth to Restrictive Feature	

Horizon	Soil Texture	Upper Boundary	Lower Boundary	AASHTO	Unified
H1	Variable	0 cm	102 cm		

Unnamed (20 percent)

Tw - Tinn clay, 0 to 1 percent slopes, frequently flooded

Percent Hydric	5
Minimum Depth to Bedrock	

Tinn (85 percent)

Hydrologic Group	High runoff potential
Soil Drainage Class	Moderately well drained
Corrosion Potential - Uncoated Steel	High
Depth to Restrictive Feature	

Horizon	Soil Texture	Upper Boundary	Lower Boundary	AASHTO	Unified
A	Clay	0 cm	42 cm	A-7, A-7-6	CH
Bkssy	Clay	146 cm	204 cm	A-7, A-7-6	CH
Bss	Clay	42 cm	146 cm	A-7, A-7-6	CH

Soils

Whitesboro (10 percent)

Hydrologic Group	Moderately low runoff potential
Soil Drainage Class	Moderately well drained
Corrosion Potential - Uncoated Steel	Moderate
Depth to Restrictive Feature	

Gladewater (5 percent)

Hydrologic Group	High runoff potential
Soil Drainage Class	Somewhat poorly drained
Corrosion Potential - Uncoated Steel	High
Depth to Restrictive Feature	

UvE - Urban land and Ferris soils, 10 to 15 percent slopes

Percent Hydric	0
Minimum Depth to Bedrock	91 cm

Urban land (40 percent)

Hydrologic Group	High runoff potential
Soil Drainage Class	
Corrosion Potential - Uncoated Steel	
Depth to Restrictive Feature	

Horizon	Soil Texture	Upper Boundary	Lower Boundary	AASHTO	Unified
H1	Variable	0 cm	102 cm		

Ferris (35 percent)

Hydrologic Group	High runoff potential
Soil Drainage Class	Well drained
Corrosion Potential - Uncoated Steel	High
Depth to Restrictive Feature	91 to 152 cm to Densic bedrock

Horizon	Soil Texture	Upper Boundary	Lower Boundary	AASHTO	Unified
H1	Clay	0 cm	15 cm	A-7-6	CH
H2	Clay	15 cm	91 cm	A-7-6	CH
H3	Silty clay	91 cm	152 cm	A-7-6	CH

Unnamed (25 percent)

Soils Descriptions

AASHTO Classification Definitions

A-1, A-1-a, A-1-b	Granular materials (35% or less passing No. 200 sieve), some fragments, gravel and sand
A-2, A-2-4, A-2-5, A-2-6, A-2-7	Granular materials (35% or less passing No. 200 sieve), silty or clayey gravel and sand
A-3	Granular materials (35% or less passing No. 200 sieve), fine sand
A-4	Silt-Clay materials (more than 35% passing No. 200 sieve), silty soils
A-5	Silt-Clay materials (more than 35% passing No. 200 sieve), silty soils
A-6	Silt-Clay materials (more than 35% passing No. 200 sieve), clayey soils
A-7, A-7-5, A-7-6	Silt-Clay materials (more than 35% passing No. 200 sieve), clayey soils
A-8	Silt-Clay materials (more than 35% passing No. 200 sieve), clayey soils

Unified Classification Definitions

CH	Fine-grained soils, silts and clays (liquid limit is 50% or more), Fat Clay
CL, CL-A (proposed), CL-K (proposed), CL-ML, CL-O (proposed), CL-T (proposed)	Fine-grained soils, silts and clays (liquid limit is less than 50%), Lean Clay
GC, GC-GM	Coarse-grained soils, Gravels, gravel with fines, Clayey Gravel
GM	Coarse-grained soils, Gravels, gravel with fines, Silty Gravel
GP, GP-GC, GP-GM	Coarse-grained soils, Gravels, clean gravels, Poorly Graded Gravel
GW, GW-GC, GW-GM	Coarse-grained soils, Gravels, clean gravels, Well-Graded Gravel
MH, MH-A, MH-K, MH-O, MH-T	Fine-grained soils, silts and clays (liquid limit is 50% or more), Elastic Silt
ML, ML-A (proposed), ML-K (proposed), ML-O (proposed), ML-T (proposed)	Fine-grained soils, silts and clays (liquid limit is less than 50%), Silt
OH, OH-T (proposed)	Fine-grained soils, silts and clays (liquid limit is 50% or more), Organic Clay or Organic Silt
OL	Fine-grained soils, silts and clays (liquid limit is less than 50%), Organic Clay or Organic Silt
PT	Highly organic soils, Peat
SC, SC-SM	Coarse-grained soils, Sands, sands with fines, Clayey Sand
SM	Coarse-grained soils, Sands, sands with fines, Silty Sand
SP, SP-SC, SP-SM	Coarse-grained soils, Sands, clean sands, Poorly Graded Sand
SW, SW-SC, SW-SM	Coarse-grained soils, Sands, clean sands, Well-Graded Sand

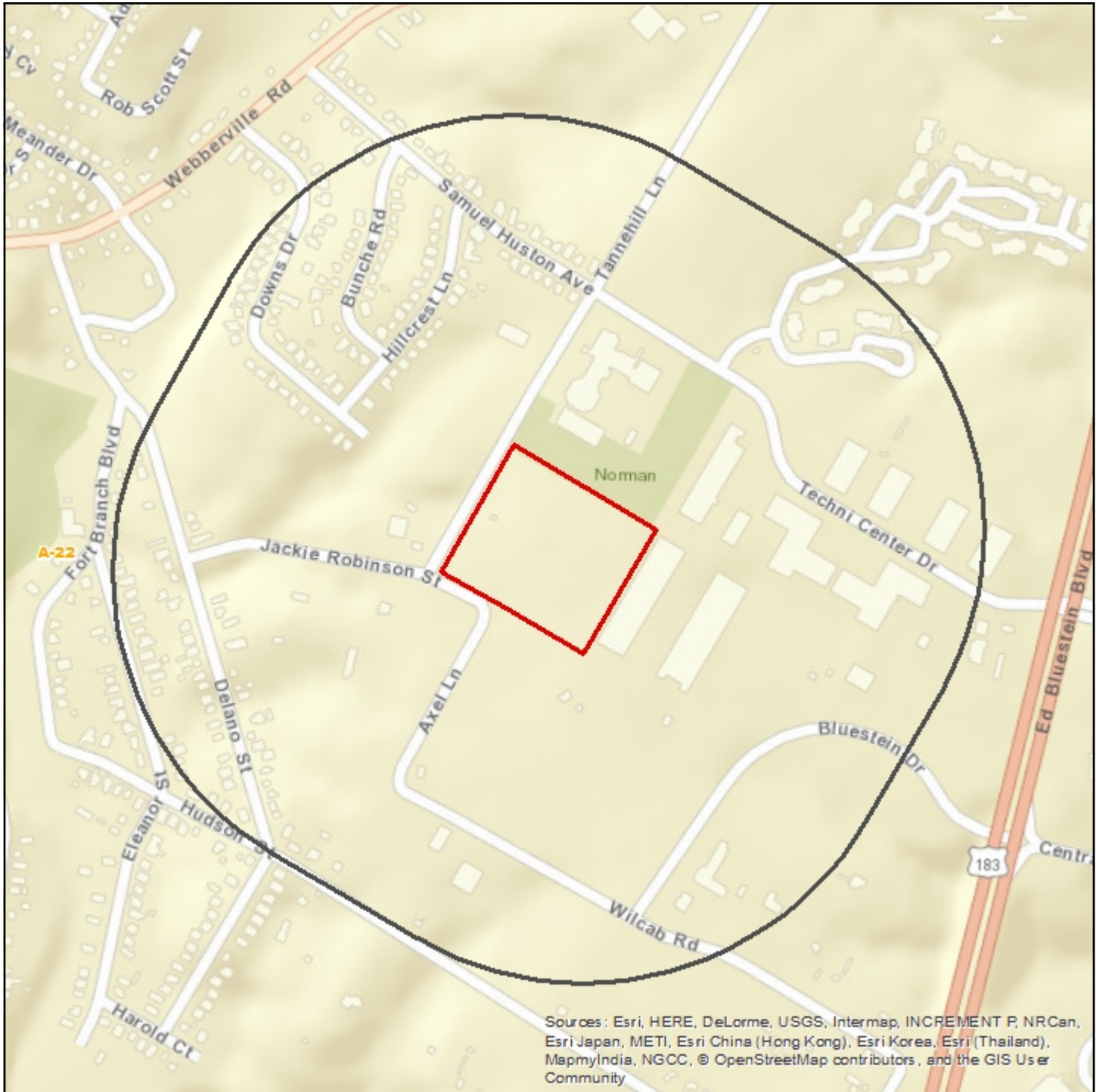
Source

Natural Resources Conservation Service, Soil Survey Geographic (SSURGO) Database.

Disclaimer

This Soils Survey from Banks Environmental Data, Inc. has searched Natural Resources Conservation Service (NRCS) and the Soil Survey Geographic Database (SSURGO). All soil data presented on the map and in the details section are based on information obtained from NRCS. Although Banks performs quality assurance and quality control on all data, inaccuracies of the data and mapped locations could possibly be traced to the source. Banks Environmental Data, Inc. cannot fully guarantee the accuracy of the SSURGO database maintained by NRCS.

Water & Oil/Gas Wells Map - 0.25 Mile Buffer



Sources: Esri, HERE, DeLorme, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), MapmyIndia, NGCC, © OpenStreetMap contributors, and the GIS User Community

AISD Tannehill

- Single Water Well
- Water Well Cluster
- Single Oil/Gas/Other Well
- Oil/Gas/Other Well Cluster
- Water/Oil/Gas/Other Well Cluster
- Target Property
- Search Buffer
- Texas Land Survey

1 : 7,000
 1 inch = 0.110 miles
 1 inch = 583 feet
 1 centimeter = 0.070 kilometers
 1 centimeter = 70 meters

Lambert Conformal Conic Projection
 1983 North American Datum
 First Standard Parallel: 33° 00' North
 Second Standard Parallel: 45° 00' North
 Central Meridian: 96° 00' West
 Latitude of Origin: 39° 00' North



This well scan searched for state and federal wells currently digitized in our geospatial database. No wells were found, but more wells could exist within the search area.

Source

U.S. Geological Survey, Texas Water Development Board (GW and Submitted Driller's Report), Texas Commission of Environmental Quality (PWS), Railroad Commission of Texas (Production Data)

Disclaimer

This well scan from Banks Environmental Data, Inc. has included a digital search of state and federal wells currently digitized in our geospatial database. Since this scan includes only well data that is currently mapped in our geospatial database, more wells could exist within the search area. For a complete well search or to locate more details, please contact Banks to obtain a full Water Well Report or Oil & Gas Well/Pipeline Search Report. More detailed individual well records can also be obtained from Banks for an additional cost, please reference a Well ID # from this well scan.

All well locations are based on information obtained from state and federal sources. Although Banks performs quality assurance and quality control on all data, inaccuracies of the records and mapped locations could possibly be traced to the specific regulatory authority or individual well driller. Banks Environmental Data, Inc. cannot fully guarantee the accuracy of the data or well location(s) of the maps and records maintained by the state and federal agencies.

Mapped Sites Summary

Database	Distance from Target Property	Map ID	Facility Site Name	Facility Site Address	Site Details Page #
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*Sites are sorted by database tier, database, and distance from the target site.

RCRA COR	0.62 miles SE	7	FREESCALE SEMICONDUCTOR ED BLUESTEIN SITE	3501 ED BLUESTEIN BLVD, AUSTIN, TX 78721	20
RCRA COR	0.64 miles E	8	BAE SYSTEMS IESI	6500 TRACOR LN, AUSTIN, TX 78725	23
SWLF	0.39 miles NW	5	Springdale Park	SW of int of Webberville Rd. and Fort Branch Blvd., TX	26
LPST	0.06 miles NE	1	FEDERAL EXPRESS	5811 TECHNI CENTER DR, AUSTIN, TX 78721	27
PST	0.06 miles NE	1	FEDERAL EXPRESS AUSTIN	5811 TECHNI CENTER DR, AUSTIN, TX 78721	28
ST IC	0.22 miles E	4	Techni-Center Building No. 2	6014 Techni Center Drive, Austin, TX	29
VCP	0.22 miles E	4	Techni-Center Building No. 2	6014 Techni Center Drive, Austin, TX	30
VCP	0.47 miles W	6	Springdale Park	1300 Nickols Avenue, Austin, TX	31
HW	0.06 miles NE	1	FEDERAL EXPRESS AUSTIN	5811 TECHNI CENTER DR, AUSTIN, TX 78721	32
HW	0.11 miles E	2	SEARS ROEBUCK 8337	6001 Techni Center Dr, Austin, TX 78721	33
HW	0.18 miles E	3	CDS LEOPOLD	6013 TECHNI CENTER DR STE A , AUSTIN, TX 78721	34
HW	0.22 miles E	4	SUPPORT SYSTEMS OF TEXAS	6014 TECHNI CENTER DR STE 108, AUSTIN, TX 78721	35
RCRA	0.06 miles NE	1	FEDERAL EXPRESS CORPORATION	5811 TECHNI CENTER, AUSTIN, TX 78721	36
RCRA	0.11 miles E	2	SEARS ROEBUCK AND CO	6001 TECHNI CENTER DR, AUSTIN, TX 78721	38
RCRA	0.22 miles E	4	SUPPORT SYSTEMS OF TEXAS INC	6014 TECHNI CENTER DR STE 108, AUSTIN, TX 78721	40

End of Mapped Sites Summary Section



Unmapped Sites Summary

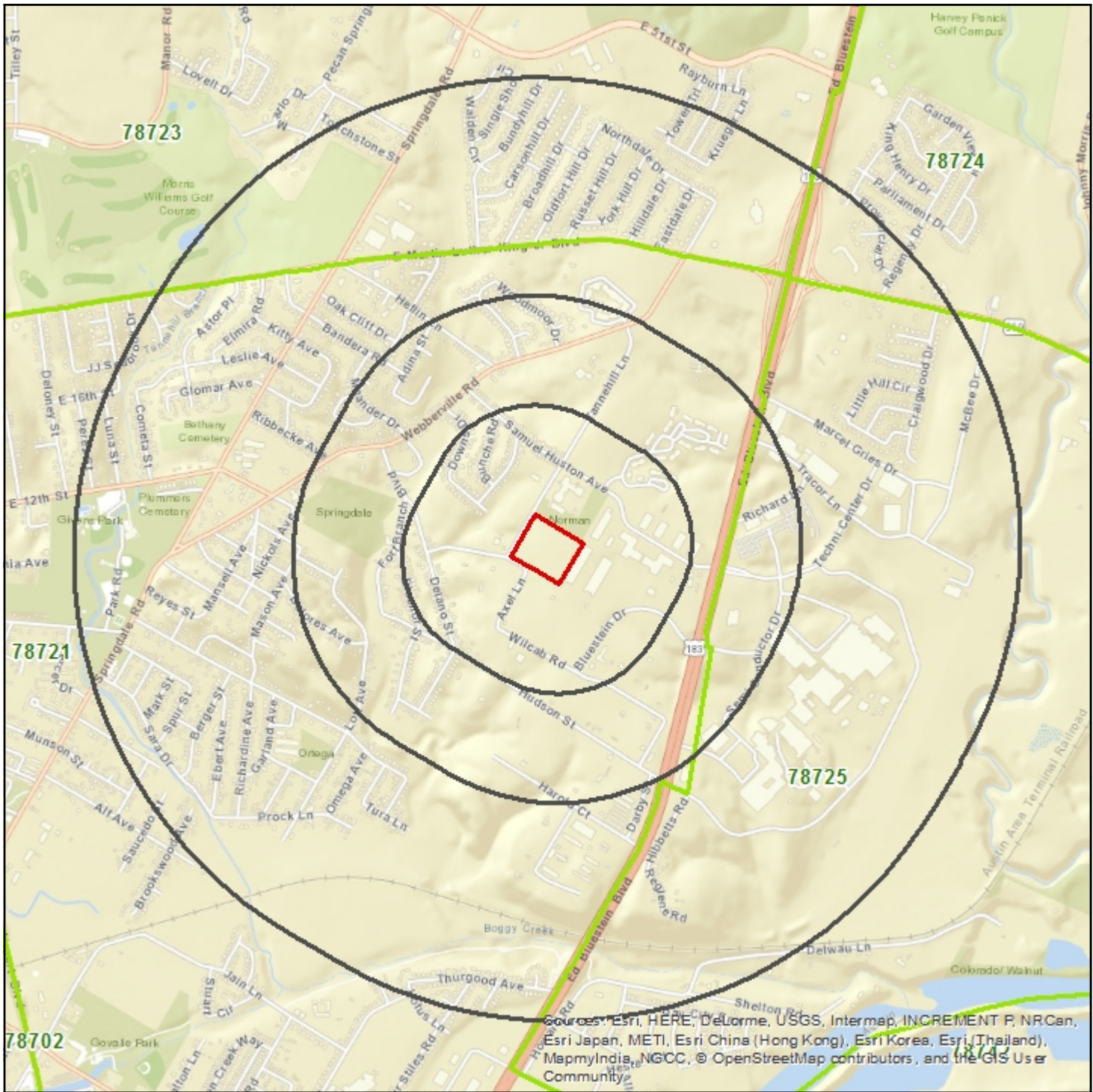
Database	Facility Site Name	Facility Site Address	Site Details Page #
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*Sites are sorted by database tier and database.

SWLF	CITY OF AUSTIN COMPOSTING FACILITY	AUSTIN, TX	42
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


End of Unmapped Sites Summary Section

Zip Code Map - 1 Mile Buffer



Sources: Esri, HERE, DeLorme, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), MapmyIndia, NGCC, © OpenStreetMap contributors, and the GIS User Community

AISD Tannehill

-  Target Property
-  Search Buffer
-  Zip Code Boundary

1 : 21,000
 1 inch = 0.331 miles
 1 inch = 1750 feet
 1 centimeter = 0.210 kilometers
 1 centimeter = 210 meters

Lambert Conformal Conic Projection
 1983 North American Datum
 First Standard Parallel: 33° 00' North
 Second Standard Parallel: 45° 00' North
 Central Meridian: 96° 00' West
 Latitude of Origin: 39° 00' North



MapID 7: RCRA COR - 3501 ED BLUESTEIN BLVD

RCRA COR - RCRA CORRACTS

Map ID #7	RCRA COR - RCRA CORRACTS	Source: EPA
EPA Handler ID: TXD069450997	Handler Sequence Number: 4	Banks ID: TXD069450997
FREESCALE SEMICONDUCTOR ED BLUESTEIN SITE		Rel. Loc.: 0.62 miles SE
3501 ED BLUESTEIN BLVD, AUSTIN, TX 78721		Elevation: 506.16 feet (+506.16)
Status:	Active Site - Handler Activities;	
Owner Name:	FREESCALE SEMICONDUCTOR INC	
Operator Name:	FREESCALE SEMICONDUCTOR INC	
Mailing Address Street #:	3501	
Mailing Address Street:	ED BLUESTEIN BLVD # F-13	
Mailing Address Street:	MAIL DROP F-13	
Mailing Address City:	AUSTIN	
Mailing Address State:	TX	
Mailing Address Zip:	78721-2903	
Contact Name:	JASON HEIRONIMUS	
Contact Address Street #:	3501	
Contact Address Street:	ED BLUESTEIN BLVD # F-13	
Contact Address Street:	MAIL DROP F-13	
Contact Address City:	AUSTIN	
Contact Address State:	TX	
Contact Address Zip:	78721-2903	
Contact Phone:	512-895-4436	
Contact Email Address:		
Government Performance and Results Act (GPRA) Permit:	The facility does not exist on the Operating/Post-Closure Permit Baseline.	
Government Performance and Results Act (GPRA) Corrective Action:	No	
Permit Workload:		
Closure Workload:		
Post-Closure Workload:		
Subject to Corrective Action:	Yes	
Subject to Corrective Action 3004:	No	
Subject to Corrective Action Non-TSDF:	No	
Corrective Action Workload:	No	
Generator Status:	Large Quantity Generator	
Nuclear Mixed Waste Handler:	No	
Onsite Burner Exemption:	No	
Furnace Exemption:	No	
Underground Injection Activity:	No	
NAIC Description 1:	Semiconductor and Related Device Manufacturing	
NAIC Description 2:		
NAIC Description 3:		
NAIC Description 4:		
Federal Generator Class:	Large Quantity Generator	
State Generator Class:		
Environmental Controls in Place:	No	
Institutional Controls in Place:	No	
Groundwater Controls in Place:	No	
Significant Non-Compliance:	No	
Unaddressed Significant Non-Complier:	No	
Addressed Significant Non-Complier:	No	
Significant Non-Complier with Compliance Schedule:	No	
Short Term Generator:	No	
Mixed Waste Generator:	No	
Transfer Facility:	No	
Importer Activity:	No	
Transporter Activity:	No	
Recycler Activity:	No	
Receives waste from Offsite:	No	

MapID 7: RCRA COR - 3501 ED BLUESTEIN BLVD

Continued from Previous Page

Universal Waste:		No		
Enforcement Description	Responsible Enforcement Agency	Enforcement Date	Penalty Description	
VERBAL INFORMAL	State	1/9/2015		
Evaluation Description	Responsible Agency	Evaluation Date	Violation Found	
FOCUSED COMPLIANCE INSPECTION	EPA Personnel	3/20/1996	No	
COMPLIANCE EVALUATION INSPECTION ON-SITE	State	1/9/2015	Yes	
Violation Description	Violation Determined By	Violation Date	Actual Resolution Date	Scheduled Resolution Date
Standards Applicable to Generators of HW: Recordkeeping and Reporting	State	1/9/2015	1/23/2015	
State Statutory or Regulatory requirements that are broader-in-scope than the federal RCRA requirements	State	1/9/2015	1/23/2015	
Hazardous Waste Description				
2-PROPANONE (I) (OR) ACETONE (I)				
ACETIC ACID, ETHYL ESTER (I) (OR) ETHYL ACETATE (I)				
ARSENIC				
ARSENIC OXIDE AS2O5 (OR) ARSENIC PENTOXIDE				
BARIUM				
BENZENE				
BENZENE, (1-METHYLETHYL)- (I) (OR) CUMENE (I)				
BENZENE, 1,2-DICHLORO- (OR) O-DICHLOROBENZENE				
BENZENE, 1,3-DICHLORO- (OR) M-DICHLOROBENZENE				
BENZENE, 1,4-DICHLORO- (OR) P-DICHLOROBENZENE				
BENZENE, DIMETHYL- (I,T) (OR) XYLENE (I)				
CADMIUM				
CARBON TETRACHLORIDE				
CHLOROFORM				
CHLOROFORM (OR) METHANE, TRICHLORO-				
CHROMIUM				
CORROSIVE WASTE				
CYANIDES (SOLUBLE CYANIDE SALTS), NOT OTHERWISE SPECIFIED DESCRIPTION				
ETHANE, 1,1,1-TRICHLORO- (OR) METHYL CHLOROFORM				
FORMALDEHYDE				
HYDROFLUORIC ACID (C,T) (OR) HYDROGEN FLUORIDE (C,T)				
HYDROGEN PHOSPHIDE (OR) PHOSPHINE				
IGNITABLE WASTE				
LEAD				
MERCURY				
METHANE, DICHLORO- (OR) METHYLENE CHLORIDE				
METHANOL (I) (OR) METHYL ALCOHOL (I)				
METHYL ETHYL KETONE				
NITROGEN DIOXIDE (OR) NITROGEN OXIDE NO2				
PHENOL				
POTASSIUM CYANIDE (OR) POTASSIUM CYANIDE K(CN)				
REACTIVE WASTE				
SILVER				
SILVER CYANIDE (OR) SILVER CYANIDE AG(CN)				
SODIUM CYANIDE (OR) SODIUM CYANIDE NA(CN)				
TETRACHLOROETHYLENE				
THE FOLLOWING SPENT HALOGENATED SOLVENTS USED IN DEGREASING: TETRACHLOROETHYLENE, TRICHLOROETHYLENE, METHYLENE CHLORIDE, 1,1,1-TRICHLOROETHANE, CARBON TETRACHLORIDE AND CHLORINATED FLUOROCARBONS; ALL SPENT SOLVENT MIXTURES/BLENDS USED IN DEGREASING CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F002, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.				
THE FOLLOWING SPENT HALOGENATED SOLVENTS: TETRACHLOROETHYLENE, METHYLENE CHLORIDE, TRICHLOROETHYLENE, 1,1,1-TRICHLOROETHANE, CHLOROBENZENE, 1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE, ORTHO-DICHLOROBENZENE, TRICHLOROFLUOROMETHANE, AND 1,1,2,2-TRICHLOROETHANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.				

MapID 7: RCRA COR - 3501 ED BLUESTEIN BLVD

Continued from Previous Page

THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: TOLUENE, METHYL ETHYL KETONE, CARBON DISULFIDE, ISOBUTANOL, PYRIDINE, BENZENE, 2-ETHOXYETHANOL, AND 2-NITROPROPANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F002, OR F004; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: XYLENE, ACETONE, ETHYL ACETATE, ETHYL BENZENE, ETHYL ETHER, METHYL ISOBUTYL KETONE, N-BUTYL ALCOHOL, CYCLOHEXANONE, AND METHANOL; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONLY THE ABOVE SPENT NONHALOGENATED SOLVENTS; AND ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS, AND A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THOSE SOLVENTS LISTED IN F001, F002, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

TRICHLORETHYLENE

WASTEWATER TREATMENT SLUDGES FROM ELECTROPLATING OPERATIONS, EXCEPT FROM THE FOLLOWING PROCESSES: (1) SULFURIC ACID ANODIZING OF ALUMINUM; (2) TIN PLATING ON CARBON STEEL; (3) ZINC PLATING (SEGREGATED BASIS) ON CARBON STEEL; (4) ALUMINUM OR ZINC-ALUMINUM PLATING ON CARBON STEEL; (5) CLEANING/STRIPPING ASSOCIATED WITH TIN, ZINC, AND ALUMINUM PLATING ON CARBON STEEL; AND (6) CHEMICAL ETCHING AND MILLING OF ALUMINUM.

Corrective Action Description	Date of Corrective Action	Responsible Event Agency	Corrective Action Event Active
RFA COMPLETED	6/2/1989	EPA Personnel	Yes
DETERMINATION OF NEED FOR AN INVESTIGATION-INVESTIGATION IS NOT NECESSARY	6/2/1989	EPA Personnel	Yes
CA PRIORITIZATION-LOW CA PRIORITY	2/24/1992	EPA Personnel	Yes
CA PRIORITIZATION-MEDIUM CA PRIORITY	9/25/1992	EPA Personnel	Yes



MapID 8: RCRA COR - 6500 TRACOR LN

Map ID #8	RCRA COR - RCRA CORRACTS	Source: EPA
EPA Handler ID: TXD008110249	Handler Sequence Number: 24	Banks ID: TXD008110249
BAE SYSTEMS IESI		Rel. Loc.: 0.64 miles E
6500 TRACOR LN, AUSTIN, TX 78725		Elevation: 502.94 feet (+502.94)
Status:	Active Site - Handler Activities;	
Owner Name:	BAE SYSTEMS INFORMATION AND ELECTRONIC	
Operator Name:	BAE SYSTEMS INFORMATION AND ELECTRONIC	
Mailing Address Street #:		
Mailing Address Street:	6500 TRACOR LN	
Mailing Address Street:		
Mailing Address City:	AUSTIN	
Mailing Address State:	TX	
Mailing Address Zip:	78725-2151	
Contact Name:	MICHAEL FLORCZYKOWSKI	
Contact Address Street #:		
Contact Address Street:	6500 TRACOR LN	
Contact Address Street:		
Contact Address City:	AUSTIN	
Contact Address State:	TX	
Contact Address Zip:	78725-2151	
Contact Phone:	512-929-2844	
Contact Email Address:		
Government Performance and Results Act (GPRA) Permit:	The facility does not exist on the Operating/Post-Closure Permit Baseline.	
Government Performance and Results Act (GPRA) Corrective Action:	No	
Permit Workload:		
Closure Workload:		
Post-Closure Workload:		
Subject to Corrective Action:	Yes	
Subject to Corrective Action 3004:	No	
Subject to Corrective Action Non-TSDF:	No	
Corrective Action Workload:	No	
Generator Status:	Small Quantity Generator	
Nuclear Mixed Waste Handler:	No	
Onsite Burner Exemption:	No	
Furnace Exemption:	No	
Underground Injection Activity:	No	
NAIC Description 1:	Printed Circuit Assembly (Electronic Assembly) Manufacturing	
NAIC Description 2:		
NAIC Description 3:		
NAIC Description 4:		
Federal Generator Class:	Small Quantity Generator	
State Generator Class:		
Environmental Controls in Place:	No	
Institutional Controls in Place:	No	
Groundwater Controls in Place:	No	
Significant Non-Compliance:	No	
Unaddressed Significant Non-Complier:	No	
Addressed Significant Non-Complier:	No	
Significant Non-Complier with Compliance Schedule:	No	
Short Term Generator:	No	
Mixed Waste Generator:	No	
Transfer Facility:	No	
Importer Activity:	No	
Transporter Activity:	No	
Recycler Activity:	No	
Receives waste from Offsite:	No	
Universal Waste:	No	
Enforcement Description	Responsible	Enforcement Date Penalty Description

MapID 8: RCRA COR - 6500 TRACOR LN

Continued from Previous Page

		Enforcement Agency		
WRITTEN INFORMAL		State	1/3/2006	
Evaluation Description	Responsible Agency	Evaluation Date	Violation Found	
COMPLIANCE EVALUATION INSPECTION ON-SITE	State	11/29/2005	Yes	
Violation Description	Violation Determined By	Violation Date	Actual Resolution Date	Scheduled Resolution Date
State Statutory or Regulatory requirements that are broader-in-scope than the federal RCRA requirements	State	11/29/2005	12/13/2005	
Standards Applicable to Generators of HW: Pre-Transport Requirements	State	11/29/2005	11/29/2005	
Standards Applicable to Generators of HW: General	State	11/29/2005	12/13/2005	
Interim Status Standards for Owners and Operators of HW TSDs: Use and Management	State	11/29/2005	11/29/2005	
Hazardous Waste Description				
1,1-DICHLOROETHYLENE				
1,2-DICHLOROETHANE				
1,4-DICHLOROBENZENE				
2,4-(1H,3H)-PYRIMIDINEDIONE, 5-[BIS(2-CHLOROETHYL)AMINO]- (OR) URACIL MUSTARD				
2-BUTANONE (I,T) (OR) METHYL ETHYL KETONE (MEK) (I,T)				
2-PROPENOIC ACID, 2-METHYL-, METHYL ESTER (I,T) (OR) METHYL METHACRYLATE (I,T)				
BARIUM				
BENZENE				
BENZENE, CHLORO- (OR) CHLOROBENZENE				
BENZENE, METHYL- (OR) TOLUENE				
CADMIUM				
CHLOROBENZENE				
CHLOROFORM				
CHLOROFORM (OR) METHANE, TRICHLORO-				
CHROMIUM				
CORROSIVE WASTE				
DICHLORODIFLUOROMETHANE (OR) METHANE, DICHLORODIFLUORO-				
ETHANE, 1,1,1-TRICHLORO- (OR) METHYL CHLOROFORM				
FORMALDEHYDE				
HYDROFLUORIC ACID (C,T) (OR) HYDROGEN FLUORIDE (C,T)				
IGNITABLE WASTE				
LEAD				
MERCURY				
METHANOL (I) (OR) METHYL ALCOHOL (I)				
METHYL ETHYL KETONE				
PHENOL				
PLATING BATH RESIDUES FROM THE BOTTOM OF PLATING BATHS FROM ELECTROPLATING OPERATIONS IN WHICH CYANIDES ARE USED IN THE PROCESS.				
REACTIVE WASTE				
SELENIUM				
SILVER				
TETRACHLOROETHYLENE				
THE FOLLOWING SPENT HALOGENATED SOLVENTS USED IN DEGREASING: TETRACHLOROETHYLENE, TRICHLOROETHYLENE, METHYLENE CHLORIDE, 1,1,1-TRICHLOROETHANE, CARBON TETRACHLORIDE AND CHLORINATED FLUOROCARBONS; ALL SPENT SOLVENT MIXTURES/BLENDS USED IN DEGREASING CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F002, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.				
THE FOLLOWING SPENT HALOGENATED SOLVENTS: TETRACHLOROETHYLENE, METHYLENE CHLORIDE, TRICHLOROETHYLENE, 1,1,1-TRICHLOROETHANE, CHLOROBENZENE, 1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE, ORTHO-DICHLOROBENZENE, TRICHLOROFLUOROMETHANE, AND 1,1,2, TRICHLOROETHANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.				
THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: TOLUENE, METHYL ETHYL KETONE, CARBON DISULFIDE, ISOBUTANOL, PYRIDINE, BENZENE, 2-ETHOXYETHANOL, AND 2-NITROPROPANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F002, OR F004; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.				
THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: XYLENE, ACETONE, ETHYL ACETATE, ETHYL BENZENE, ETHYL ETHER, METHYL ISOBUTYL KETONE, N-BUTYL ALCOHOL, CYCLOHEXANONE, AND METHANOL; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONLY THE ABOVE SPENT NONHALOGENATED SOLVENTS; AND ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS, AND A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THOSE SOLVENTS LISTED IN F001, F002, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.				
TRICHLOROETHYLENE				

MapID 8: RCRA COR - 6500 TRACOR LN



Continued from Previous Page

End of RCRA COR Sites Section



MapID 5: SWLF - SW of int of Webberville Rd. and Fort Br

SWLF - State/Tribal Disposal or Landfill

Map ID #5	SWLF - State/Tribal Disposal or Landfill	Source: TCEQ
TCEQ Closed Landfill Inventory Unnumbered: UNUM_1699	Secondary ID: NA	Banks ID: UNUM_1699
Springdale Park		Rel. Loc.: 0.39 miles NW
SW of int of Webberville Rd. and Fort Branch Blvd., TX		Elevation: 499.58 feet (+499.58)
Detail #1		
Facility Status:	CLOSED	
Acres:		
Estimated Closure Date:		
Additional Location Information:	Added by COG reviewer	
Facility Owner Name:		
Permit Status:		

End of SWLF Sites Section



MapID 1: LPST - 5811 TECHNI CENTER DR

LPST - State/Tribal Leaking Storage Tank

Map ID #1	LPST - State/Tribal Leaking Storage Tank	Source: TCEQ
LPST ID: 111747	Facility ID: 0029044	Banks ID: 111747
FEDERAL EXPRESS		Rel. Loc.: 0.06 miles NE
5811 TECHNI CENTER DR, AUSTIN, TX 78721		Elevation: 563.06 feet (+563.06)
Status:	6A-Final concurrence issued, case close	
Leak Discovery Date:	10/8/1996	
Damage Description:	gw impacted, no apparent threats or impacts to receptors	
Leak Closure Date:	8/24/2006	
Owner Contact Name:	FEDERAL EXPRESS	
Facility Information from Related UST		
Facility Contact Name:	KEN RHODES	
Facility Contact Phone:	5129282088	
Facility Status:	INACTIVE	
Facility Type:	FLEET REFUELING	
Number of ASTs:	0	
Number of USTs:	0	
Tank #:	#1	
Status:	REMOVED FROM GROUND	
Status Date:	10/10/1996	
Capacity:	10000	
Install Date:	8/31/1987	
Above or Below Ground Tank:	below	
Unit ID:		
Construction Material:		
Piping Type:		
Piping Material:	FRP (fiberglass-reinforced plastic)	
Tank Contents:		
Tank Release Vapor Monitor Status Stage 1:		
Corrosion Protection:	FRP_tank_or_piping_noncorrodible	
Piping Corrosion Protection:	FRP_tank_or_piping_noncorrodible	

End of LPST Sites Section



MapID 1: PST - 5811 TECHNI CENTER DR

PST - State/Tribal Storage Tank

Map ID #1	PST - State/Tribal Storage Tank	Source: TCEQ
Facility #: 0029044	TCEQ Customer ID: 063987	Banks ID: 0029044
FEDERAL EXPRESS AUSTIN		Rel. Loc.: 0.06 miles NE
5811 TECHNI CENTER DR, AUSTIN, TX 78721		Elevation: 563.06 feet (+563.06)
Facility Contact Name:	KEN RHODES	
Facility Contact Phone:	5129282088	
Facility Status:	INACTIVE	
Facility Type:	FLEET REFUELING	
Number of ASTs:	0	
Number of USTs:	0	
Tank #:	#1	
Status:	REMOVED FROM GROUND	
Status Date:	10/10/1996	
Capacity:	10000	
Install Date:	8/31/1987	
Above or Below Ground Tank:	below	
Unit ID:		
Construction Material:		
Piping Type:		
Piping Material:	FRP (fiberglass-reinforced plastic)	
Tank Contents:		
Tank Release Vapor Monitor Status Stage 1:		
Corrosion Protection:	FRP_tank_or_piping_noncorrodible	
Piping Corrosion Protection:	FRP_tank_or_piping_noncorrodible	

End of PST Sites Section



MapID 4: ST IC - 6014 Techni Center Drive

ST IC - State/Tribal Institutional Control

Map ID #4	ST IC - State/Tribal Institutional Control	Source: TCEQ
TCEQ VCP ID: 1211	Secondary ID: NA	Banks ID: 1211
Techni-Center Building No. 2		Rel. Loc.: 0.22 miles E
6014 Techni Center Drive, Austin, TX		Elevation: 563.29 feet (+563.29)
Institutional Controls:	Nonresidential	
Status:	Completed	
Facility Type:	Etching/Computer Parts Cleaning	
Acres:		
Applicant:	San Antonio Industrial Holdings, Inc.	
Receive Date:	5/16/2000	
Completion Date:	4/20/2001	
Site Contamination Information:	Metals, Lead	
Media Affected:	Soils	
Additional Info:		

End of ST IC Sites Section



MapID 4: VCP - 6014 Techni Center Drive

VCP - State/Tribal Voluntary Cleanup

Map ID #4	VCP - State/Tribal Voluntary Cleanup	Source: TCEQ
VCP ID: 1211	EPA Texas ID/Registration #: NA	Banks ID: VCP_001211
Techni-Center Building No. 2		Rel. Loc.: 0.22 miles E
6014 Techni Center Drive, Austin, TX		Elevation: 563.29 feet (+563.29)
Status:	Completed	
Receive Date:	5/16/2000	
Completion Date - Certificate Issued:	4/20/2001	
Facility Type:	Etching/Computer Parts Cleaning	
Acres:		
Applicant:	San Antonio Industrial Holdings, Inc.	
Institutional Controls:	Nonresidential	
Site Contamination Information:	Metals, Lead	
Media Affected:	Soils	
Owner Name:	Mary Luther	
Owner Phone:	512-483-9475	
Additional Information:		



MapID 6: VCP - 1300 Nickols Avenue

Map ID #6	VCP - State/Tribal Voluntary Cleanup	Source: TCEQ
VCP ID: 0123	EPA Texas ID/Registration #: NA	Banks ID: VCP_000123
Springdale Park 1300 Nickols Avenue, Austin, TX		Rel. Loc.: 0.47 miles W Elevation: 540.72 feet (+540.72)
Status:	Completed	
Receive Date:	9/21/1995	
Completion Date - Certificate Issued:	2/24/1997	
Facility Type:	Undeveloped Land	
Acres:	14	
Applicant:	City of Austin ECSD	
Institutional Controls:		
Site Contamination Information:	Lead, Pesticides	
Media Affected:	Soils	
Owner Name:	Chuck Lesniak	
Owner Phone:	512-499-2699	
Additional Information:	Remedy: Excavation & Off-site Disposal	

End of VCP Sites Section



MapID 1: HW - 5811 TECHNI CENTER DR

HW - State/Tribal Hazardous Waste

Map ID #1	HW - State/Tribal Hazardous Waste	Source: TCEQ
Register #: 66605	EPA ID: TXD108551680	Banks ID: 66605
FEDERAL EXPRESS AUSTIN 5811 TECHNI CENTER DR, AUSTIN, TX 78721		Rel. Loc.: 0.06 miles NE Elevation: 563.06 feet (+563.06)
Status:	INACTIVE	
Location Description:	5811 Techni Center, Austin, Texas	
Additional State ID:	21873	
Permit Number:		
Facility Type:	Generator	
Facility Contact Name:	SONDRA JOHNSON	
Facility Contact Phone:	512-9282088	
Company Name:	FEDERAL EXPRESS CORPORATION	



MapID 2: HW - 6001 Techni Center Dr

Map ID #2	HW - State/Tribal Hazardous Waste	Source: TCEQ
Register #: 85798	EPA ID: TXR000020479	Banks ID: 85798
SEARS ROEBUCK 8337		Rel. Loc.: 0.11 miles E
6001 Techni Center Dr, Austin, TX 78721		Elevation: 562.03 feet (+562.03)
Status:	INACTIVE	
Location Description:	6001 Techni Center Dr, Austin, TX	
Additional State ID:	108038	
Permit Number:		
Facility Type:	Generator	
Facility Contact Name:	KATHLEEN M FLAHERTY	
Facility Contact Phone:	847-2867199	
Company Name:	SEARS ROEBOCK AND CO	
Waste ID	Waste Code	Waste Description
171734	0002219H	Waste gasoline from small engine repair; 2/1/81
171733	0001203H	Petroleum naphtha from parts washing; 1/92



MapID 3: HW - 6013 TECHNI CENTER DR STE A

Map ID #3	HW - State/Tribal Hazardous Waste	Source: TCEQ
Register #: 82531	EPA ID: NA	Banks ID: 82531
CDS LEOPOLD		Rel. Loc.: 0.18 miles E
6013 TECHNI CENTER DR STE A , AUSTIN, TX 78721		Elevation: 555.63 feet (+555.63)
Status:	INACTIVE	
Location Description:	6013 A Techni Center Dr, Austin, TX	
Additional State ID:	98522	
Permit Number:		
Facility Type:	Generator	
Facility Contact Name:	MIKE MCKAY	
Facility Contact Phone:	512-8343500	
Company Name:	CDS ENGINEERING INC	
Waste ID	Waste Code	Waste Description
98194	00033072	Alum chips from machining aluminum parts 80prt container middle shop.
158047	00102051	Spent machine coolant from machining of aluminum parts. Waste is a mixture of 2
98193	00022062	Spent lube oil from machinery. 50 gallon steel drum middle shop.
98192	00012052	Spent oil water soluble cutting oil> Oil is used to cool machined metal parts.W



MapID 4: HW - 6014 TECHNI CENTER DR STE 108

Map ID #4	HW - State/Tribal Hazardous Waste	Source: TCEQ
Register #: 83559	EPA ID: TX0000893149	Banks ID: 83559
SUPPORT SYSTEMS OF TEXAS		Rel. Loc.: 0.22 miles E
6014 TECHNI CENTER DR STE 108, AUSTIN, TX 78721		Elevation: 563.29 feet (+563.29)
Status:	INACTIVE	
Location Description:	6014 Techni Center, Ste 108, Austin, TX	
Additional State ID:	100783	
Permit Number:		
Facility Type:	Generator	
Facility Contact Name:	JEFFREY T LUPUL	
Facility Contact Phone:	512-9290848	
Company Name:	SUPPORT SYSTEMS OF TEXAS INC	
Waste ID	Waste Code	Waste Description
123327	0011109H	Spent caustic from metal and ceramic cleaning process baths. Caustic does not e
302967	DT9T1012	
123321	0005104H	Spent acid from metal and ceramic cleaning process baths. Corrosive acid does n
123323	00073892	Glass media from bead blasting unit. Metal tool surfaces are roughed up using s
123319	00031141	Concentrated chemical stream remaining after evaporation of the neutralized rins
123324	00083892	Aluminum oxide media from bead blasting unit. Metal tool surfaces are roughed u
123325	00094062	Triple rinsed empty plastic containers. Containers held new acids, in 1 gallono
123328	0012110H	Caustic rinsewater obtained from rinsing the caustic remaining on metal or ceram
172422	0013319H	Inorganic sludge/solid - non pumpable contains metal salts. Generating process:s
123317	0001105H	Corrosive rinse water obtained from rinsing the acids remaining on metal or cera
123318	00021141	Neutralized rinse water following neutralization of corrosive rinse water in neu
123320	00043191	Inorganic sludge from water evaporation unit. The sludge remains after neutrali
123322	00061142	Soapy rinse waters from manual cleaning and rinsing of metal or ceramics. First
123326	00109032	Plant office refuse that come from general office operations. First generated o

End of HW Sites Section

MapID 1: RCRA - 5811 TECHNI CENTER

RCRA - RCRA

Map ID #1	RCRA - RCRA	Source: EPA
EPA Handler ID: TXD108551680	Handler Sequence Number: 2	Banks ID: TXD108551680
FEDERAL EXPRESS CORPORATION		Rel. Loc.: 0.06 miles NE
5811 TECHNI CENTER, AUSTIN, TX 78721		Elevation: 563.06 feet (+563.06)
Status:	Inactive	
Owner Name:	FEDERAL EXPRESS CORPORATION	
Operator Name:	FEDERAL EXPRESS CORPORATION	
Mailing Address Street #:	5811	
Mailing Address Street:	TECHNI CENTER	
Mailing Address Street:		
Mailing Address City:	AUSTIN	
Mailing Address State:	TX	
Mailing Address Zip:	78721	
Contact Name:	SONDRA JOHNSON	
Contact Address Street #:	5811	
Contact Address Street:	TECHNI CENTER	
Contact Address Street:		
Contact Address City:	AUSTIN	
Contact Address State:	TX	
Contact Address Zip:	78721	
Contact Phone:	512-928-2088	
Contact Email Address:		
Government Performance and Results Act (GPRA) Permit:	The facility does not exist on the Operating/Post-Closure Permit Baseline.	
Government Performance and Results Act (GPRA) Corrective Action:	No	
Permit Workload:		
Closure Workload:		
Post-Closure Workload:		
Subject to Corrective Action:	No	
Subject to Corrective Action 3004:	No	
Subject to Corrective Action Non-TSDF:	No	
Corrective Action Workload:	No	
Generator Status:	Not a Generator	
Nuclear Mixed Waste Handler:	No	
Onsite Burner Exemption:	No	
Furnace Exemption:	No	
Underground Injection Activity:	No	
NAIC Description 1:		
NAIC Description 2:		
NAIC Description 3:		
NAIC Description 4:		
Federal Generator Class:	Not a Generator, Verified	
State Generator Class:		
Environmental Controls in Place:	No	
Institutional Controls in Place:	No	
Groundwater Controls in Place:	No	
Significant Non-Compliance:	No	
Unaddressed Significant Non-Complier:	No	
Addressed Significant Non-Complier:	No	
Significant Non-Complier with Compliance Schedule:	No	
Short Term Generator:	No	
Mixed Waste Generator:	No	
Transfer Facility:	No	
Importer Activity:	No	
Transporter Activity:	No	
Recycler Activity:	No	
Receives waste from Offsite:	No	



MapID 1: RCRA - 5811 TECHNI CENTER

Continued from Previous Page

Universal Waste:	No
Hazardous Waste Description	
IGNITABLE WASTE	

MapID 2: RCRA - 6001 TECHNI CENTER DR

Map ID #2	RCRA - RCRA	Source: EPA
EPA Handler ID: TXR000020479	Handler Sequence Number: 3	Banks ID: TXR000020479
SEARS ROEBUCK AND CO		Rel. Loc.: 0.11 miles E
6001 TECHNI CENTER DR, AUSTIN, TX 78721		Elevation: 562.03 feet (+562.03)
Status:	Inactive	
Owner Name:	SEARS ROEBUCK AND CO	
Operator Name:	SEARS ROEBUCK AND CO	
Mailing Address Street #:	3333	
Mailing Address Street:	BEVERLY RD A2 238A	
Mailing Address Street:		
Mailing Address City:	HOFFMAN ESTATES	
Mailing Address State:	IL	
Mailing Address Zip:	60179	
Contact Name:	KATHLEEN M FLAHERTY	
Contact Address Street #:	3333	
Contact Address Street:	BEVERLY RD A2 238A	
Contact Address Street:		
Contact Address City:	HOFFMAN ESTATES	
Contact Address State:	IL	
Contact Address Zip:	60179	
Contact Phone:	847-286-7199	
Contact Email Address:		
Government Performance and Results Act (GPRA) Permit:	The facility does not exist on the Operating/Post-Closure Permit Baseline.	
Government Performance and Results Act (GPRA) Corrective Action:	No	
Permit Workload:		
Closure Workload:		
Post-Closure Workload:		
Subject to Corrective Action:	No	
Subject to Corrective Action 3004:	No	
Subject to Corrective Action Non-TSDF:	No	
Corrective Action Workload:	No	
Generator Status:	Not a Generator	
Nuclear Mixed Waste Handler:	No	
Onsite Burner Exemption:	No	
Furnace Exemption:	No	
Underground Injection Activity:	No	
NAIC Description 1:	Consumer Electronics Repair and Maintenance	
NAIC Description 2:		
NAIC Description 3:		
NAIC Description 4:		
Federal Generator Class:	Not a Generator, Verified	
State Generator Class:		
Environmental Controls in Place:	No	
Institutional Controls in Place:	No	
Groundwater Controls in Place:	No	
Significant Non-Compliance:	No	
Unaddressed Significant Non-Complier:	No	
Addressed Significant Non-Complier:	No	
Significant Non-Complier with Compliance Schedule:	No	
Short Term Generator:	No	
Mixed Waste Generator:	No	
Transfer Facility:	No	
Importer Activity:	No	
Transporter Activity:	No	
Recycler Activity:	No	
Receives waste from Offsite:	No	
Universal Waste:	No	
Hazardous Waste Description		



MapID 2: RCRA - 6001 TECHNI CENTER DR

Continued from Previous Page

BENZENE
IGNITABLE WASTE
LEAD
TETRACHLOROETHYLENE
TRICHLOROETHYLENE



MapID 4: RCRA - 6014 TECHNI CENTER DR STE 108

Map ID #4	RCRA - RCRA	Source: EPA	
EPA Handler ID: TX0000893149	Handler Sequence Number: 3	Banks ID: TX0000893149	
SUPPORT SYSTEMS OF TEXAS INC		Rel. Loc.: 0.22 miles E	
6014 TECHNI CENTER DR STE 108, AUSTIN, TX 78721		Elevation: 563.29 feet (+563.29)	
Status:	Inactive		
Owner Name:	SUPPORT SYSTEMS OF TEXAS INC		
Operator Name:	SUPPORT SYSTEMS OF TEXAS INC		
Mailing Address Street #:	8201		
Mailing Address Street:	E RIVERSIDE DR BLDG 5		
Mailing Address Street:			
Mailing Address City:	AUSTIN		
Mailing Address State:	TX		
Mailing Address Zip:	78744		
Contact Name:	JEFFREY T LUPUL		
Contact Address Street #:	8201		
Contact Address Street:	E RIVERSIDE DR BLDG 5		
Contact Address Street:			
Contact Address City:	AUSTIN		
Contact Address State:	TX		
Contact Address Zip:	78744		
Contact Phone:	512-929-0848		
Contact Email Address:			
Government Performance and Results Act (GPRA) Permit:	The facility does not exist on the Operating/Post-Closure Permit Baseline.		
Government Performance and Results Act (GPRA) Corrective Action:	No		
Permit Workload:			
Closure Workload:			
Post-Closure Workload:			
Subject to Corrective Action:	No		
Subject to Corrective Action 3004:	No		
Subject to Corrective Action Non-TSDF:	No		
Corrective Action Workload:	No		
Generator Status:	Not a Generator		
Nuclear Mixed Waste Handler:	No		
Onsite Burner Exemption:	No		
Furnace Exemption:	No		
Underground Injection Activity:	No		
NAIC Description 1:			
NAIC Description 2:			
NAIC Description 3:			
NAIC Description 4:			
Federal Generator Class:	Not a Generator, Verified		
State Generator Class:			
Environmental Controls in Place:	No		
Institutional Controls in Place:	No		
Groundwater Controls in Place:	No		
Significant Non-Compliance:	No		
Unaddressed Significant Non-Complier:	No		
Addressed Significant Non-Complier:	No		
Significant Non-Complier with Compliance Schedule:	No		
Short Term Generator:	No		
Mixed Waste Generator:	No		
Transfer Facility:	No		
Importer Activity:	No		
Transporter Activity:	No		
Recycler Activity:	No		
Receives waste from Offsite:	No		
Universal Waste:	No		
Enforcement Description	Responsible	Enforcement Date	Penalty Description

MapID 4: RCRA - 6014 TECHNI CENTER DR STE 108

Continued from Previous Page

		Enforcement Agency		
VERBAL INFORMAL		State	11/16/1998	
WRITTEN INFORMAL		State	12/22/1998	
Evaluation Description	Responsible Agency	Evaluation Date	Violation Found	
COMPLIANCE EVALUATION INSPECTION ON-SITE	State	11/16/1998	Yes	
Violation Description	Violation Determined By	Violation Date	Actual Resolution Date	Scheduled Resolution Date
Standards Applicable to Generators of HW: General	State	11/16/1998	12/16/1998	5/15/1999
State Statutory or Regulatory requirements that are broader-in-scope than the federal RCRA requirements	State	11/16/1998		5/15/1999
State Statutory or Regulatory requirements that are broader-in-scope than the federal RCRA requirements	State	11/16/1998	12/15/1998	5/15/1999
Standards Applicable to Generators of HW: General	State	11/16/1998		5/15/1999
State Statutory or Regulatory requirements that are broader-in-scope than the federal RCRA requirements	State	11/16/1998	12/16/1998	5/15/1999
Hazardous Waste Description				
CORROSIVE WASTE				

End of RCRA Sites Section



Unmapped Sites Details: SWLF (42004)

SWLF - State/Tribal Disposal or Landfill

SWLF - State/Tribal Disposal or Landfill **Source: TCEQ**

MSW ID: 42004 **Regulated Entity#: RN101491231** **Banks ID: 42004**

CITY OF AUSTIN COMPOSTING FACILITY
AUSTIN, TX

Detail #1

Facility Type:	Resource Recovery/Composting Facility
Facility Status:	NOT CONSTRUCTED
Permit Status:	WITHDRAWN

End of SWLF Sites Section

Dataset Descriptions and Sources

Dataset	Source	Dataset Description	Update Schedule	Data Requested	Data Obtained	Data Updated	Source Updated
NPL -- National Priority List	EPA	NPL is the list of high priority hazardous waste sites in the United States eligible for long-term remedial action financed under the federal Superfund program or SEMS database (formerly known as the CERCLIS database). The EPA will only add sites to the NPL list based upon completion of the Hazard Ranking System (HRS) screening, public solicitation of comments about the proposed site, and after all comments have been addressed.	Quarterly	05/03/2017	05/03/2017	05/04/2017	04/05/2017
DNPL -- Delisted National Priority List	EPA	DNPL is a list of all sites that have been deleted from the EPA NPL list (SEMS database). These sites are taken off the NPL list usually due to no further response or remedial action being required on them. Notices to delete NPL sites are published in the Federal Register and become effective unless the EPA receives significant adverse or critical comments during the 30-day public comment period.	Quarterly	05/03/2017	05/03/2017	05/04/2017	04/05/2017
CER SEMS -- SEMS	EPA	The EPA maintains the SEMS database to track sites under the Comprehensive Environmental Response, Compensation, and Liability Act, a federal law designed to clean up abandoned hazardous waste sites. These sites are either proposed, listed or under review currently to be a part of the National Priority List.	Quarterly	05/03/2017	05/03/2017	05/04/2017	04/05/2017
CER SEMS NFRAP -- SEMS NFRAP	EPA	From the Superfund Enterprise Management System (SEMS) database No Further Remedial Action Planned or NFRAP have been removed from the listing. NFRAP sites may be sites where, following an initial investigation, no contamination was found, contamination was removed quickly without the site being placed on the NPL, or the contamination was not serious enough to require Federal Superfund action or NPL consideration.	Quarterly	05/03/2017	05/03/2017	05/04/2017	04/05/2017
RCRA COR -- RCRA CORRACTS	EPA	These sites are registered hazardous waste generators or handlers that fall under the Resource Conservation and Recovery Act (RCRA) and subject to corrective action activity.	Quarterly	04/04/2017	04/19/2017	04/29/2017	04/18/2017
RCRA TSD -- RCRA non-CORRACTS TSD	EPA	This database lists all treatment, storage and disposal of hazardous material sites that fall under the Resource Conservation and Recovery Act (RCRA). All hazardous waste TSD facilities are required to notify EPA of their existence.	Quarterly	04/04/2017	04/19/2017	04/29/2017	04/18/2017
RCRA GEN -- RCRA Generators	EPA	The EPA regulates all Hazardous Waste Generators subject to the Resource Conservation and Recovery Act (RCRA). They are classified by the quantity of hazardous waste generated. A Small Quantity Generator (SQG) generates between 100kg and 1,000 kg of waste per month. A Large Quantity Generator (LQG) generates over 1,000 kg of waste per month. A Conditionally Exempt SQG (CEG) generates less than 100 kg of waste per month.	Quarterly	04/04/2017	04/19/2017	04/29/2017	04/18/2017
FED BWN -- Federal Brownfields	EPA	A listing of sites that assist the EPA in collecting, tracking, and updating information of sites in relation to the Small Business Liability Relief and Brownfields Revitalization Act. These sites are real property that is either abandoned or underutilized where redevelopment or expansion is complicated by real or perceived environmental contamination.	Quarterly	05/03/2017	05/03/2017	05/04/2017	03/01/2017
FED IC -- Federal Institutional Control	EPA	This is a listing of Brownfield Management System (BMS) sites that have had Institutional Controls (ICs) placed on them. ICs are administrative restrictions, such as legal controls, that help minimize the potential for human exposure to known contamination by ensuring appropriate land or resource use. ICs are meant to supplement Engineering Controls and will rarely be the sole remedy at a site. ICs are a type of Activity and Use Limitation (AUL).	Quarterly	05/03/2017	05/03/2017	05/04/2017	03/01/2017
FED EC -- Federal Engineering Control	EPA	This is a listing of Brownfield Management System (BMS) sites that have had Engineering Controls (ECs) placed on them. ECs are physical methods or modifications put into place on a site to reduce or eliminate the possibility of human exposure to known contamination. ECs are a type of Activity and Use Limitation (AUL).	Quarterly	05/03/2017	05/03/2017	05/04/2017	10/25/2013

Dataset Descriptions and Sources

Dataset	Source	Dataset Description	Update Schedule	Data Requested	Data Obtained	Data Updated	Source Updated
ERNS -- ERNS List	EPA/National Response Center	ERNS is a national database used to store information on unauthorized releases of oil and hazardous substances that have been reported to the National Response Center since 2001. The NRC is the sole federal point of contact for reporting oil and chemical spills. Prior to 2001 this information was maintained by the EPA.	Annually	01/05/2017	01/05/2017	01/05/2017	12/31/2016
ST NPL -- State/Tribal Equivalent NPL (TX)	TCEQ	This database contains sites determined by the TCEQ that may constitute an imminent and substantial endangerment to public health and safety or to the environment due to a release or threatened release of hazardous substances into the environment.	Quarterly	05/03/2017	05/03/2017	05/03/2017	05/03/2017
ST CER -- State/Tribal Equivalent CERCLIS (TX)	NA	This database is not currently available from this state. If this state does make this database available in the future, Banks Environmental Data will obtain it for reporting purposes.	N/A	N/A	N/A	N/A	N/A
SWLF -- State/Tribal Disposal or Landfill (TX)	TCEQ	The SWLF database contains records of municipal solid waste facilities that may accept various types of municipal solid waste for processing or disposal, depending on the type of facility. A Municipal Solid Waste facility may also accept certain special wastes and non-hazardous industrial solid wastes if approved by the TCEQ executive director.	Quarterly	05/03/2017	05/03/2017	05/04/2017	04/28/2017
SWLF -- State/Tribal Disposal or Landfill (TX)	TCEQ	This database is a listing of closed and abandoned municipal solid waste landfills. The sites included are either unauthorized (UNUM_) or permitted (PERMAPP_).	N/A	N/A	N/A	N/A	N/A
LPST -- State/Tribal Leaking Storage Tank (TX)	TCEQ	This database contains information on leaking storage tanks, equipment failures, compliance, and releases in the state.	Quarterly	05/01/2017	05/01/2017	05/04/2017	04/05/2017
LPST -- State/Tribal Leaking Storage Tank (TX)	EPA	The Tribal LUST database (maintained by EPA Region 6) provides information on leaking underground storage tank on tribal lands in Louisiana, Arkansas, Oklahoma, New Mexico and Tribal Nations.	Quarterly	05/03/2017	05/03/2017	05/03/2017	10/01/2016
PST -- State/Tribal Storage Tank (TX)	TCEQ	This database contains information on above and underground storage tanks, compliance, and releases in the state.	Quarterly	05/18/2017	05/18/2017	05/20/2017	04/05/2017
PST -- State/Tribal Storage Tank (TX)	EPA	The Tribal UST database (maintained by EPA Region 6) provides underground storage tank information on tribal lands in Louisiana, Arkansas, Oklahoma, New Mexico and Tribal Nations.	Quarterly	05/03/2017	05/03/2017	05/03/2017	10/01/2016
ST IC -- State/Tribal Institutional Control (TX)	TCEQ	This database includes Voluntary Cleanup Program (VCP) or Innocent Operator Program (IOP) sites that have been remediated and have had Institutional Controls (ICs) placed on them. ICs are administrative restrictions, such as legal controls, that help minimize the potential for human exposure to known contamination by ensuring appropriate land or resource use.	Quarterly	04/19/2017	05/05/2017	05/09/2017	05/01/2017
ST IC -- State/Tribal Institutional Control (TX)	RRC	The Railroad Commission of Texas Voluntary Cleanup Program provides an incentive to remediate Oil & Gas related pollution by participants as long as they did not cause or contribute to the contamination.	Quarterly	04/19/2017	05/05/2017	05/09/2017	05/01/2017
ST EC -- State/Tribal Engineering Control (TX)	TCEQ	This database includes Voluntary Cleanup Program (VCP) or Innocent Operator Program (IOP) sites that have been remediated and have had Engineering Controls (ECs) placed on them. ECs are physical methods or modifications put into place on a site to reduce or eliminate the possibility of human exposure to known contamination.	Quarterly	04/19/2017	05/05/2017	05/09/2017	05/01/2017

Dataset Descriptions and Sources

Dataset	Source	Dataset Description	Update Schedule	Data Requested	Data Obtained	Data Updated	Source Updated
VCP -- State/Tribal Voluntary Cleanup (TX)	TCEQ	This database contains sites from both the Voluntary Cleanup Program (VCP) and the Innocent Operator Program (IOP). The VCP records contain information on contaminated sites that private parties have cleaned up through assistance from the State in the form of administrative, technical, and legal incentives. The IOP records are sites that have received certificates from the State acknowledging that their property is contaminated as a result of a release or migration of contaminants from a source or sources not located on the property, and they did not cause or contribute to the source or sources of contamination.	Quarterly	04/19/2017	04/25/2017	05/08/2017	04/18/2017
VCP -- State/Tribal Voluntary Cleanup (TX)	RRC	The Railroad Commission of Texas Voluntary Cleanup Program provides an incentive to remediate Oil & Gas related pollution by participants as long as they did not cause or contribute to the contamination.	Quarterly	04/19/2017	05/05/2017	05/08/2017	05/01/2017
ST BWN -- State/Tribal Brownfield (TX)	TCEQ	Brownfield sites are former industrial properties that lie dormant or underutilized due to liability associated with real or perceived contamination. In Texas, the TCEQ, in close partnership with the EPA and other federal, state, and local redevelopment agencies, and stakeholders, is facilitating cleanup, transferability, and revitalization of Brownfield's through the development of regulatory, tax, and technical assistance tools.	Quarterly	05/05/2017	05/05/2017	05/09/2017	05/05/2017
ST BWN -- State/Tribal Brownfield (TX)	RRC	The Railroad Commission of Texas' Voluntary Cleanup Program (RRC-VCP) provides an incentive to remediate Oil & Gas related pollution by participants as long as they did not cause or contribute to the contamination. Applicants to the program receive a release of liability to the state in exchange for a successful cleanup.	Quarterly	04/19/2017	05/05/2017	05/09/2017	05/05/2017
HW -- State/Tribal Hazardous Waste (TX)	TCEQ	This database contains information on facilities which store, process, or dispose of hazardous waste as maintained by the Industrial and Hazardous Waste Permits section of the TCEQ.	Quarterly	05/03/2017	05/03/2017	05/04/2017	04/11/2017
RCRA -- RCRA	EPA	This database lists all sites that fall under the Resource Conservation and Recovery Act (RCRA) and are not classifiable as treatment, storage, disposers of hazardous material, hazardous waste generator or subject to corrective action activity.	Quarterly	04/04/2017	04/19/2017	04/29/2017	04/18/2017
DRYC -- Dry Cleaners (TX)	TCEQ	Dry Cleaner data houses both the DCRP Program information and PERC information released by the TCEQ. The DCRP database contains records funded for state-lead clean up of dry cleaner related contaminated sites. The DCRP administers the Dry Cleaning Facility Release Fund to assist with remediation of contamination caused by dry cleaning solvents. There are two listings from this program: LIST#1 - A historic listing of any facility that registered with the DCRP indicating whether or not the facility has used Perchloroethylene (PERC) in the past. LIST#2 - A Prioritization list of dry cleaner sites Facilities on this list will be investigated in order to determine the existence and or extent of possible contamination. Facilities which are not current on their DCRP payments get dropped from the program. Banks Environmental Data DOES NOT REMOVE these listings from our database so that we may present a more complete historical listing of facilities that may or may not have used PERC in the past.	Quarterly	04/25/2017	05/02/2017	05/19/2017	04/05/2017
MS -- State/Tribal Municipal Settings Designation (TX)	TCEQ	TCEQ defines a Municipal Settings Designation (MSD) as an official state designation given to a property within a municipality or its extraterritorial jurisdiction that certifies that designated groundwater at the property is not used as potable water, and is prohibited from future use as potable water because that groundwater is contaminated in excess of the applicable potable-water protective concentration level. The prohibition must be in the form of a city ordinance, or a restrictive covenant that is enforceable by the city and filed in the property records.	Quarterly	05/03/2017	05/03/2017	05/14/2017	04/01/2017

Disclaimer

The Banks Environmental Data Regulatory Database Report was prepared based upon data obtained from State, Tribal, and Federal sources known to Banks Environmental Data at the time the data was obtained. Great care has been taken by Banks in obtaining the best available data from the best available sources. However, there is a possibility that there are sources of data applicable or pertaining to this report's target property, and/or surrounding properties, to which Banks does not have access or has not accessed. Furthermore, although Banks Environmental Data performs quality assurance and quality control on all data, including data it obtains, Banks recognizes that inaccuracies in data from these sources may, and do, exist; accordingly, inaccurate data may have been used or relied upon in the preparation of this report. Even though Banks Environmental Data performs a thorough and diligent search to locate and fix any inaccuracies in the data relied upon in the preparation of this report, Banks cannot guarantee or warrant the accuracy of the locations, information, data, or report. The purchaser of this report accepts this report "as is" and assumes all risk related to any potential inaccuracy contained in the report or not reported in it, whether due to a reliance by Banks Environmental Data on inaccurate data, or for any other reason [including but not limited to the negligence or express negligence of Banks Environmental Data]. If this report is being used for the Records Review section of a Phase I Site Assessment according to the ASTM 1527-13, for EPA's All Appropriate Inquiry, or for any other purpose (public or private), all liability and responsibility is assumed by the Environmental Professional or other individual or entity acquiring the report.

APPENDIX E
Historical Aerial Photographs

Prepared for:

INTERA, INC.-AUSTIN
1812 Centre Creek Drive, Ste. 300
Austin TX 78754



Historical Aerial Photographs

AISD Tannehill

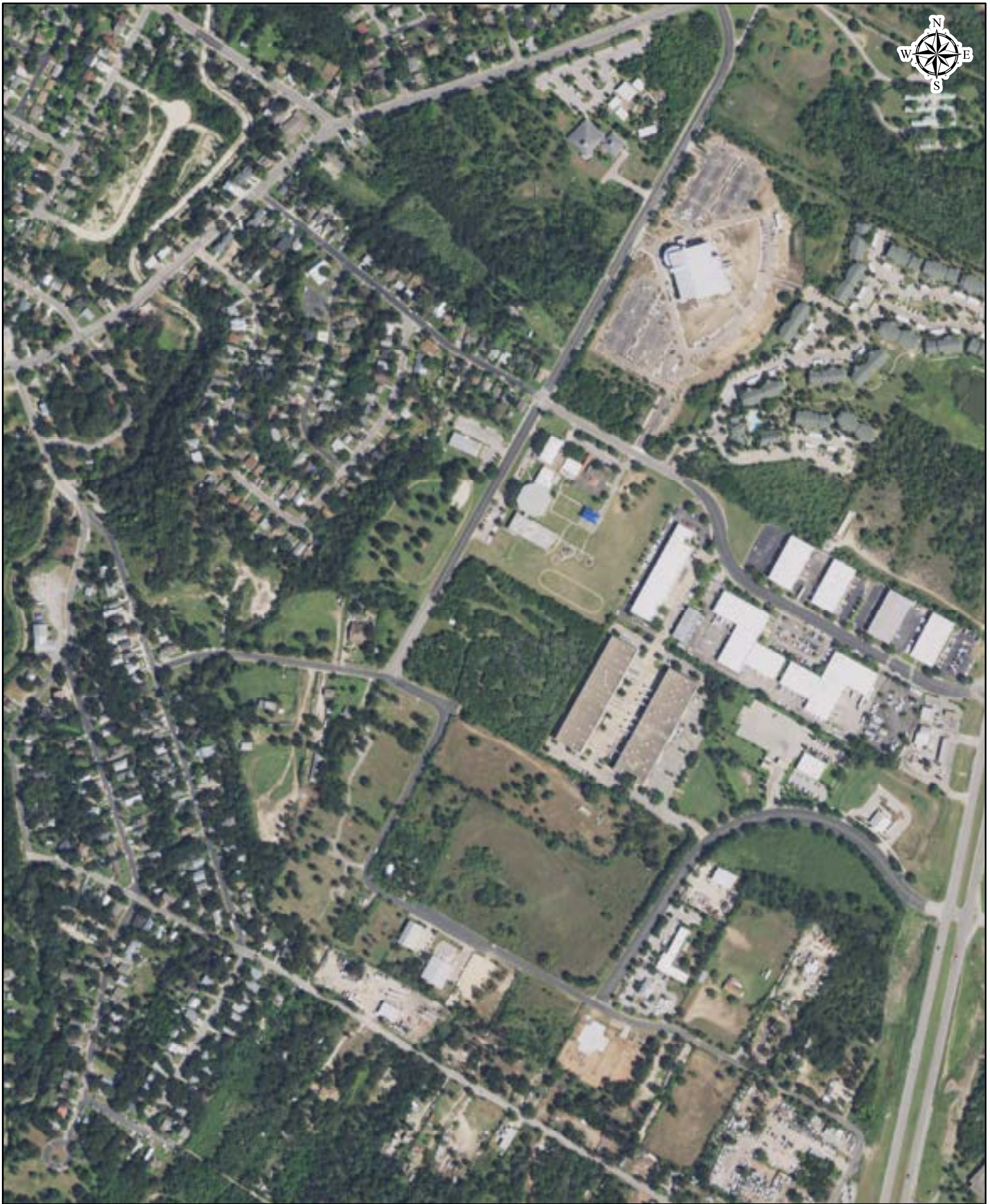
Tannehill Lane

Austin, TX 78721

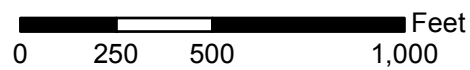
PO #: COAUS.M006-35.1

ES-124711

Friday, June 23, 2017

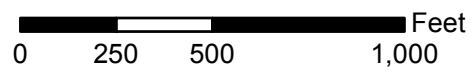


Date: 2016
Source: USDA



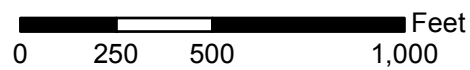


Date: 2012
Source: USDA



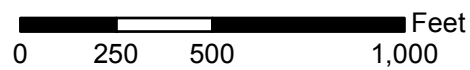


Date: 2008
Source: USDA





Date: 2004
Source: USDA





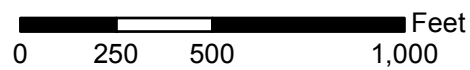
Date: 1995
Source: USGS

0 250 500 1,000 Feet

 **BANKS**
ENVIRONMENTAL DATA
A DIVISION OF THE BANKS GROUP

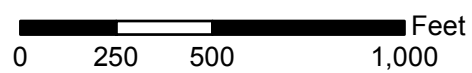


Date: 1988
Source: TXDOT



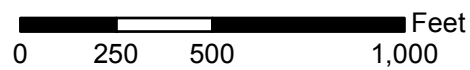


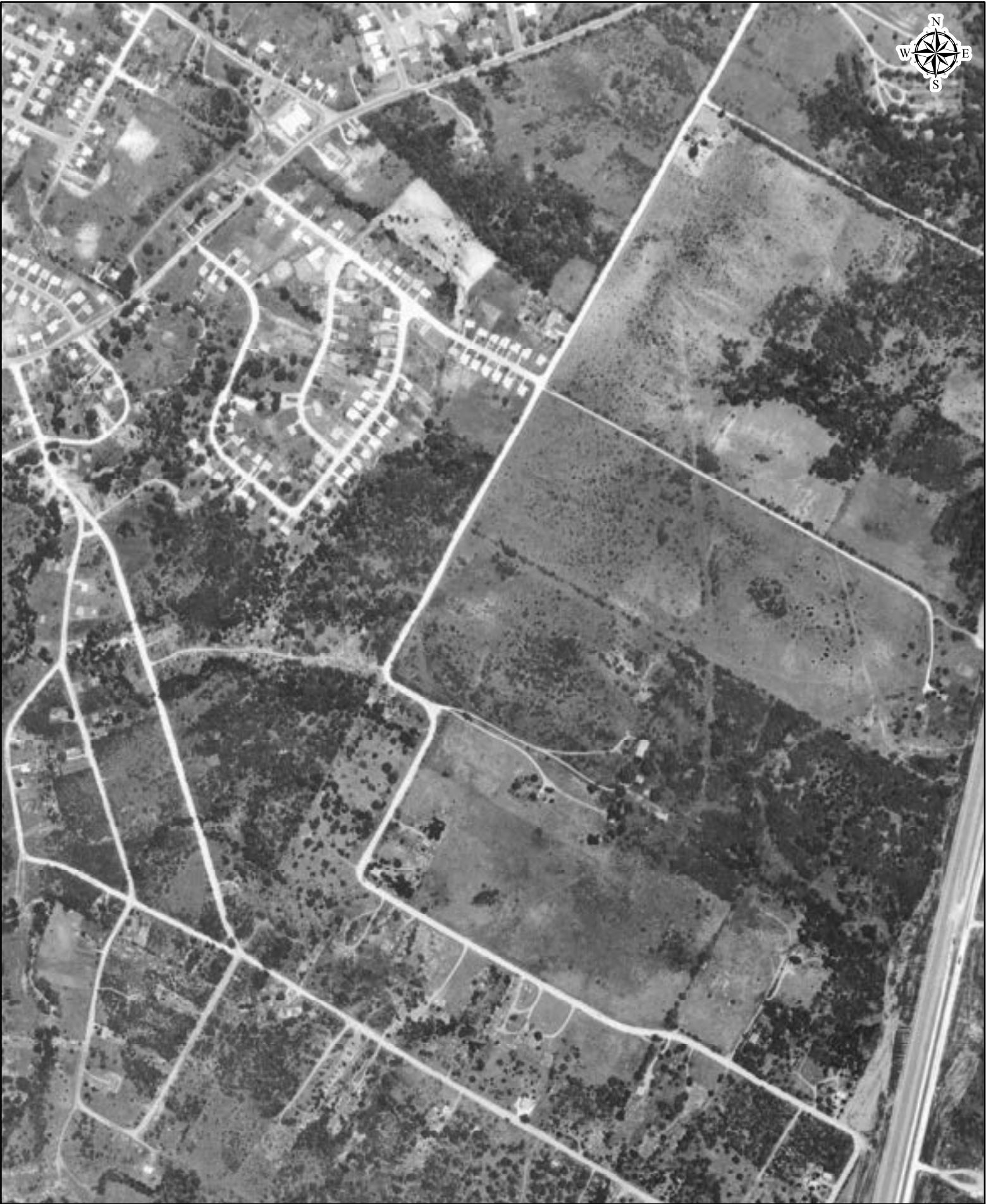
Date: 1980
Source: TXDOT



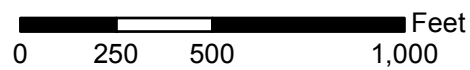


Date: 1973
Source: USGS



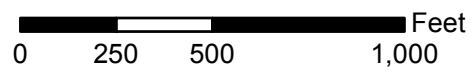


Date: 1966
Source: USGS



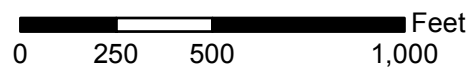


Date: 1953
Source: AMS





Date: 1940
Source: ASCS



HISTORICAL AERIAL PHOTOGRAPHS	
ES-124711	June 23, 2017



AERIAL SOURCE DEFINITIONS

Acronym	Agency
AerialOK	Aerial Oklahoma
AMS	Army Mapping Service
ASCS	Agricultural Stabilization & Conservation Service
EDAC	Earth Data Analysis Center
Fairchild	Fairchild Aerial Surveys
LDOT	Louisiana Department of Transportation
TXDOT	Texas Department of Transportation
USNavy	United States Navy
USAF	United States Air Force
USCOE	United States Corps of Engineers
USDA	United States Department of Agriculture
USGS	United States Geological Survey
WALLACE	Wallace-Zingery Aerial Surveys
WSDOT	Washington State Department of Transportation

HISTORICAL AERIAL PHOTOGRAPHS	
ES-124711	June 23, 2017



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APPENDIX F
Historical City Directories

Prepared for:

INTERA, INC.-AUSTIN
1812 Centre Creek Drive, Ste. 300
Austin TX 78754



City Directory Report

AISD Tannehill

Tannehill Lane

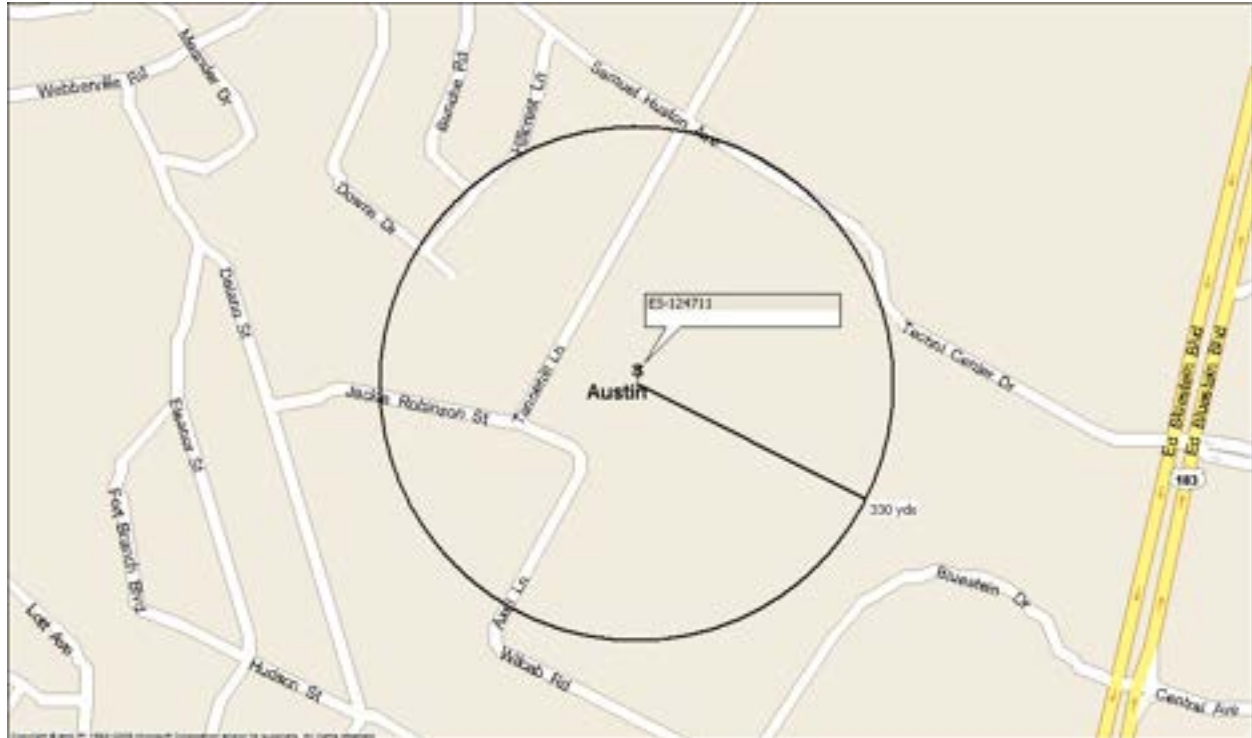
Austin, TX 78721

PO #: COAUS.M006-35.1

ES-124711

Monday, June 26, 2017

AREA RESEARCHED



Street	Address Ranges Searched
Tannehill Lane	3800-4100 both even and odd addresses
Axel Lane	3640-3800 both even and odd addresses
Hillcrest Lane	1700-1740 both even and odd addresses
Jackie Robinson St.	5620-5800 both even and odd addresses
Sam Huston Ave.	5600-5800 both even and odd addresses
Techni Center Dr.	5800-5950 both even and odd addresses

RESEARCH PROTOCOL

Banks Environmental Data, Inc. (Banks) has completed your request for a historical tenants search for the above site. The information in this report was developed to aid the Environmental Engineer/Consultant in determining a history of previous uses of a subject property in order to help identify the likelihood of past uses having led to recognized environmental conditions in connection with a subject property as specified by ASTM 1527-05 Section 8.3. Banks has researched Haines, Coles and Polk crisscross directories back to 1940 or to the earliest year available at the Allen County Public Library in Fort Wayne, IN for any occurrences of the above address. The findings are listed in the table below.

CURRENT TENANTS INFORMATION

Source: Polk's 2017 Austin TX City Directory.

Address	Location	Tenants
3875 Tannehill Lane	Subject Site	<i>Subject Site Not Identified</i>
4000 Tannehill Lane	Up St. Across	White, Michael
4001 Tannehill Lane	Up St.	Austin Independent School District Diaz, Juan Norman Elementary School
4100 Tannehill Lane	Up St. Across	Norman Elementary School PTA
3719 Axel Lane	Nearby St.	Apartments (2 tenants listed)
Hillcrest Lane	Nearby St.	(personal residences listed at 1703,1707,1708,1709,1710,1711,1712,1713, 1714,1715,1716,1717,1718,1719,1720,1722, 1723,1724,1725,1726,1727,1728,1730,1731, 1733 Hillcrest Lane)
Jackie Robinson St.	Nearby St.	(no tenants listed in address range)
Samuel Huston Ave.	Nearby St.	(personal residences listed at 5600,5601,5602,5603,5604,5605,5606,5607, 5609 Samuel Huston Ave.)
5800 Techni Center Dr.	Nearby St.	Fort Branch At Truman's Landing (apartments-about 200 tenants listed)
5811 Techni Center Dr.	Nearby St.	Offices (5 tenants listed) Fedex Ship Center CIE Management Services
5910 Techni Center Dr.	Nearby St.	Glover Logistics (mailing & shipping service)

HISTORICAL TENANTS INFORMATION

Source: Polk's 2012 Austin TX City Directory.

Address	Location	Tenants
3875 Tannehill Lane	Subject Site	Subject Site Not Identified
4000 Tannehill Lane	Up St. Across	Greater Works Baptist Church
4001 Tannehill Lane	Up St.	Diaz, Juan Norman Elementary School
4100 Tannehill Lane	Up St. Across	(listed as "no current listing")
3719 Axel Lane	Nearby St.	Delgado, Pedro J. Jr.
Hillcrest Lane	Nearby St.	(personal residences listed at 1703,1707,1708,1709,1710,1711,1712,1713, 1714,1715,1716,1717,1718,1719,1720,1722, 1723,1724,1725,1726,1727,1728,1730,1731, 1733 Hillcrest Lane)
Jackie Robinson St.	Nearby St.	(no tenants listed in address range)
Samuel Huston Ave.	Nearby St.	(personal residences listed at 5600,5601,5602,5603,5604,5605,5606,5607, 5609 Samuel Huston Ave.)
5800 Techni Center Dr.	Nearby St.	Fort Branch At Truman's Landing (apartments-about 150 tenants listed)
5811 Techni Center Dr.	Nearby St.	Fedex Express Ship Center CIE Vending Service (vending machines) Creative Innovation Enterprise (janitor service)
5905 Techni Center Dr.	Nearby St.	Kwan Genesis Enterprises Inc. (market research)
5910 Techni Center Dr.	Nearby St.	CW-Xpedite Logistics (business service)

CITY DIRECTORY REPORT	
ES- 124711	June 26, 2017



Source: Polk's January 2007 Austin, TX City Directory.

Address	Location	Tenants
3875 Tannehill Lane	Subject Site	Subject Site Not Identified
4000 Tannehill Lane	Up St. Across	Greater Works Baptist Church
4001 Tannehill Lane	Up St.	Norman Elementary School
4100 Tannehill Lane	Up St. Across	McCarthy, William
3719 Axel Lane	Nearby St.	Kaderka, Daniel H.
Hillcrest Lane	Nearby St.	(personal residences listed at 1703,1707,1708,1709,1710,1711,1712,1713, 1714,1715,1716,1717,1718,1719,1720,1722, 1723,1724,1725,1726,1727,1728,1730,1731, 1733 Hillcrest Lane)
Jackie Robinson St.	Nearby St.	(no tenants listed in address range)
Samuel Huston Ave.	Nearby St.	(personal residences listed at 5600,5601,5602,5603,5604,5605,5606,5607, 5609 Samuel Huston Ave.)
5800 Techni Center Dr.	Nearby St.	Fort Branch At Truman's Landing (apartments-about 150 tenants listed)
5811 Techni Center Dr.	Nearby St.	(listed as "no current listing")
5910 Techni Center Dr.	Nearby St.	Courier Works (courier service) Xpedite Logistics (warehouses)

CITY DIRECTORY REPORT	
ES-124711	June 26, 2017



Source: Polk's August 2002 Austin TX City Directory.

Address	Location	Tenants
3875 Tannehill Lane	Subject Site	Subject Site Not Identified
4001 Tannehill Lane	Up St.	Norman Elementary School
3719 Axel Lane	Nearby St.	Kaderka, Daniel H. Zelaya, Thomas
Hillcrest Lane	Nearby St.	(personal residences listed at 1703,1707,1708,1709,1711,1714,1716,1717,1718,1720,1723,1726,1727,1730,1733 Hillcrest Lane)
Jackie Robinson St.	Nearby St.	(no tenants listed in address range)
Samuel Huston Ave.	Nearby St.	(personal residences listed at 5600,5601,5604,5605,5606,5607,5609 Samuel Huston Ave.)
5800 Techni Center Dr.	Nearby St.	Campbell, Hogue & Associates Fort Branch At Truman's Landing (apartments- no tenants listed)
5910 Techni Center Dr.	Nearby St.	Tektonic High Purity Systems (welding)

Source: Polk's 1997 Austin TX Area Wide City Directory.

Address	Location	Tenants
3875 Tannehill Lane	Subject Site	Subject Site Not Identified
4100 Tannehill Lane	Up St.	McCarthy, William
3719 Axel Lane	Nearby St.	Kaderka, Daniel H.
Hillcrest Lane	Nearby St.	(personal residences listed at 1703,1707,1708,1709,1711,1714,1717,1718,1720,1723,1727, 1728,1730,1733 Hillcrest Lane)
Jackie Robinson St.	Nearby St.	(street not listed)
Samuel Huston Ave.	Nearby St.	(personal residences listed at 5604,5605,5606 Samuel Huston Ave.)
5811 Techni Center Dr.	Nearby St.	Federal Express Corp.
5905 Techni Center Dr.	Nearby St.	C & D Freight Services Eagle USA Air Freight Inc.

CITY DIRECTORY REPORT	
ES- 124711	June 26, 2017



Source: Polk's 1987 Austin TX City Directory.

Address	Location	Tenants
3875 Tannehill Lane (Dr.)	Subject Site	<i>Subject Site Not Identified</i>
4100 Tannehill Lane (Dr.)	Up St.	<i>(listed as "no return")</i>
4101 Tannehill Lane (Dr.)	Up St.	G. W. Norman Elementary School
4106,4018 Tannehill Lane (Dr.)	Up St. Across	<i>(listed as "vacant")</i>
Axel Lane	Nearby St.	<i>(no tenants listed on Axel Lane)</i>
Hillcrest Lane	Nearby St.	<i>(personal residences listed at 1703,1707,1708,1709,1710,1711,1712, 1713,1714, 1715, 1716,1717,1718,1719, 1720, 1722,1723, 1724, 1725,1726,1727, 1728,1730,1731,1733 Hillcrest Lane)</i>
Jackie Robinson St.	Nearby St.	<i>(street not listed)</i>
Sam(uel) H(o)uston Ave.	Nearby St.	<i>(personal residences listed at 5600,5601,5602,5603,5604,5605,5606, 5607,5609 Sam Houston Ave.)</i>
5811 Techni Center Dr.	Nearby St.	Attorney General Of Texas Staff Service Division Federal Express Imperial Lithographs
5905 Techni Center Dr.	Nearby St.	CTI

CITY DIRECTORY REPORT	
ES-124711	June 26, 2017



Source: Polk's 1983 Austin TX City Directory.

Address	Location	Tenants
3875 Tannehill Lane (Dr.)	Subject Site	Subject Site Not Identified
4101 Tannehill Lane (Dr.)	Up St.	G. W. Norman Elementary School
4106 Tannehill Lane (Dr.)	Up St. Across	Blackman, Skinner
4108 Tannehill Lane (Dr.)	Up St. Across	Bell, Daisy B. Mrs.
Axel Lane	Nearby St.	(no tenants listed on Axel Lane)
Hillcrest Lane	Nearby St.	(personal residences listed at 1703,1707,1708,1709, 1710,1711,1712, 1713,1714, 1715, 1716,1717,1718,1719, 1720, 1722,1723, 1724, 1725, 1726,1727, 1728,1730,1731,1733 Hillcrest Lane)
Jackie Robinson St.	Nearby St.	(street not listed)
Sam(uel) Huston Ave.	Nearby St.	(personal residences listed at 5600,5601,5602,5603,5604,5605,5606, 5607,5609 Sam Houston Ave.)
Techni Center Dr.	Nearby St.	(street not listed)

Source: Polk's 1978 Austin TX City Directory.

Address	Location	Tenants
3875 Tannehill Lane (Dr.)	Subject Site	Subject Site Not Identified
4100 Tannehill Lane (Dr.)	Up St. Across	McCarthy, William
4101 Tannehill Lane (Dr.)	Up St.	G. W. Norman Elementary School
4106 Tannehill Lane (Dr.)	Up St. Across	Blackman, Tommy
4108 Tannehill Lane (Dr.)	Up St. Across	Bell, Daisy Mrs.
Axel Lane	Nearby St.	(no tenants listed on Axel Lane)
Hillcrest Lane	Nearby St.	(personal residences listed at 1703,1707,1708,1709, 1710,1711,1712, 1713,1714, 1715, 1716,1717,1718,1719, 1720, 1722,1723, 1724, 1725, 1726,1727, 1728,1730,1731,1733 Hillcrest Lane)
Jackie Robinson St.	Nearby St.	(street not listed)
Sam(uel) Huston Ave.	Nearby St.	(personal residences listed at 5600,5601,5602,5603,5604,5605,5606, 5607,5609 Sam Houston Ave.)
Techni Center Dr.	Nearby St.	(street not listed)

CITY DIRECTORY REPORT	
ES- 124711	June 26, 2017



Source: Polk's 1973 Austin TX City Directory.

Address	Location	Tenants
3875 Tannehill Lane (Dr.)	Subject Site	<i>Subject Site Not Identified</i>
4100 Tannehill Lane (Dr.)	Up St. Across	McCarthy, William
4101 Tannehill Lane (Dr.)	Up St.	G. W. Norman Elementary School
4106 Tannehill Lane (Dr.)	Up St. Across	Upright, Mary Mrs.
4108 Tannehill Lane (Dr.)	Up St. Across	Bell, Daisy Mrs.
Axel Lane	Nearby St.	(street not listed)
Hillcrest Lane	Nearby St.	(personal residences listed at 1703,1707,1708,1709, 1710,1711,1712, 1713,1714, 1715,1716,1717,1718,1719, 1720, 1722,1723, 1724, 1725, 1726,1727, 1728,1730,1731,1733 Hillcrest Lane)
Jackie Robinson St.	Nearby St.	(street not listed)
Sam(uel) Huston Ave.	Nearby St.	(personal residences listed at 5600,5601,5602,5603,5604,5605,5606, 5607,5609 Sam Houston Ave.)
Techni Center Dr.	Nearby St.	(street not listed)

Source: Polk's 1968 Austin TX City Directory.

Address	Location	Tenants
3875 Tannehill Lane (Dr.)	Subject Site	<i>Subject Site Not Identified (no tenants listed in address range)</i>
Axel Lane	Nearby St.	(street not listed)
Hillcrest Lane	Nearby St.	(personal residences listed at 1703,1707,1708,1709, 1711,1712, 1713,1714,1715, 1716,1717,1718,1719, 1720, 1722,1723, 1724, 1725, 1726,1727, 1728,1730,1731,1733 Hillcrest Lane)
Jackie Robinson St.	Nearby St.	(street not listed)
Sam(uel) Huston Ave.	Nearby St.	(personal residences listed at 5600,5601,5602,5603,5604,5605,5606, 5607,5609 Sam Houston Ave.)
Techni Center Dr.	Nearby St.	(street not listed)

CITY DIRECTORY REPORT	
ES- 1247 1 1	June 26, 2017



Source: Polk's 1964 Austin TX City Directory.

Address	Location	Tenants
3875 Tannehill Lane (Dr.)	Subject Site	Subject Site Not Identified (no tenants listed in address range)
Axel Lane	Nearby St.	(street not listed)
Hillcrest Lane	Nearby St.	(personal residences listed at 1703,1707,1709,1711,1712,1713,1714, 1715,1716,1717,1718, 1719,1720,1722, 1723,1724,1725,1730,1733 Hillcrest Lane)
Jackie Robinson St.	Nearby St.	(street not listed)
Samuel Huston Ave.	Nearby St.	(personal residences listed at 5602,5604,5607 Samuel Huston Ave.)
Techni Center Dr.	Nearby St.	(street not listed)

Note: No earlier city directories are available for Austin TX.

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APPENDIX G
Historical Fire Insurance Maps

Prepared for:

INTERA, INC.-AUSTIN
1812 Centre Creek Drive, Ste. 300
Austin TX 78754



Historical
Fire
Insurance
Map
Research

AISSD Tannehill

Tannehill Lane

Pasadena, TX, 77502

Austin, TX, 78721

PO #: COAUS.M006-35.1

ES-124711

Thursday, June 22, 2017

HISTORICAL FIRE INSURANCE MAP RESEARCH	
ES-124711	June 22, 2017



RESEARCH PROTOCOL

Banks Environmental Data, Inc. (Banks) has completed your research request to ascertain the likelihood of Fire Insurance Map coverage for the above site. This document reports that Digital Fire Insurance Maps at the Library of Congress have been reviewed based on client-supplied information. The Library of Congress' collection includes all maps submitted to the Library through copyright deposit and a set of maps transferred to the Library from the Bureau of the Census. Maps from the Bureau of the Census include corrections issued by the Sanborn Company that were pasted over the original map sheet. Maps acquired through copyright deposit remain in their original form.

[No Fire Insurance Maps depicting the target property were identified.]

HISTORICAL FIRE INSURANCE MAP RESEARCH	
ES-124711	June 22, 2017



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APPENDIX H
File Review Documentation

Beronica LeeBrand

From: Trevino, Kristin <Kristin.Trevino@austintexas.gov>
Sent: Friday, June 30, 2017 3:06 PM
To: Beronica LeeBrand
Cc: Orr, Erika
Subject: PIR 35300

Good afternoon,

This email is in response to your public information request (PIR 35300). You requested:

*"I am conducting a Phase I Environmental Site Assessment (Phase I ESA) for Austin Independent School District (AISD) for Property ID 199328 (Legal Description ABS 22 SUR 29 TANNEHILL J C ACR 8.922m Mapsco: 586R) located at the northeast corner of the Tannehill Lane and Jackie Robinson Road intersection, undeveloped Parcel @ Tannehill Lane, Austin, TX 78723. I am inquiring about information regarding spills, cleanups of hazardous materials or petroleum products, or other releases to the environment that could have affected soil and/or groundwater at the Subject Property. Please forward to Watershed, Fire Department, and other applicable departments that would store this information.
Thank you for your assistance on this matter, Beronica Lee-Brand, Professional Geoscientist #10465*

Clarification: There is no address for this property but attached is a map

I forgot to mention the nearest address to the property would be for Norman Elementary School at 4001 Tannehill Lane, Austin, TX 78721."

The City of Austin has no responsive information for your request.

Thank you for contacting the City of Austin.



Kristin Treviño
Customer Solutions
Coordinator
City of Austin Law Department
512-974-2268

Questions or Comments >>

Customer Search RE Search ID Search Search Results ID Number Detail TCEQ Home

Query Home

Central Registry

The Customer Name displayed may be different than the Customer Name associated to the Additional IDs related to the customer. This name may be different due to ownership changes, legal name changes, or other administrative changes.

Detail of: **Leaking Petroleum Storage Tanks Remediation ID Number 111747**

For: **FEDERAL EXPRESS (RN100545987)**

5811 TECHNI CENTER DR, AUSTIN

ID Number Status: **INACTIVE**

Responsible Parties: **FEDERAL EXPRESS (CN604408229)** [View Compliance History](#)

Now Known As:

Mailing Address: Not on file

Correspondence Tracking

Tracking No.	Received/Sent	Direction	Type	Subject	Due Date	End Date	Document Date	Method
6207026	03/02/2007	OUTGOING	NLR			03/02/2007	03/02/2007	
6095773	01/04/2007	INCOMING	FSC			03/02/2007	01/02/2007	
6207025	10/24/2006	OUTGOING	RR - CAR			10/24/2006	10/24/2006	
6095772	09/11/2006	INCOMING	PROP ACT13			10/24/2006	08/31/2006	
6207022	08/24/2006	OUTGOING	RR			08/24/2006	08/24/2006	
6207023	08/24/2006	OUTGOING	RR			08/24/2006	08/24/2006	
6207024	08/24/2006	OUTGOING	FINAL			08/24/2006	08/24/2006	
6095769	08/09/2006	INCOMING	MONIT ANNL			08/24/2006	08/07/2006	
6095770	08/09/2006	INCOMING	MPR			08/24/2006	08/02/2006	
6095771	08/09/2006	INCOMING	SCR			08/24/2006	08/02/2006	
6207021	07/11/2006	OUTGOING	RR			07/11/2006	07/11/2006	
6207019	03/08/2006	OUTGOING	RR - CAR			03/08/2006	03/08/2006	
6207020	02/17/2006	OUTGOING	REF - PRIV			02/17/2006	02/17/2006	
6095768	02/09/2006	INCOMING	PROP ACT19			03/08/2006	02/08/2006	
6207017	11/17/2005	OUTGOING	RR - CAR			11/17/2005	11/17/2005	
6207018	10/14/2005	OUTGOING	MM - EXT			10/14/2005	10/14/2005	
6095767	09/19/2005	INCOMING	PROP ACT 8			11/17/2005	09/16/2005	
6207014	08/18/2005	OUTGOING	RR			08/18/2005	08/18/2005	
6207015	08/18/2005	OUTGOING	RR			08/18/2005	08/18/2005	
6207016	08/18/2005	OUTGOING	RR			08/18/2005	08/18/2005	
6095764	07/19/2005	INCOMING	MONIT ANNL			08/18/2005	05/06/2005	
6095765	07/19/2005	INCOMING	SCR			08/18/2005	07/15/2005	
6095766	07/19/2005	INCOMING	MPR			08/18/2005	07/15/2005	
6207012	10/22/2004	OUTGOING	RR - CAR			10/22/2004	10/22/2004	
6207013	10/22/2004	OUTGOING	RR - CAR			10/22/2004	10/22/2004	
6095762	09/24/2004	INCOMING	PROP ACT17			10/22/2004	09/21/2004	
6095763	09/24/2004	INCOMING	PROP ACT19			10/22/2004	09/21/2004	

6207010	09/01/2004	OUTGOING	REJ TECH			09/01/2004	09/01/2004	
6207011	09/01/2004	OUTGOING	REJ TECH			09/01/2004	09/01/2004	
6095760	08/03/2004	INCOMING	SCR			09/01/2004	07/30/2004	
6095761	08/03/2004	INCOMING	MPR			09/01/2004	07/30/2004	
6207009	05/10/2004	OUTGOING	RR - CAR			05/10/2004	05/10/2004	
6095759	05/04/2004	INCOMING	PROP ACT19			05/10/2004	04/26/2004	
6207006	04/22/2004	OUTGOING	RR - CAR			04/22/2004	04/22/2004	
6207007	04/22/2004	OUTGOING	REJ TECH			04/22/2004	04/22/2004	
6207008	04/22/2004	OUTGOING	RR - CAR			04/22/2004	04/22/2004	
6095756	03/25/2004	INCOMING	MONIT ANNL			04/22/2004	03/19/2004	
6095757	03/25/2004	INCOMING	PROP ACT19			04/22/2004	03/23/2004	
6095758	03/25/2004	INCOMING	MPR			04/22/2004	03/23/2004	
6207004	04/30/2003	OUTGOING	RR - CAR			04/30/2003	04/30/2003	
6207005	04/30/2003	OUTGOING	RR - CAR			04/30/2003	04/30/2003	
6095754	03/31/2003	INCOMING	PROP ACT19			04/30/2003	03/26/2003	
6095755	03/31/2003	INCOMING	PROP ACT17			04/30/2003	03/26/2003	
6207003	02/21/2003	OUTGOING	RR			02/21/2003	02/21/2003	
6095753	12/30/2002	INCOMING	TECH RESP			02/21/2003	12/23/2002	
6207000	11/26/2002	OUTGOING	REJ TECH			11/26/2002	11/26/2002	
6207001	11/26/2002	OUTGOING	RR			11/26/2002	11/26/2002	
6207002	10/23/2002	OUTGOING	RR			10/23/2002	10/23/2002	
6095750	09/30/2002	INCOMING	SCR			11/26/2002	09/22/2002	
6095751	09/30/2002	INCOMING	MONIT ANNL			11/26/2002	09/20/2002	
6095752	09/30/2002	INCOMING	MPR			10/23/2002	09/22/2002	
6206997	07/13/2001	OUTGOING	RR - CAR			07/13/2001	07/13/2001	
6206998	07/13/2001	OUTGOING	RR - CAR			07/13/2001	07/13/2001	
6206999	07/13/2001	OUTGOING	RR - CAR			07/13/2001	07/13/2001	
6095747	06/14/2001	INCOMING	OMPR			07/13/2001	05/30/2001	
6095748	06/14/2001	INCOMING	PROP ACT 8			07/13/2001	05/29/2001	
6095749	06/14/2001	INCOMING	PROP ACT19			07/13/2001	05/29/2001	
6206995	08/22/2000	OUTGOING	NLR			08/22/2000	08/22/2000	
6206996	08/22/2000	OUTGOING	RR - CAR			08/22/2000	08/22/2000	
6095746	07/24/2000	INCOMING	PROP12 ADD			08/22/2000	07/04/2000	
6206993	07/13/2000	OUTGOING	NLR			07/13/2000	07/13/2000	
6206994	07/13/2000	OUTGOING	WITHDRAWN			07/13/2000	07/13/2000	
6095745	06/28/2000	INCOMING	TECH RESP			08/22/2000	06/14/2000	
6095744	06/14/2000	INCOMING	PROP ACT12			07/13/2000	06/14/2000	
6095743	05/31/2000	INCOMING	TECH RESP			07/13/2000	05/31/2000	
6206989	05/26/2000	OUTGOING	NLR			05/26/2000	05/26/2000	
6206991	05/26/2000	OUTGOING	RR - CAR			05/26/2000	05/26/2000	
6206992	05/26/2000	OUTGOING	REJ TECH			05/26/2000	05/26/2000	
6095742	04/27/2000	INCOMING	PROP ACT12			05/26/2000	01/31/2000	
6095741	04/11/2000	INCOMING	OMPR			05/26/2000	03/28/2000	
6206990	03/03/2000	OUTGOING	REJ TECH			03/03/2000	03/03/2000	
6095740	02/04/2000	INCOMING	PROP ACT12			03/03/2000	01/31/2000	
6095739	03/04/1998	INCOMING	NRSI			05/26/2000	03/02/1998	
6206981	02/13/1998	OUTGOING	RR - CAR			02/13/1998	02/13/1998	
6206988	02/11/1998	OUTGOING	RR - CAR			02/11/1998	02/11/1998	
6095738	01/12/1998	INCOMING	PROP ACT12			02/11/1998	01/06/1998	

6206987	12/11/1997	OUTGOING	NLR			12/11/1997	12/11/1997	
6095737	12/10/1997	INCOMING	TECH RESP			12/11/1997	12/08/1997	
6206975	12/02/1997	OUTGOING	NLR			12/02/1997	12/02/1997	
6206976	12/02/1997	OUTGOING	NLR			12/02/1997	12/02/1997	
6206977	12/02/1997	OUTGOING	NLR			12/02/1997	12/02/1997	
6206980	12/02/1997	OUTGOING	REJ TECH			12/02/1997	12/02/1997	
6206984	12/02/1997	OUTGOING	NLR			12/02/1997	12/02/1997	
6206985	12/02/1997	OUTGOING	REJ ADMIN			12/02/1997	12/02/1997	
6206986	12/02/1997	OUTGOING	RR - CAR			12/02/1997	12/02/1997	
6206982	11/18/1997	OUTGOING	WITHDRAWN			11/18/1997	11/18/1997	
6206983	11/18/1997	OUTGOING	WITHDRAWN			11/18/1997	11/18/1997	
6095735	11/17/1997	INCOMING	PROP ACT12			12/02/1997	11/14/1997	
6095734	11/12/1997	INCOMING	MPR			12/02/1997	11/05/1997	
6095730	11/07/1997	INCOMING	PROP ACT 5			12/02/1997	11/04/1997	
6095731	11/07/1997	INCOMING	PROP ACT11			02/13/1998	11/04/1997	
6095732	11/07/1997	INCOMING	PROP ACT12			11/18/1997	11/04/1997	
6095733	11/07/1997	INCOMING	PROP ACT 8			11/18/1997	11/04/1997	
6095736	11/07/1997	INCOMING	RAP			12/02/1997	11/04/1997	
6206971	08/11/1997	OUTGOING	NLR			08/11/1997	08/11/1997	
6206978	08/11/1997	OUTGOING	NLR			08/11/1997	08/11/1997	
6206979	08/11/1997	OUTGOING	RR - CAR			08/11/1997	08/11/1997	
6095729	07/14/1997	INCOMING	PROP ACT 9			08/11/1997	07/09/1997	
6095728	06/30/1997	INCOMING	TECH RESP			08/11/1997	02/20/1997	
6095725	06/17/1997	INCOMING	MPR			12/02/1997	06/12/1997	
6095726	06/17/1997	INCOMING	MPR			12/02/1997	06/12/1997	
6095727	06/17/1997	INCOMING	MPR			12/02/1997	06/12/1997	
6206972	06/12/1997	OUTGOING	RR - CAR			06/12/1997	06/12/1997	
6206973	06/12/1997	OUTGOING	RR - CAR			06/12/1997	06/12/1997	
6206974	06/12/1997	OUTGOING	REJ TECH			06/12/1997	06/12/1997	
6095722	05/14/1997	INCOMING	TECH RESP			06/12/1997	05/12/1997	
6095723	05/14/1997	INCOMING	PROP ACT 6			06/12/1997	05/12/1997	
6095724	05/14/1997	INCOMING	PROP ACT 9			06/12/1997	05/12/1997	
6095721	03/12/1997	INCOMING	FAR			08/11/1997	03/07/1997	
6206967	01/16/1997	OUTGOING	RR - CAR			01/16/1997	01/16/1997	
6206968	01/16/1997	OUTGOING	RR - CAR			01/16/1997	01/16/1997	
6206969	01/16/1997	OUTGOING	RR - CAR			01/16/1997	01/16/1997	
6206970	01/16/1997	OUTGOING	RR - CAR			01/16/1997	01/16/1997	
6095718	12/17/1996	INCOMING	RBA			01/16/1997	12/12/1996	
6095719	12/17/1996	INCOMING	PROP ACT19			01/16/1997	12/12/1996	
6095720	12/17/1996	INCOMING	PROP ACT 5			01/16/1997	12/12/1996	
6095717	12/03/1996	INCOMING	TANK CLSR			01/16/1997	10/29/1996	
6206965	10/28/1996	OUTGOING	NLR			10/28/1996	10/28/1996	
6206966	10/28/1996	OUTGOING	RR - CAR			10/28/1996	10/28/1996	
6095716	10/24/1996	INCOMING	PROP ACT 5			10/28/1996	10/22/1996	
6095715	10/21/1996	INCOMING	REL DET			10/28/1996	10/09/1996	

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TCEQ FAX TRANSMITTAL

LPST 111747

DATE: 10/22/04

NO. OF PAGES (including this sheet):

8

TO: Name MR JAMAL MANSOUR
 Organization FEDERAL EXPRESS
 Fax Number (901) 434-9235

FROM: TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
 Name Scott Lawless, P.G.
 Project Manager
 Telephone 512/239-2200
 Fax Number 512/239-2216
 Mail MC-137, PO Box 13087, Austin, Tx 78711-3087

NOTES: Response to Corrective Action Proposal(s) for
 LPST #: 111747 , Facility ID: 0029044.
 If you have any problems receiving this fax, please
 call 512/239-2200 .

In accordance with the Texas Water Code requirements, costs for any eligible corrective actions performed after September 1, 2005 will not be considered for reimbursement. In addition, all claims for eligible costs must be submitted to the Agency no later than March 1, 2006 and as of September 1, 2006 no additional reimbursements will be made from the Petroleum Storage Tank Remediation (PSTR) fund. PLEASE BE AWARE THAT PAYMENT OF REIMBURSEMENT CLAIMS IS SUBJECT TO SUFFICIENT APPROPRIATIONS BEING AVAILABLE IN THE PSTR ACCOUNT.

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

LPST CORRECTIVE ACTION RESPONSE FORM

LPST-ID: 111747
9/21/2004 Proposal For: PSH REMOVAL

GENERAL INFORMATION

LPST-ID : 111747 Priority: 4.1
Responsible Party : FEDERAL EXPRESS Tel: 901/395-4064
Facility # & Name : 0029044 FEDERAL EXPRESS
Facility Address : 5811 TECHNI CENTER
Facility City : AUSTIN County: TRAVIS
CAPM & Name : CAPM01502 RUSSELL C. FORD
RCAS & Name :

TCEQ TECHNICAL RESPONSE

Proposed activity is approved with the following modifications:

This office has completed its review of the proposal for product recovery utilizing Mobile Dual Phase Extraction (MDPE) technology. This preapproval is for one 24-hour MDPE event; however, if a reduced scope of work is completed, the maximum reimbursable cost will be adjusted accordingly. Following completion of the MDPE event, a Product Recovery Report should be submitted. Please note the following comments/modifications regarding this proposal:

1. We have observed that successful NAPL removal generally occurs when groundwater elevations are low; therefore, MDPE events should not be conducted unless the "smear zone" is exposed under natural conditions. After reviewing historic groundwater elevation data for the site, a decision on whether to mobilize for an MDPE event should be made based on current NAPL thickness and groundwater elevations.
2. If additional MDPE events are proposed for NAPL removal following completion of the this preapproved event, please include the following information in your proposal: an estimate of the quantity of NAPL remaining, an estimate of the mass recovery rate, and an estimate of the time required to remove the remaining NAPL.
3. Please note that influent air samples should be sampled at the beginning of the event (TPH only), half-way through the pilot test (TPH\BTEX), and toward the end (TPH). An effluent air sample is not required to meet the PI-7 requirements. Please provide the PID/FID data to address the PI-7 permit requirements. The preapproved dollar amount shown below includes costs for 1 BTEX and 3 TPH air samples.
4. During each event after gauging all the wells, at least evacuate total fluids from all the wells that contain NAPL greater than 0.1 feet (15 minutes per well) without sealing off the well casing. Then proceed with dual phase extraction.

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY LPST CORRECTIVE ACTION RESPONSE FORM

LPST-ID: 111747
9/21/2004 Proposal For: PSH REMOVAL

TCEQ TECHNICAL RESPONSE

5. Please make sure that the instrument (FID, PID) used to monitor the influent vapor concentrations is calibrated with a standard gas that has similar response to the instrument as the of gasoline vapors. Check with the manufacturer of the instrument to select the appropriate calibration gas.

(6) One gauging event is approved to be conducted approximately one month after the MDPE event is concluded.

You are required to notify the appropriate TCEQ field office no later than 10 days in advance of conducting the approved activity.

PLEASE NOTE THAT THE APPROVED ACTIVITIES MUST BE COMPLETED AND REPORTED TO THIS OFFICE BY SEPTEMBER 1, 2005.

ACTIVITY COST SUMMARY

Proposed Cost:	12,295.00	Maximum Pre-Approved:	10,723.00
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Signature: _____

Scott Lawless
Scott Lawless, P.G.
Project Manager

Date: 10/22/04 Telephone: 512/239-2200

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

LPST CORRECTIVE ACTION RESPONSE FORM

LPST-ID: 111747

9/21/2004 Proposal For: SEMI-ANNUAL & ANNUAL GW MONITORING (2 EVENTS/YR)

GENERAL INFORMATION

LPST-ID : 111747 Priority: 4.1
Responsible Party : FEDERAL EXPRESS Tel: 901/395-4064
Facility # & Name : 0029044 FEDERAL EXPRESS
Facility Address : 5811 TECHNI CENTER
Facility City : AUSTIN County: TRAVIS
CAPM & Name : CAPM01502 RUSSELL C. FORD
RCAS & Name :

TCEQ TECHNICAL RESPONSE

Proposed activity is approved with the following modifications:

This approval is for two semi-annual groundwater monitoring events to be completed after the preapproved MDPE event for the 11 existing monitor wells. Groundwater should be sampled for BTEX/MTBE/TPH(1005) and possibly PAH. PAH analysis should only be conducted on a sample that exhibits a TPH concentration in the carbon range C12-C28 that exceeds five parts per million and that also exceeds the highest C12-C28 concentration for which PAH has been documented. Upon completion of monitoring activities, please submit an Annual Groundwater Monitoring Report, along with a workplan and cost proposal for the next appropriate phase of corrective action. Please incorporate the following modifications into your monitoring program:

(1) Sample monitor wells MW-1 through MW-8 semi-annually. Analyze samples from monitor wells MW-2, MW-4, MW-5 and MW-6 for BTEX/MTBE/TPH(1005). Analyze samples from monitor wells MW-1, MW-3, MW-7 and MW-8 for BTEX/MTBE. No TPH analysis is necessary for these monitor wells as levels have remained stable and/or below action levels (5ppm) in the C12-C35 hydrocarbon chain.

(2) Sample monitor wells MW-9, MW-10 and MW-11 annually. Analyze this sample for BTEX/MTBE. No TPH analysis is necessary for this monitor well as levels have remained stable and/or below action levels (5 ppm) in the C12-C35 hydrocarbon chain.

(3) Please ensure that a temperature blank is used in each sample cooler as required by the July 31, 2003 guidance memo.

Proposed costs shown are for a total of 19 BTEX/MTBE, 8 TPH(1005) and 2 PAH groundwater samples.

If a reduced scope of work is completed, the maximum reimbursable costs will be adjusted accordingly.

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY LPST CORRECTIVE ACTION RESPONSE FORM

LPST-ID: 111747

9/21/2004 Proposal For: SEMI-ANNUAL & ANNUAL GW MONITORING (2 EVENTS/YR)

TCEQ TECHNICAL RESPONSE

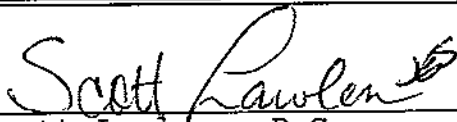
PLEASE NOTE THAT YOU ARE REQUIRED TO NOTIFY THE APPROPRIATE TCEQ FIELD OFFICE NO LATER THAN 10 DAYS IN ADVANCE OF CONDUCTING THE APPROVED ACTIVITY.

PLEASE NOTE THAT THE APPROVED ACTIVITIES MUST BE COMPLETED AND REPORTED TO THIS OFFICE BY SEPTEMBER 1, 2005.

ACTIVITY COST SUMMARY

Proposed Cost:	7,770.00	Maximum Pre-Approved:	6,698.00
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Signature:


Scott Lawless, P.G.
Project Manager

Date: 10/22/04 Telephone: 512/239-2200

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

LPST CORRECTIVE ACTION RESPONSE FORM

LPST-ID: 111747

9/21/2004 Proposal For: SEMI-ANNUAL & ANNUAL GW MONITORING (2 EVENTS/YR)

Pursuant to 30 TAC Section 334.82 (b), you are required to notify all parties affected by the contamination. If you determine that contamination from the release has migrated off-site, or if you are required by the TCEQ to conduct further assessment or other corrective actions off-site, then you are required to notify the affected landowner(s) within 30 days of documenting the impact. Please note that landowners may include state and local owners of right-of-way properties. For the purpose of this requirement, notice shall be through any means described in 30 TAC Section 334.82 (a). Please provide documentation that the affected landowner(s) has/have been notified within 30 days of notification. **Please note that failure to notify affected parties as required herein is grounds for formal enforcement proceedings.**

Please note that preapproval of this activity DOES NOT guarantee reimbursement. Eligibility is determined at the time of reimbursement application review. If the release is eligible, the preapproved amount is the maximum allowable for the proposed activities. The actual amount of reimbursement will be determined after the completed reimbursement application and all related receipts and invoices are submitted, and the completed activity is subject to technical and reimbursable cost review. In all instances, the completed work must be technically justifiable and should serve to advance the site in the corrective action process. The amount of preapproved work performed should be based on completion of the activity's objectives. Additionally, please also note that preapproved amounts include all eligible markup.

Claims for reimbursement should only be submitted after the completion of an annual cycle for remediation system operation and maintenance, and quarterly groundwater monitoring unless a more frequent filing period is previously approved by the PST Reimbursement Section. The Reimbursement Section can be reached at 512/239-2001.

cc: Barry Kalda, TCEQ Region 11 Field Office
1921 Cedar Bend, Suite 150, Austin, Texas 78758-5336
Phone: 512/339-2929 Fax: 512/339-3795

Activity 07 Groundwater Monitoring Preapproval Worksheet

TNRCC #:
LPST #: 111747
Facility #:
Facility Name: fedex
Facility address: 5811 technicenter dr., austin

Quarter: # of Wells:
 1st 0
 2nd 8
 3rd 0
 4th 11
Average Well Depth: 37
Prepared By: sel

A. Personnel

	# of Units	\$/Unit	Total
Fixed Annual		=	\$840
1st Event	0 x	=	\$0
2nd Event	8 x	=	\$540
3rd Event	0 x	=	\$0
4th Event	11 x	=	\$690
Subtotal Subcontracted Personnel	=	\$0	
Subcontractor Markup %	=	10% =	\$0
Cost Proposal Preparation		=	\$115
A. Total Personnel			\$2,185

B. Equipment Costs

	# of Units	\$/Unit	Total
Disposable Bailers	19 x	\$8 =	\$152
Small Items	3 x	\$20 =	\$60
Drums (55-gallon, for purge water)	9 x	\$40 =	\$360
(Other)	x	=	\$0
(Other)	x	=	\$0
Subtotal Subcontracted Equipment	=	\$0	
Subcontractor Markup %	=	15% =	\$0
A. Total Equipment			\$572

C. Waste Management

	# of Units	\$/Unit	Total
Vacuum Truck	3 x	\$75	\$225
Fluid Disposal	475 x	\$0.40	\$190
Sub. H Discharge/Alt. Disposal Method	x By Need	=	\$0
Subtotal Subcontracted Waste Mgt.	=	\$415	
Subcontractor Markup %	=	10% =	\$41
A. Total Waste Management			\$456

D. Analytical Costs

	# of Units	\$/Unit	Total
BTEX	0 x	\$63 =	\$0
BTEX/MTBE	19 x	\$85 =	\$1,615
TX1005	8 x	\$63	\$500
TDS	0 x	\$15	\$0
PAH(8270)	2 x	\$249	\$498
Chlorides	0 x	\$18	\$0
Iron	0 x	\$10	\$0
Nitrates	0 x	\$24	\$0
Phosphates	0 x	\$24 =	\$0
Sulfates	0 x	\$24	\$0
Tot. Org. Carbon (TOC)	0 x	\$32	\$0
Shipping	29 x	\$5	\$145
(Other)	0 x	\$0	\$0
(Other)	0 x	\$0	\$0
Subtotal Subcontracted Analytical	=	\$2,744	
Subcontractor Markup %	=	10% =	\$274
D. Total Analytical			\$3,032

E. Travel

	Units	\$/Unit	Total
Mileage (>100 r.t.)	0 x	\$0.37 =	\$0
One way mileage to site	=	10	
Travel Time	1 x	\$40 =	\$32
Per diem	0 x	\$80 =	\$0
Airfare	2 x	\$0 =	\$0
Equipment Truck	3 x	\$140 =	\$420
Subtotal Subcontracted Travel	=	\$0	
Subcontractor Markup %	=	15% =	\$0
D. Total Travel			\$452

Total Groundwater Monitoring Activity Costs (A+B+C+D+E) = \$6,698

Item	Proposed		Approved		Approved - Proposed
	Subcontracted	Total	Subcontracted	Total	Difference
Personnel	0	2195	0	2185	-10
Equipment	0	656	0	572	-84
Waste Management	445	490	415	456	-34
Analytical	3754	4149	2744	3032	-1117
Travel	0	280	0	452	172
Total	4199	7770	3158	6698	-1072

NAPL Removal - MDPE Preapproval Worksheet

LPST # 111747

No. of Events 1

Facility #

Event Duration 24 hrs

Facility Name fedex

Facility Address 5811 technicenter dr., austin

RPR Project Manager

A. Personnel

		Total
Report Preparation	=	\$260
Office Personnel	=	\$160
Field Personnel	=	\$2,640
PI-7 Exemption	=	\$0
Subtotal Subcont. Personnel	\$0	
Subcontractor Markup %	10%	\$0
Cost Proposal Preparation	=	\$115
A. Total Personnel		\$3,175

B. MDPE Equipment

	Units		\$/Unit		Total
DPE Equipment (includes Holding Tank)		=			\$2,400
Security Fence	0	x	\$300	=	\$0
Bailers	0	x	\$8	=	\$0
Subtotal Subcontracted Equipment =			\$2,400		
Subcontractor Markup %			15%	=	\$360
B. Total Equipment					\$2,760

E. Waste Management

	Units		\$/Unit		Total
Vacuum Truck	4	x	\$75	=	\$300
Fluids Disposal	10,000	x	\$0.40	=	\$4,000
Dicharge Permit	0	x	\$0	=	\$0
Subtotal Subcontracted Waste Mgmt.			\$0		
Subcontractor Markup %			10%	=	\$0
E. Total Waste Management					\$4,300

Item	Proposed		Approved		App. - Prop. Difference
	Subcont.	Total	Subcont.	Total	
Personnel	\$0	\$930	\$0	\$3,175	\$2,245
Equipment	\$4,850	\$4,600	\$2,400	\$2,760	-\$1,840
Travel	\$0	\$280	\$0	\$158	-\$122
Analytical	\$407	\$448	\$300	\$330	-\$118
Waste	\$0	\$5,060	\$0	\$4,300	-\$760
Total	\$5,257	\$11,318	\$2,700	\$10,723	-\$595

C. Travel

	Units		\$/Unit		Total
MDPE Personnel Travel					
72-hr event	0		\$1,100		\$0
7-day event	0		\$1,700		\$0
Note: Travel costs for 8-hr and 24-hr event are part of DPE equipment					
MDPE Event Oversight					
Mileage (> 100 miles rt)	\$0	x	\$0.37	=	\$0
Equipment Truck, days	0	x	\$140	=	\$0
Travel Time	0	x	\$70	=	\$0
Per Diem	0	x	\$80	=	\$0
Gauging Visits					
Mileage	\$0	x	\$0	=	\$0
Equipment Truck, days	1	x	\$140	=	\$140
Travel Time	0	x	\$45	=	\$18
Per Diem	0	x	\$80	=	\$0
Subtotal Subcontracted Travel			\$0		
Subcontractor Markup %			15%	=	\$0
C. Total Travel					\$158

D. Analytical

	Units		\$/Unit		Total
Influent Samples					
BTEX (a)	1	x	\$63	=	\$63
TPH (a)	3	x	\$63	=	\$188
Effluent Samples					
BTEX (a)	0	x	\$63	=	\$0
TPH (a)	0	x	\$63	=	\$0
Tedlar Bags	4	x	\$7.50	=	\$30
Shipping	4	x	\$5	=	\$20
Subtotal Subcontracted Analytical			\$300		
Subcontractor Markup %			15%	=	\$30
D. Total Analytical					\$330

Total MDPE Reimbursable Cost (A+B+C+D+E) = \$10,723

*** MULTI TX/RX REPORT ***

TX/RX NO 2081
PGS. 8
TX/RX INCOMPLETE -----
TRANSACTION OK
(1) 8p19014349235
(2) 8p3393795
ERROR INFORMATION -----

TCEQ FAX TRANSMITTAL

LPST 111747

DATE: 10/22/04 NO. OF PAGES (including this sheet): 8

TO: Name MR JAMAL MANSOUR
Organization FEDERAL EXPRESS
Fax Number (901) 434-9235

FROM: TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
Name Scott Lawless, P.G.
Project Manager
Telephone 512/239-2200
Fax Number 512/239-2216
Mail MC-137, PO Box 13087, Austin, Tx 78711-3087

NOTES: Response to Corrective Action Proposal(s) for
LPST #: 111747 , Facility ID: 0029044.
If you have any problems receiving this fax, please
call 512/239-2200 .

In accordance with the Texas Water Code requirements, costs for any eligible corrective actions performed after September 1, 2005 will not be considered for reimbursement. In addition, all claims for eligible costs must be submitted to the Agency no later than March 1, 2006 and as of September 1, 2006 no additional reimbursements will be made from the Petroleum Storage Tank Remediation (PSTR) fund. PLEASE BE AWARE THAT PAYMENT OF REIMBURSEMENT CLAIMS IS SUBJECT TO SUFFICIENT APPROPRIATIONS BEING AVAILABLE IN THE PSTR ACCOUNT.

10/22/04

05/14/04).

- The following are the groundwater maximums detected:

	<u>Historical</u>	<u>Current (01/28/04)</u>
benzene	3.57 ppm (MW-5, 12/27/01)	0.58 ppm (MW-4)
MTBE	2.85 ppm (MW-5, 12/27/01)	0.57 ppm (MW-4)
TPH	360 ppm (MW-2, 01/28/04)	360 ppm (MW-2, 01/28/04)

- PAH analyses have been conducted on several samples collected from MW-2(see the SCR submitted on August 3, 2004 for details).
- The groundwater plume shows a decreasing groundwater concentrations from source area.
- Groundwater monitoring is in progress.
- Fluid wastes have been properly disposed.

NAPL

- NAPL historically observed in MW-1, MW-2, MW-3, MW-4, MW-5 and MW-6 (last NAPL measured on 05/14/04).
- NAPL removed via a SVE system from September 2000 to May 2001 and MDPE.

Receptors and Site Priority/Category

- Site is not located over a major/minor aquifer..
- Site priority from 4.1; BGUC is Category II.
- City of Austin supplies water to the site and surrounding area.
- Location of underground utilities appear to be along the north and east property lines.

Conclusions/Recommendations

- This site has met the 9/1/02 deadline and the CAP deadline.
- The groundwater plume shows a decreasing groundwater concentrations from source area.
- Removal of NAPL to the maximum extent practicable is the cleanup goal.

Current Submittals: One PA-19,(Rec'd 9/24/04)

- PA-19 is a proposal for MDPE

Exposure Pathway Evaluation:

A SIGNIFICANT PORTION OF THIS FILE IS MISSING.

- soils: maximum soil concentrations greater than health-based and cw target; soil contamination from tankpull exceeds **open**.
- soils: explosive vapors, unknown; **open**.
- current on-site groundwater ingestion: no on-site supply well; closed.
- current off-site groundwater ingestion: closed.
- future on-site groundwater ingestion: no comm. use within 0.5-mile, municipal supply; qualitatively closed.
- future off-site groundwater ingestion: closed.
- construction worker: Depth to gw greater than 15 feet; closed.
- groundwater to surface water: closed.
- PSH removed to maximum extent practicable: continue NAPL removal; **open**.

LPST ID 111747
Page 3
10/22/04

111747.cfm.wpd

O SEP
LPST
111747

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION
PETROLEUM STORAGE TANK
CORRESPONDENCE IDENTIFICATION SHEET

Date: September 17, 2004
 Site Name: Federal Express Corporation
 Site Address: 5811 Technicenter Drive, Austin, TX

LPST ID No.: 111747
 Facility ID No.: 0029044

P. W. J. 19
 11/17/04

This checklist **must** accompany all correspondence submitted to the RPR Section and should be affixed to the front of your submission as a cover page. Please check the appropriate box for the type of correspondence which you have submitted to the RPR Section. Check all boxes that apply if you are submitting more than one type of correspondence. If you cannot find an appropriate category, please complete the "other" section.

PROPOSALS		
<input type="checkbox"/> Initial Abatement (1)	<input type="checkbox"/> Tank Removal (2)	<input type="checkbox"/> Excavation (3)
<input type="checkbox"/> Waste Treatment (4)	<input type="checkbox"/> Site Assessment (5)	<input type="checkbox"/> Aquifer Testing (6)
<input type="checkbox"/> VES/Sparge Testing (7)	<input type="checkbox"/> Qtrly. GW Monitoring (8)	<input type="checkbox"/> CAP Prep. (9)
<input type="checkbox"/> GW Extrac./Treatment (10)	<input type="checkbox"/> Soil Vapor Extrac. (11)	<input type="checkbox"/> Operation & Main. (12)
<input type="checkbox"/> Site Closure (13)	<input type="checkbox"/> Plan A Risk Ass. (14)	<input type="checkbox"/> Plan B Risk Ass. (15)
<input checked="" type="checkbox"/> Semi-annual GW Mon. (16)*	<input type="checkbox"/> Annual GW Mon. (18)	<input checked="" type="checkbox"/> Product Recovery (19)
<input type="checkbox"/> Other proposal _____		

REPORTING FORMS	
<input type="checkbox"/> Assessment Report Form (TNRCC-0562)	<input type="checkbox"/> Release Report Form (TNRCC-0621)
<input type="checkbox"/> Product Recovery Report Form (TNRCC-0016)	<input type="checkbox"/> Monitoring Event Summary and Status Report (TNRCC-0013)
<input type="checkbox"/> Site Closure Request Form (TNRCC-0028)	<input type="checkbox"/> Final Site Closure Report Form (TNRCC-0038)
<input type="checkbox"/> Other form _____	

REPORTS		
<input type="checkbox"/> Tank Closure/Removal	<input type="checkbox"/> Plan A Risk Assessment	<input type="checkbox"/> Annual Groundwater Monitoring
<input type="checkbox"/> O&M/Performance Mon.	<input type="checkbox"/> Plan B Risk Assessment	<input type="checkbox"/> CAP Installation/Modification
<input type="checkbox"/> Property Divestiture/Phase I ESA	<input type="checkbox"/> Corrective Action Plan (CAP)	<input type="checkbox"/> Aquifer/Pilot Test Results

MISCELLANEOUS	
<input type="checkbox"/> Off-site access assistance	<input type="checkbox"/> Deadline Extension Request
<input type="checkbox"/> Tank tightness test results	<input type="checkbox"/> Request for State-Lead
<input type="checkbox"/> Request for LPST Waste Code	<input type="checkbox"/> Class V ReInjection Request
<input type="checkbox"/> Notice to Owner/Operator for CAS Services	<input type="checkbox"/> Petroleum-Substance Waste Manifest
<input type="checkbox"/> Underground Storage Tank Registration Form	<input type="checkbox"/> Aboveground Storage Tank Registration Form
<input type="checkbox"/> Other (anything that does not fit into one of the categories above) _____	

* The proposal for semi-annual monitoring and annual report (Proposal Activity 17) has been discontinued. For semi-annual monitoring, use Proposal Activity 16.

Received

SEP 24 2004

I attest that all work has been conducted in accordance with accepted industry standards/practices and adhered to TNRCC guidance and rules. I certify that I am aware that misrepresentation of any of the above claims is a violation of 30 TAC 334.453(b)(1)(E) and that this violation may result in the disciplinary actions set forth in 30 TAC 334.453 and or 334.463 and 334.465.

If a proposal is attached for preapproval, has the proposed work, in part or in whole, already been performed or in progress?

If yes, what work? _____

HBC/Terracon 825 2/25/05
(Registered Corrective Action Specialist) (RCAS Reg. No.) (Expiration date)

[Signature] 7/17/04
(Signature) (Date)
(512) 442-1122 (512) 442-1181
(Telephone #) (FAX #)

Russell C. Ford 1502 7/16/05
(Project Manager) (CAPM Reg. Nu.) (Expiration date)

[Signature] 9/17/04
(Signature) (Date)

(512) 442-1122 (512) 442-1181
(Telephone #) (FAX #)

By signature below, I certify that documents checked above are included.

Mr. Jamal Mansour Federal Express Corporation
(Name of Responsible Party Contact) (Company)

Jamal m. mansour 9-21-04
(Signature) (Date)

(901) 434-8458 (901) 434-9235
(Telephone #) (FAX #)

Received

SEP 24 2004

TNRCC/PST-RPR

WORKPLAN AND PREAPPROVAL REQUEST

LPST ID No.: 111747
Responsible Party: Federal Express Corporation
Property Owner: Federal Express Corporation
Facility Name: Federal Express Corporation
Facility Address: 5811 Technicenter Drive
Facility City: Austin
Facility ID No.: 0029044
TNRCC Region: 11
Case Priority: 4.1

Proposed Activity: 02 Phase-Separated Hydrocarbon (PSH) Recovery

Goal of Proposed Activity

The goal of the activity is to ~~remove residual PSH~~ observed in onsite monitor wells (MW-1, MW-5, and MW-6).

Description of Activities

~~A single Mobile Dual-Phase Extraction (MDPE) event will be conducted on wells MW-1, MW-5, and MW-6. The event will be performed for a 24-hour period using a self-contained truck mounted MDPE unit. The MDPE unit will utilize a Kaiser liquid ring pump to achieve a vacuum pressure of 18 to 19 inches of Hg. Submersible pumps will be installed within the wells to lower the water table to the historic levels encountered during the January 2004 gauging event (approximately 37 feet below ground surface). Recovered liquid will be properly disposed offsite at an authorized facility. A 750-SCFM thermal oxidizer will be used to treat offgas VOCs with a minimum of 99.5% destruction efficiency. Influent and effluent air samples will be collected during the MDPE event. Influent samples will be collected at the beginning of the event (TPH), about half-way through (TPH/BTEX), and near the end (TPH). Effluent samples will be collected at the beginning (TPH/BTEX) to meet vapor emission permit requirements. Following the completion of the MDPE event, a water level gauging event will be conducted approximately 4 weeks later to document PSH levels.~~

Preapproval Request Forms

A PSH Recovery Preapproval Proposal form is attached for review.

Initial Abatement/ICAP/PSH Removal Cost Proposal

LPS# 111747

Facility ID: 29044

Responsible Party: Federal Express Corporation Facility Name and Address: Federal Express, 5811 Tachelcenter Drive, Austin, TX

Mark appropriate activity: 01-1 Initial Abatement 02-1 Interim Corrective Action Plan 02-2 PSH Recovery Print

Interim Corrective Action Plan \$0

Initial Abatement/Manual PSH Removal

A. Personnel		Sub.	Total
Report Preparation			\$260
Office Personnel			\$75
Field Personnel			\$480
Subtotal Subcontracted Personnel	\$0		
Subcontractor Markup %			\$0
Cost Proposal Preparation			\$115
A. Total Personnel			\$830

B. Equipment		# of Units	\$/Unit	Sub.	Total
Balers		x	\$0		\$0
Small Items		x	\$0		\$0
Drums		x	\$0		\$0
Shimmers (sm)		x	\$0		\$0
Shimmers (lg)		x	\$0		\$0
Canisters		x	\$0		\$0
Sorbents		x	\$0		\$0
24 hr MDPE	1	x	\$4,850		\$4,850
		x	\$0		\$0
		x	\$0		\$0
		x	\$0		\$0
		x	\$0		\$0
		x	\$0		\$0
Subtotal Subcontracted Equipment			\$4,850		
Subcontractor Markup %			15%		\$727.50
B. Total Equipment					\$5,578

C. Waste Management		# of Units	\$/Unit	Sub.	Total
Water Truck	B	x	\$75		\$600
Disposal	10,000	x	\$0.40		\$4,000
Subtotal Subcontracted Waste Mgmt.			\$4,600		
Subcontractor Markup %			10%		\$460
C. Total Waste Management					\$5,060

D. Travel		Units	\$/Unit	Sub.	Total
Mileage (>100 r/L)		x	\$0.31		\$0
One way mileage to site					\$0
Travel Time		x	\$40		\$0
Per diem		x	\$0		\$0
Airfare		x	\$0		\$0
Equipment Truck	2	x	\$140		\$280
Subtotal Subcontracted Travel			\$0		
Subcontractor Markup %					\$0
D. Total Travel					\$280

E. Other Expenses		Units	\$/Unit	Sub.	Total
BTEX	2	x	\$63		\$125
TPH	4	x	\$63		\$250
Sample Bags	4	x	\$8		\$32
Subtotal Subcontracted Other			\$407		
Subcontractor Markup %			10%		\$41
E. Total Other Expenses					\$448

F. Total Initial Abatement/PSH Recovery Proposed Cost = A+B+C+D+E = \$12,295

Russell C. Ford	<i>[Signature]</i>	HBC Engineering, Inc.	8/17/04
(CAPM Name, Printed)	(Signature)	(Company)	(Date)
(512) 442-1122	(512) 442-1181	1502	July 16, 2005
(Phone #)	(FAX #)	(CAPM #)	(Exp. Date)
Russell C. Ford	<i>[Signature]</i>	HBC Engineering, Inc.	9/17/04
(RCAS Rep. Name, Printed)	(Signature of Representative)	(Company)	(Date)
(512) 442-1122	(512) 442-1181	387	February 25, 2005
(Phone #)	(FAX #)	(RCAS #)	(Exp. Date)

I acknowledge that the TNRCC may reimburse corrective action costs that are at or below the maximum reimbursable amount published in 30 TAC, Chapter 334, Subchapter M. The maximum reimbursable cost will be the amount approved for the activity unless the Executive Director determines that sound justification for a cost surplus exists. I understand that this certification is not intended to limit what a Registered Corrective Action Specialist, Corrective Action Project Manager, or Contractor may charge. I further understand that the amount of the reimbursement for the above activity will be determined after all receipts are submitted and subjected to technical and reimbursable cost review. I certify that this TNRCC form has not been altered.

Federal Express Corporation	<i>[Signature]</i>	Jamal Mansour	Federal Express Corporation
(Name of Responsible Party)	(Signature of Representative)	(Name Printed)	(Company)
(901) 434-8458		(901) 434-9235	9-21-04
(Phone #)		(FAX #)	(Date)

WORKPLAN AND PREAPPROVAL REQUEST

LPST ID No.: 111747
Responsible Party: Federal Express Corporation
Property Owner: Federal Express Corporation
Facility Name: Federal Express Corporation
Facility Address: 5811 Technicenter Drive
Facility City: Austin
Facility ID No.: 0029044
TNRCC Region: 11
Case Priority: 4.1

Proposed Activity: 07-1 Semi-annual Monitoring

Goal of Proposed Activity

The goal of the proposed activity is to monitor the existing groundwater monitor wells in order to verify plume stability at the site.

Description of Activities

Each of the existing groundwater monitor wells (MW-1 through MW-11) will be sampled and analyzed on a semi-annual basis for a period of 12-months (2 sampling events), following completion of the proposed MDPE event (see attached MDPE workplan and preapproval request).

Groundwater samples will be collected from each of the existing onsite monitor wells not containing phase-separated hydrocarbons (PSH).

Sampling Procedures

The depth to phase-separated hydrocarbons and/or groundwater will be measured in each well. For each well not containing PSH, a minimum of three well volumes (or until dry) will be bailed.

One groundwater sample will be collected from each groundwater monitor well not containing PSH, upon completion of well purging. The groundwater samples will be collected and analyzed for TPH, BTEX, and MTBE, in accordance with EPA-approved methods. The sample containing the highest TPH concentration will also be analyzed for PAH.

Reporting of Activities

Upon the completion of the second quarterly sampling event, a Groundwater Monitoring Report will be completed and submitted to the TCEQ, in accordance with TCEQ guidelines.

Waste Management

Purged groundwater will be temporarily stored on-site in a DOT approved steel drum, pending the results of laboratory analysis. Subsequent to the second quarterly event, the purged groundwater will be properly disposed of in an authorized facility.

Preapproval Request Forms

A Groundwater Monitoring Cost Proposal form is attached for review.

Groundwater Monitoring Cost Proposal

LPS

111747 Facility ID 29044

Responsible Party Federal Express Corporation Facility Name and Address Federal Express, 5911 Technicenter Drive, Austin, TX

- Mark appropriate activity:
- 07-1 Quarterly Monitoring (4 events/yr + Annual Report)
 - 07-2 Semi-Annual Monitoring (1 event w/MESSR)
 - 07-3 Annual Monitoring (1 event w/Annual Report)
 - 07-4 Semi & Annual Monitoring (2 events + Annual Report)

A. Personnel

	Year	# of Wells	Avg. Depth	Sub	Total
Fixed Annual					\$940
1st Event	2004	11	37		\$620
2nd Event	2005	11	37		\$620
3rd Event					
4th Event					
Subtotal Subcontracted Personnel			\$0		
Subcontractor Markup %					\$0
Cost Proposal Preparation					\$115
A. Total Personnel					\$2,195

B. Equipment

	Units	\$/Unit	Sub	Total
Disposable Baters	22	\$8		\$176
Small items	4	\$20		\$80
Drums	10	\$40		\$400
		\$0		\$0
		\$0		\$0
Subtotal Subcontracted Equipment		\$0		\$0
Subcontractor Markup %				\$0
B. Total Equipment				\$656

C. Waste Management

	Units	\$/Unit	Sub	Total
Vacuum Truck	3	\$75		\$225
Fluid Disposal	550	\$0.40		\$220
Sub H or Alt. Disp.		\$0		\$0
Subtotal Subcontracted Waste Mgmt.		\$445		\$445
Subcontractor Markup %		10%		\$45
C. Total Waste Management				\$490

D. Analytical

Type	# Samples	\$/Unit	Sub	Total
TPH/BTEX	x	\$0		\$0
TPH/BTEX/MTBE	22 x	\$148		\$3,256
TOS	x	\$0		\$0
PAH(610)	x	\$0		\$0
PAH(6270)	2 x	\$248		\$496
Chlorides	x	\$0		\$0
Iron	x	\$0		\$0
Nitrates	x	\$0		\$0
Phosphates	x	\$0		\$0
Sulfates	x	\$0		\$0
	x	\$0		\$0
		\$0		\$0
Shipping	4 x	\$5		\$20
Subtotal Subcontracted Analytical		\$3,754		\$3,754
Subcontractor Markup %	10%			\$375
D. Total Analytical				\$4,149

E. Travel

Type	# Samples	\$/Unit	Sub	Total
Equipment Truck	2 x	\$140		\$280
One way mileage to site				
Mileage (>100 rt)	x	\$0.31		\$0
Travel Time	x	\$40		\$0
Per Diem	x	\$80		\$0
Airfare	x	\$0		\$0
Subtotal Subcontracted Travel		\$0		\$0
Subcontractor Markup %				\$0
E. Total Travel				\$280

F. Total Groundwater Monitoring Proposed Cost A+B+C+D+E = **\$7,770**

Russell C. Ford	<i>Russell C. Ford</i>	HBC Engineering, Inc.	9/17/04
(CAPM Name, Printed)	(Signature)	(Company)	(Date)
(512) 442-1122 /	512) 442-1181	1502 /	July 16, 2005
(Phone #)	(FAX #)	(CAPM #)	(Exp. Date)
Russell C. Ford	<i>Russell C. Ford</i>	HBC Engineering, Inc.	9/17/04
(RCAS Rep. Name, Printed)	(Signature)	(Company)	(Date)
(512) 442-1122 /	512) 442-1181	387 /	February 25, 2005
(Phone #)	(FAX #)	(RCAS #)	(Exp. Date)

I acknowledge that the TNRCC may reimburse corrective action activity costs that are at or below the maximum reimbursable amount published in 30 TAC, Chapter 334, Subchapter M. The maximum reimbursable cost will be the amount approved for the activity unless the Executive Director determines that sound justification for a cost surplus exists. I understand that this certification is not intended to limit what a Registered Corrective Action Specialist, Corrective Action Project Manager, or Contractor may charge. I further understand that the amount of the reimbursement for the above activity will be determined after all receipts are submitted and subjected to technical and reimbursable cost review. I certify that this TNRCC form has not been altered.

Federal Express Corporation	<i>Jamal Mansour</i>	Jamal Mansour	Federal Express Corporation
(Name of Responsible Party)	(Signature of Representative)	(Name Printed)	(Company)
(801) 434-8458 /		(801) 434-9235	9-21-04
(Phone #)	(Fax #)		(Date)

Kathleen Hartnett White, *Chairman*
R. B. "Ralph" Marquez, *Commissioner*
Larry R. Soward, *Commissioner*



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

September 1, 2004

Mr. Jamal Monsour
Federal Express Corporation
3620 Hacks Cross Boulevard, Building B
Memphis, Tennessee 38125

CERTIFIED MAIL#
7000 0520 0023 2389 0656
RETURN RECEIPT REQUESTED

Re: Comments to the Product Recovery Report and Site Closure Request, dated July 28, 2004, for the Federal Express Facility, 5811 Technicenter Drive, Austin (Travis County), Texas
LPST ID No. 111747 - Priority 4.1 - Facility ID No. 0029044; R-11

Dear Mr. Mansour:

The Texas Commission on Environmental Quality (TCEQ) has reviewed the above-referenced submittal. A list of comments is enclosed. If you need to respond to the comments, please prepare a written response, referencing the assigned TCEQ LPST ID number. The information in the TCEQ reference line above should be included in your response.

Your written response to these comments, if necessary, should be submitted to the TCEQ Central Office at the letterhead address, using mail code number MC-137. Should you need additional information or wish to discuss these comments, please call me at (512) 239-2200. We appreciate your continued cooperation in this matter.

Sincerely,

A handwritten signature in black ink, appearing to read "Scott Lawless".

Scott Lawless
Coordinator
PST-Responsible Party Remediation Section
Remediation Division

SEL/jdm
111747A.ltr

Enclosure: Specific Comments

Mr. Jamai Mansour
Page 2
September 1, 2004
Enclosure 1: Specific Comments

Specific Comments

1. The TCEQ has reviewed the Product Recovery Report dated July 28, 2004. The TCEQ is not able to accept this report for the following reasons:

(1) The TCEQ responded to a similar unsuccessful MDPE event that was conducted on October 11, 2003 and requested a proposal for a 24 hour MDPE event using a dual pump system utilizing a submersible pump and a liquid ring pump to depress the water table and remove hydrocarbons. The preapproved workplan for the MDPE activity that was conducted on May 18, 2004 included using a submersible pump to depress the water table and was for a duration of 24 hours. The MDPE event that was conducted used a drop tube and was for a duration of eight hours.

(2) The TCEQ was not able to duplicate the hydrocarbon recovery that was reported as 49.45 lbs. The TCEQ's hydrocarbon recovery calculation included a flow rate of 440 CFM and an average TPH vapor concentration of 298 ppmv to generate a hydrocarbon recovery of approximately 16.53 lbs. This is considered low and is very likely attributable to the water table not being depressed as detailed in the preapproved workplan.

(3) The Chain-of-Custody does not indicate the time that the third vapor sample was collected. Chains-of-Custody must be completed properly to document the integrity of samples. In the future, please insure that Chains-of-Custody are complete.

2. This Office has reviewed the Site Closure Request, dated July 28, 2004, for site closure activities of the above referenced site. We have completed our review of all available file information pertaining to the above-referenced incident. After careful review of all the data provided and pursuant to Title 30, Texas Administrative Code (TAC), Sections 334.78-334.81, we conclude that final concurrence cannot be issued for this LPST case. The most recent measurement of Non-Aqueous Phase Liquids (NAPL) in monitor well MW-6 (an off-site monitor well, located on Norman Elementary School property) indicated a thickness of approximately 0.14 feet on May 18, 2004 immediately prior to the last MDPE event. On January 27, 2004, MW-6 contained approximately 1.51 feet of NAPL. This thickness of NAPL occurred when the water table was at approximately 37 feet Below Ground Level (BGL). Typically the water table is at approximately 34 feet BGL. This indicates that a significant thickness of NAPL is present near MW-6 and to a lesser degree in MW-1 and MW-5 that requires removal. The TCEQ requires that NAPL be removed to the extent that is practicable. A workplan and preapproval proposal to conduct a MDPE (dual pump system utilizing a submersible pump and a liquid ring pump) event targeting the remaining NAPL should be submitted in an effort to achieve this goal. After the MDPE event, please remove all skimmers if this has not already been done. Additionally, please submit a workplan and preapproval proposal for continued groundwater sampling of all monitor wells for one year. Once these activities are completed, the site should be re-evaluated to determine it's eligibility for closure.

TCEQ FAX TRANSMITTAL

LPST 111747

DATE: 5/10/04 NO. OF PAGES (including this sheet): 5

TO: Name MR JAMAL MANSOUR
 Organization FEDERAL EXPRESS
 Fax Number (901) 434-9235

FROM: TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
 Name Scott Lawless
 Project Manager
 Telephone 512/239-2200
 Fax Number 512/239-2216
 Mail MC-137, PO Box 13087, Austin, Tx 78711-3087

NOTES: Response to Corrective Action Proposal(s) for
 LPST #: 111747 , Facility ID: 0029044.
 If you have any problems receiving this fax, please
 call 512/239-2200 .

Releases from underground or aboveground storage tank systems that are reported to the TCEQ on or after September 1, 2003 must comply with the corrective action requirements of 30 TAC 350 (the Texas Risk Reduction Program rule). Information about the rule can be downloaded at www.tnrcc.state.tx.us/permitting/trrp.htm.

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

LPST CORRECTIVE ACTION RESPONSE FORM

LPST-ID: 111747
4/26/2004 Proposal For: PSH REMOVAL

GENERAL INFORMATION

LPST-ID : 111747 Priority: 4.1
Responsible Party : FEDERAL EXPRESS Tel: 901/395-4064
Facility # & Name : 0029044 FEDERAL EXPRESS
Facility Address : 5811 TECHNI CENTER
Facility City : AUSTIN County: TRAVIS
CAPM & Name : CAPM01502 RUSSELL C. FORD
RCAS & Name : RCAS00387 HBC ENGINEERING, INC.

TCEQ TECHNICAL RESPONSE

Proposed activity is approved with the following modifications:

This office has completed its review of the proposal for product recovery utilizing Mobile Dual Phase Extraction (MDPE) technology. This preapproval is for one 24-hour MDPE event; however, if a reduced scope of work is completed, the maximum reimbursable cost will be adjusted accordingly. Following completion of the MDPE event, a Product Recovery Report should be submitted. Please note the following comments/modifications regarding this proposal:

1. We have observed that successful NAPL removal generally occurs when groundwater elevations are low; therefore, MDPE events should not be conducted unless the "smear zone" is exposed under natural conditions. After reviewing historic groundwater elevation data for the site, a decision on whether to mobilize for an MDPE event should be made based on current NAPL thickness and groundwater elevations.
2. If additional MDPE events are proposed for NAPL removal following completion of the this preapproved event, please include the following information in your proposal: an estimate of the quantity of NAPL remaining, an estimate of the mass recovery rate, and an estimate of the time required to remove the remaining NAPL.
3. Please note that influent air samples should be sampled at the beginning of the event (TPH only), half-way through the pilot test (TPH\BTEX), and toward the end (TPH). An effluent air sample is not required to meet the PI-7 requirements. Please provide the PID/FID data to address the PI-7 permit requirements. The preapproved dollar amount shown below includes costs for 1 BTEX and 3 TPH air samples.
4. During each event after gauging all the wells, at least evacuate total fluids from all the wells that contain NAPL greater than 0.1 feet (15 minutes per well) without sealing off the well casing. Then proceed with dual phase extraction.

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
LPST CORRECTIVE ACTION RESPONSE FORM

LPST-ID: 111747
4/26/2004 Proposal For: PSH REMOVAL

TCEQ TECHNICAL RESPONSE

5. Please make sure that the instrument (FID, PID) used to monitor the influent vapor concentrations is calibrated with a standard gas that has similar response to the instrument as the of gasoline vapors. Check with the manufacturer of the instrument to select the appropriate calibration gas.

(6) One gauging event is approved to be conducted approximately one month after the MDPE event is concluded.

You are required to notify the appropriate TCEQ field office no later than 10 days in advance of conducting the approved activity.

ACTIVITY COST SUMMARY

Proposed Cost:	10,042.00	Maximum Pre-Approved:	7,348.00
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Signature:


Scott Lawless
Project Manager

Date: 5/10/04 Telephone: 512/239-2200

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
LPST CORRECTIVE ACTION RESPONSE FORM

LPST-ID: 111747
4/26/2004 Proposal For: PSH REMOVAL

Pursuant to 30 TAC Section 334.82 (b), you are required to notify all parties affected by the contamination. If you determine that contamination from the release has migrated off-site, or if you are required by the TCEQ to conduct further assessment or other corrective actions off-site, then you are required to notify the affected landowner(s) within 30 days of documenting the impact. Please note that landowners may include state and local owners of right-of-way properties. For the purpose of this requirement, notice shall be through any means described in 30 TAC Section 334.82 (a). Please provide documentation that the affected landowner(s) has/have been notified within 30 days of notification. **Please note that failure to notify affected parties as required herein is grounds for formal enforcement proceedings.**

Please note that preapproval of this activity DOES NOT guarantee reimbursement. Eligibility is determined at the time of reimbursement application review. If the release is eligible, the preapproved amount is the maximum allowable for the proposed activities. The actual amount of reimbursement will be determined after the completed reimbursement application and all related receipts and invoices are submitted, and the completed activity is subject to technical and reimbursable cost review. In all instances, the completed work must be technically justifiable and should serve to advance the site in the corrective action process. The amount of preapproved work performed should be based on completion of the activity's objectives. Additionally, please also note that preapproved amounts include all eligible markup.

Claims for reimbursement should only be submitted after the completion of an annual cycle for remediation system operation and maintenance, and quarterly groundwater monitoring unless a more frequent filing period is previously approved by the PST Reimbursement Section. The Reimbursement Section can be reached at 512/239-2001.

cc: Barry Kalda, TCEQ Region 11 Field Office
1921 Cedar Bend, Suite 150, Austin, Texas 78758-5336
Phone: 512/339-2929 Fax: 512/339-3795

NAPL Reimbursement - MDPE Preapproval Worksheet

LPST # 111747
Facility #
Facility Name fed ex
Facility Address 5811 technicenter dr., austin
RPR Project Manager

No. of Events 1
Event Duration 24 hrs

A. Personnel

				Total
Report Preparation	=			\$260
Office Personnel	=			\$160
Field Personnel	=			\$2,320
PI-7 Exemption	=			\$0
Subtotal Subcont. Personnel		\$0		
Subcontractor Markup %		10%	=	\$0
Cost Proposal Preparation	=			\$115
A. Total Personnel				\$2,855

B. MDPE Equipment

				Total
DPE Equipment (Includes Holding Tank)	=			\$2,400
0 x		\$200	=	\$0
Bailers		4 x	=	\$32
Subtotal Subcontracted Equipment =		\$2,432		
Subcontractor Markup %		15%	=	\$365
B. Total Equipment				\$2,797

E. Waste Management

				Total
Vacuum Truck		4 x	=	\$300
Fluids Disposal		2,000 x	=	\$800
Dicharge Permit		0 x	=	\$0
Subtotal Subcontracted Waste Mgmt.		\$1,100		
Subcontractor Markup %		10%	=	\$110
E. Total Waste Management				\$1,210

Item	Proposed		Approved		App. - Prop. Difference
	Subcont.	Total	Subcont.	Total	
Personnel	\$0	\$930	\$0	\$2,855	\$1,925
Equipment	\$4,850	\$5,578	\$2,432	\$2,797	-\$2,781
Travel	\$0	\$280	\$0	\$158	-\$122
Analytical	\$407	\$471	\$284	\$328	-\$143
Waste	\$2,530	\$2,783	\$1,100	\$1,210	-\$1,573
Total	\$7,787	\$10,042	\$3,816	\$7,348	-\$2,694

C. Travel

				Total
MDPE Personnel Travel				
72-hr event		0	=	\$1,100
7-day event		0	=	\$1,700
Note: Travel costs for 8-hr and 24-hr event are part of DPE equipment				
MDPE Event Oversight				
Mileage (> 100 miles rt)		\$0 x	=	\$0.37 = \$0
Equipment Truck, days		0 x	=	\$140 = \$0
Travel Time		0 x	=	\$70 = \$0
Per Diem		0 x	=	\$80 = \$0
Gauging Visits				
Mileage		\$0 x	=	\$0 = \$0
Equipment Truck, days		1 x	=	\$140 = \$140
Travel Time		0 x	=	\$45 = \$18
Per Diem		0 x	=	\$80 = \$0
Subtotal Subcontracted Travel			=	\$0
Subcontractor Markup %			=	15% = \$0
C. Total Travel				\$158

D. Analytical

				Total
Influent Samples				
BTEX (a)		1 x	=	\$63 = \$63
TPH (a)		3 x	=	\$63 = \$188
Effluent Samples				
BTEX (a)		0 x	=	\$63 = \$0
TPH (a)		0 x	=	\$63 = \$0
Tedlar Bags		4 x	=	\$7.50 = \$30
Shipping		4 x	=	\$5 = \$20
Subtotal Subcontracted Analytical			=	\$284
Subcontractor Markup %			=	10% = \$28
D. Total Analytical				\$328

Total MDPE Reimbursable Cost (A+B+C+D+E) = \$7,348

*** MULTI TX/RX REPORT ***

TX/RX NO 3470
PGS. 5
TX/RX INCOMPLETE -----
TRANSACTION OK
(1) 9p19014349235
(2) 9p3393795
ERROR INFORMATION -----

TCEQ FAX TRANSMITTAL

LPST 111747

DATE: 5/10/04 NO. OF PAGES (including this sheet): 5

TO: Name MR JAMAL MANSOUR
Organization FEDERAL EXPRESS
Fax Number (901) 434-9235

FROM: TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
Name Scott Lawless
Project Manager
Telephone 512/239-2200
Fax Number 512/239-2216
Mail MC-137, PO Box 13087, Austin, Tx 78711-3087

NOTES: Response to Corrective Action Proposal(s) for
LPST #: 111747 , Facility ID: 0029044.
If you have any problems receiving this fax, please
call 512/239-2200 .

Releases from underground or aboveground storage tank systems that are reported to the TCEQ on or after September 1, 2003 must comply with the corrective action requirements of 30 TAC 350 (the Texas Risk Reduction Program rule). Information about the rule can be downloaded at www.tnrcc.state.tx.us/permitting/trrp.htm.

SEL **LPST# 111747**

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION
PETROLEUM STORAGE TANK
CORRESPONDENCE IDENTIFICATION SHEET

Date: April 26, 2004
 Site Name: Federal Express Corporation
 Site Address: 5811 Technicenter Drive, Austin, TX

LPST ID No.: 111747
 Facility ID No.: 0029044

Prop 19
[Signature]

This checklist **must** accompany all correspondence submitted to the RPR Section and should be affixed to the front of your submittal as a cover page. Please check the appropriate box for the type of correspondence which you have submitted to the RPR Section. Check all boxes that apply if you are submitting more than one type of correspondence. If you cannot find an appropriate category, please complete the "other" section.

PROPOSALS		
<input type="checkbox"/> Initial Abatement (1)	<input type="checkbox"/> Tank Removal (2)	<input type="checkbox"/> Excavation (3)
<input type="checkbox"/> Waste Treatment (4)	<input type="checkbox"/> Site Assessment (5)	<input type="checkbox"/> Aquifer Testing (6)
<input type="checkbox"/> VES/Sparge Testing (7)	<input type="checkbox"/> Qtrly. GW Monitoring (8)	<input type="checkbox"/> CAP Prep. (9)
<input type="checkbox"/> GW Extrac./Treatment (10)	<input type="checkbox"/> Soil Vapor Extrac. (11)	<input type="checkbox"/> Operation & Main. (12)
<input type="checkbox"/> Site Closure (13)	<input type="checkbox"/> Plan A Risk Ass. (14)	<input type="checkbox"/> Plan B Risk Ass. (15)
<input type="checkbox"/> Semi-annual GW Mon. (16)*	<input type="checkbox"/> Annual GW Mon. (18)	<input checked="" type="checkbox"/> Product Recovery (19)
<input type="checkbox"/> Other proposal _____		

REPORTING FORMS	
<input type="checkbox"/> Assessment Report Form (TNRCC-0562)	<input type="checkbox"/> Release Report Form (TNRCC-0621)
<input type="checkbox"/> Product Recovery Report Form (TNRCC-0016)	<input type="checkbox"/> Monitoring Event Summary and Status Report (TNRCC-0013)
<input type="checkbox"/> Site Closure Request Form (TNRCC-0028)	<input type="checkbox"/> Final Site Closure Report Form (TNRCC-0038)
<input type="checkbox"/> Other form _____	

REPORTS		
<input type="checkbox"/> Tank Closure/Removal	<input type="checkbox"/> Plan A Risk Assessment	<input type="checkbox"/> Annual Groundwater Monitoring
<input type="checkbox"/> O&M/Performance Mon.	<input type="checkbox"/> Plan B Risk Assessment	<input type="checkbox"/> CAP Installation/Modification
<input type="checkbox"/> Property Divestiture/Phase I ESA	<input type="checkbox"/> Corrective Action Plan (CAP)	<input type="checkbox"/> Aquifer/Pilot Test Results

MISCELLANEOUS	
<input type="checkbox"/> Off-site access assistance	<input type="checkbox"/> Deadline Extension Request
<input type="checkbox"/> Tank tightness test results	<input type="checkbox"/> Request for State-Lead
<input type="checkbox"/> Request for LPST Waste Code <input type="checkbox"/>	<input type="checkbox"/> Class V ReInjection Request
<input type="checkbox"/> Notice to Owner/Operator for CAS Services	<input type="checkbox"/> Petroleum-Substance Waste Manifest
<input type="checkbox"/> Underground Storage Tank Registration Form <input type="checkbox"/>	<input type="checkbox"/> Aboveground Storage Tank Registration Form
<input type="checkbox"/> Other (anything that does not fit into one of the categories above) _____	

Received
MAY 04 2004
TNRCC/PSST-RPR

* The proposal for semi-annual monitoring and annual report (Proposal Activity 17) has been discontinued. For semi-annual monitoring, use Proposal Activity 16.

WORKPLAN AND PREAPPROVAL REQUEST

LPST ID No.: 111747
Responsible Party: Federal Express Corporation
Property Owner: Federal Express Corporation
Facility Name: Federal Express Corporation
Facility Address: 5811 Technicenter Drive
Facility City: Austin
Facility ID No.: 0029044
TNRCC Region: 11
Case Priority: 4.1

Proposed Activity: 02 Phase-Separated Hydrocarbon (PSH) Recovery

Goal of Proposed Activity

The goal of the activity is to remove residual PSH observed in onsite monitor wells MW-1, MW-5 and MW-6.

Description of Activities

A single Mobile Dual-Phase Extraction (MDPE) event will be conducted on wells MW-1, MW-5, and MW-6. The event will be performed for a 24-hour period using a self-contained truck mounted MDPE unit. The MDPE unit will utilize a Kaiser liquid ring pump to achieve a vacuum pressure of 18 to 19 inches of Hg. Submersible pumps will be installed within the wells to lower the water table to the historic levels encountered during the January 2004 gauging event. Recovered liquid will be properly disposed offsite at an authorized facility. A 750-SCFM thermal oxidizer will be used to treat offgas VOCs with a minimum of 99.5% destruction efficiency. Influent and effluent air samples will be collected during the MDPE event. Influent samples will be collected at the beginning of the event (TPH), about half-way through (TPH/BTEX), and near the end (TPH). Effluent samples will be collected at the beginning (TPH/BTEX) to meet vapor emission permit requirements. Following the completion of the MDPE event, a water level gauging event will be conducted approximately 4 weeks later to document PSH levels.

Preapproval Request Forms

A PSH Recovery Preapproval Proposal form is attached for review.

Received

MAY 04 2004

TNRCC/PST-RPR

108 ppm
196
591

Initial Abatement/ICAP/PSH Removal Cost Proposal

LPST # 111747

Facility ID: 29044

Responsible Party: Federal Express Corporation Facility Name and Address: Federal Express 6011 Technicolor Drive, Austin, TX

Mark appropriate box(es): 01-1 Initial Abatement 02-1 Interim Corrective Action Plan 02-2 PSM Recovery

PRR

Interim Corrective Action Plan 30

Initial Abatement/ICAP/PSH Recovery

A. Personnel		Sub	Total
Report Preparation			260
Office Personnel			75
Field Personnel			480
Subtotal Subcontracted Personnel	60		
Subcontractor Markup %			115
Cost Proposal Preparation			930.00
A. Total Personnel			930.00

B. Equipment		# of Units	\$/Unit	Sub	Total
Batteries			\$0		\$0
Booster pumps			\$0		\$0
Cranes			\$0		\$0
Excavators (cm)			\$0		\$0
Excavators (6')			\$0		\$0
Generators			\$0		\$0
Boilers			\$0		\$0
2 4 hr MDPE	L	4850.00			4850
			\$0		\$0
			\$0		\$0
			\$0		\$0
			\$0		\$0
			\$0		\$0
Subtotal Subcontracted Equipment					4850
Subcontractor Markup %	10%			728	
B. Total Equipment					5578.00

C. Waste Management		# of Units	\$/Unit	Sub	Total
Water Truck		6	\$76		450
Dredging			\$0.40		2080
Subtotal Subcontracted Waste Mgmt					2530
Subcontractor Markup %	10%				253
C. Total Waste Management					2783

D. Travel		Units	\$/Unit	Sub	Total
Message (>100 mi)			\$0.31		\$0
One way message to site			\$40		\$0
Travel Time			\$0		\$0
Per diem			\$0		\$0
Airfare			\$0		\$0
Equipment Truck	2		\$140		280.00
Subtotal Subcontracted Travel					\$0
Subcontractor Markup %					
D. Total Travel					280.00

E. Other Expenses		Units	\$/Unit	Sub	Total
BTEX	2		\$62.50		125
IPH	4		\$62.50		250
Bags	4		\$8		32
Subtotal Subcontracted Other					15
Subcontractor Markup %					64
E. Total Other Expenses					241.00

F. Total Initial Abatement/PSH Recovery Proposed Cost = A+B+C+D+E = \$10,042.00

Prepared By: Shirley Ford HBC Engineering, Inc. 4/26/04
 (CAPM Name, Print) (Signature) (Company) (Date)
 (512) 442-1122 (512) 442-1181 (Phone #) (FAX #) (CAPM #) (Date)
 Prepared By: Shirley Ford HBC Engineering, Inc. 4/26/04
 (RCAS Rep Name, Print) (Signature of Representative) (Company) (Date)
 (512) 442-1122 (512) 442-1181 (Phone #) (FAX #) (RCAS #) (Date)

I acknowledge that the TNROC may reimburse corrective action costs that are at or below the maximum reimburse amount published in 30 TAC, Chapter 226, Subchapter 14. The maximum reimbursable cost will be the amount approved for the activity unless the Executive Director determines that sound justification for a cost surplus exists. I understand that this certification is not intended to limit what a Registered Corrective Action Board, Corrective Action Project Manager, or Contractor may charge. I further understand that the amount of the reimbursement for the above activity will be determined after all available site submissions and subjected to technical and reimbursable cost review. I certify that this TNROC form has not been altered.

Federal Express Corporation Janet L. Mansson Janet Mansson Federal Express Corporation
 (Name of Responsible Party) (Signature of Representative) (Name Printed) (Company)
 (501) 434-8228 (501) 434-8228 (Phone #) (FAX #) (Date) 4-26-04

TCEQ FAX TRANSMITTAL

LPST# 111747

DATE: 4/22/04 NO. OF PAGES (including this sheet): 4

TO: Name MR JAMAL MANSOUR
 Organization FEDERAL EXPRESS
 Fax Number (901) 434-9235

FROM: TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
 Name Scott Lawless
 Project Manager
 Telephone 512/239-2200
 Fax Number 512/239-2216
 Mail MC-137, PO Box 13087, Austin, Tx 78711-3087

NOTES: Response to Corrective Action Proposal(s) for
 LPST #: 111747 , Facility ID: 0029044.
 If you have any problems receiving this fax, please
 call 512/239-2200 .

Releases from underground or aboveground storage tank systems that are reported to the TCEQ on or after September 1, 2003 must comply with the corrective action requirements of 30 TAC 350 (the Texas Risk Reduction Program rule). Information about the rule can be downloaded at www.tnrcc.state.tx.us/permitting/trrp.htm.

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
LPST CORRECTIVE ACTION RESPONSE FORM

LPST-ID: 111747
3/23/2004 Proposal For: PSH REMOVAL

GENERAL INFORMATION

LPST-ID : 111747 Priority: 4.1
Responsible Party : FEDERAL EXPRESS Tel: 901/395-4064
Facility # & Name : 0029044 FEDERAL EXPRESS
Facility Address : 5811 TECHNI CENTER
Facility City : AUSTIN County: TRAVIS
CAPM & Name : CAPM01502 RUSSELL C. FORD
RCAS & Name : RCAS00387 HBC ENGINEERING, INC.

TCEQ TECHNICAL RESPONSE

Proposed activity is not approved for these technical reasons:

The TCEQ has reviewed and accepts the Product Recovery Report, dated March 19, 2004 with the following comment:

(1) The eight hour MDPE event was not success and was appropriately terminated after four hours. The hydrocarbon recovery rate was low.

The TCEQ has reviewed and accepts the Annual Groundwater Monitoring Report, dated March 19, 2004 with the following comment:

(1) The TCEQ requires that analytical method TPH(1005) be used to characterize groundwater contamination. This method allows an evaluation of three carbon chains. Please revise and re-submit the TPH analytical data currently presented in the Table "Groundwater Analytical Data Summary". The analytical data should be presented in three columns C6-C12, C12-C28 and C28-C35.

(2) The groundwater elevation map does not depict the groundwater gradient. Please revise and re-submit the map with groundwater gradient lines.

(3) In order for samples to be accepted by this Office, please ensure that a temperature blank is used on all sampling activities as required by the July 31, 2003 guidance memo.

The workplan and preapproval proposal to conduct an eight hour MDPE event is denied. The previous MDPE event used a drop tube which was unsuccessful probably due to insufficient watertable depression. Please submit a workplan and preapproval proposal to conduct a 24 hour MDPE event using a dual pump (submersible pump and a liquid ring pump) system. This system should be used to insure that the watertable is depressed to the depths recorded on January 27, 2004 when NAPL thicknesses were at the maximum recorded levels. Additionally, please include a groundwater gauging event to be conducted about one month after the MDPE event.

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
LPST CORRECTIVE ACTION RESPONSE FORM

LPST-ID: 111747
3/23/2004 Proposal For: PSH REMOVAL

TCEQ TECHNICAL RESPONSE

ACTIVITY COST SUMMARY

Proposed Cost:	5,140.00	Maximum Pre-Approved:	0.00
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Signature:


Scott Lawless
Project Manager

Date: 4/22/04 Telephone: 512/239-2200

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

LPST CORRECTIVE ACTION RESPONSE FORM

LPST-ID: 111747
3/23/2004 Proposal For: PSH REMOVAL

Pursuant to 30 TAC Section 334.82 (b), you are required to notify all parties affected by the contamination. If you determine that contamination from the release has migrated off-site, or if you are required by the TCEQ to conduct further assessment or other corrective actions off-site, then you are required to notify the affected landowner(s) within 30 days of documenting the impact. Please note that landowners may include state and local owners of right-of-way properties. For the purpose of this requirement, notice shall be through any means described in 30 TAC Section 334.82 (a). Please provide documentation that the affected landowner(s) has/have been notified within 30 days of notification. Please note that failure to notify affected parties as required herein is grounds for formal enforcement proceedings.

Please note that preapproval of this activity DOES NOT guarantee reimbursement. Eligibility is determined at the time of reimbursement application review. If the release is eligible, the preapproved amount is the maximum allowable for the proposed activities. The actual amount of reimbursement will be determined after the completed reimbursement application and all related receipts and invoices are submitted, and the completed activity is subject to technical and reimbursable cost review. In all instances, the completed work must be technically justifiable and should serve to advance the site in the corrective action process. The amount of preapproved work performed should be based on completion of the activity's objectives. Additionally, please also note that preapproved amounts include all eligible markup.

Claims for reimbursement should only be submitted after the completion of an annual cycle for remediation system operation and maintenance, and quarterly groundwater monitoring unless a more frequent filing period is previously approved by the PST Reimbursement Section. The Reimbursement Section can be reached at 512/239-2001.

cc: Barry Kalda, TCEQ Region 11 Field Office
1921 Cedar Bend, Suite 150, Austin, Texas 78758-5336
Phone: 512/339-2929 Fax: 512/339-3795

*** MULTI TX/RX REPORT ***

TX/RX NO 3081
PGS 4
TX/RX INCOMPLETE
TRANSACTION OK
(1) 9p19014349235
(2) 9p3383795
ERROR INFORMATION

TCEQ FAX TRANSMITTAL

LPST# 111747

DATE: 4/22/04 NO. OF PAGES (including this sheet): 4

TO: Name MR JAMAL MANSOUR
Organization FEDERAL EXPRESS
Fax Number (901) 434-9235

FROM: TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
Name Scott Lawless
Project Manager
Telephone 512/239-2200
Fax Number 512/239-2216
Mail MC-137, PO Box 13087, Austin, Tx 78711-3087

NOTES: Response to Corrective Action Proposal(s) for
LPST #: 111747 , Facility ID: 0029044.
If you have any problems receiving this fax, please
call 512/239-2200 .

Releases from underground or aboveground storage tank systems that are reported to the TCEQ on or after September 1, 2003 must comply with the corrective action requirements of 30 TAC 350 (the Texas Risk Reduction Program rule). Information about the rule can be downloaded at www.tnrcc.state.tx.us/permitting/trrp.htm.

TCEQ FAX TRANSMITTAL

DATE: 4/30/03

NO. OF PAGES (including this sheet):

8

TO: Name MR JAMAL MANSOUR
Organization FEDERAL EXPRESS
Fax Number (901) 434-9235

FROM: TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
Name Scott Lawless
Project Manager
Telephone 512/239-2200
Fax Number 512/239-2216
Mail MC-137, PO Box 13087, Austin, Tx 78711-3087

NOTES: Response to Corrective Action Proposal(s) for
LPST #: 111747 , Facility ID: 0029044.
If you have any problems receiving this fax, please
call 512/239-2200 .

Please note that new Corrective Action Preapproval Forms have been required since September 1, 1995. The forms are available at no cost by downloading from the TCEQ Bulletin Board Services (BBS) (512/239-0700), or over the Internet at <http://www.tceq.state.tx.us>. You may also order the forms on diskette from the TCEQ, MC-195, P.O. Box 13088, Austin, TX 78711-3088 (please specify the Corrective Action Preapproval Forms on diskette). A pamphlet with reproducible forms is available at no cost by calling TCEQ Publications at 512/239-0028.

Please note that all LPST corrective action proposals and reports need to be prepared by an environmental contracting/consulting firm registered as a Corrective Action Specialist (CAS) and need to have the the signatures and registration numbers of both the CAS and registered Corrective Action Project Manager (CAPM) included pursuant to Title 30, Texas Administrative Code (TAC), Subchapter J. Any proposal that has been prepared by a consulting firm not registered as a CAS by the Texas Commission on Environmental Quality (TCEQ), or which does not include the signature and registration number of the Project Manager may be rejected. Please reserve the use of the telefax machines for submitting proposals and data for LPST cases that rank as new priority 1's and for emergency abatement activities.

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
LPST CORRECTIVE ACTION RESPONSE FORM

LPST-ID: 111747

3/26/2003 Proposal For: SEMI-ANNUAL & ANNUAL GW MONITORING (2 EVENTS/YR)

GENERAL INFORMATION

LPST-ID : 111747 Priority: 4.1
Responsible Party : FEDERAL EXPRESS Tel: 901/395-4064
Facility # & Name : 0029044 FEDERAL EXPRESS
Facility Address : 5811 TECHNI CENTER
Facility City : AUSTIN County: TRAVIS
CAPM & Name : CAPM01502 RUSSELL C. FORD
RCAS & Name : RCAS00387 HBC ENGINEERING, INC.

TCEQ TECHNICAL RESPONSE

Proposed activity is approved with the following modifications:

This approval is for two quarterly groundwater monitoring events to be completed after the preapproved MDPE event for the 11 existing monitor wells. Groundwater should be sampled for BTEX/MTBE/TPH (1005) or BTEX/MTBE. Upon completion of monitoring activities, please submit an Annual Groundwater Monitoring Report, along with a workplan and cost proposal for the next appropriate phase of corrective action. Please incorporate the following modifications into your monitoring program:

(1) Analyze samples from monitor wells MW-1 through MW-6 and MW-11 for BTEX/MTBE/TPH.

(2) Analyze samples from monitor wells MW-7 through MW-10 for BTEX/MTBE. No TPH analysis is necessary for these monitor wells as levels have remained stable and/or below action levels (5ppm).

Proposed costs shown are for a total of 8 BTEX/MTBE and 14 BTEX/MTBE/TPH (1005) groundwater samples.

If a reduced scope of work is completed, the maximum reimbursable costs will be adjusted accordingly.

PLEASE NOTE THAT YOU ARE REQUIRED TO NOTIFY THE APPROPRIATE TCEQ FIELD OFFICE NO LATER THAN 10 DAYS IN ADVANCE OF CONDUCTING THE APPROVED ACTIVITY.

PLEASE BE AWARE THAT DUE TO NEW STATUTORY DEADLINES THE APPROVED ACTIVITIES MUST BE COMPLETED AND REPORTED TO THIS OFFICE BY JULY 30, 2004. FAILURE TO MEET THIS DEADLINE MAY RESULT IN FORFEITURE OF REIMBURSEMENT ELIGIBILITY, AND ENFORCEMENT ACTIONS UNDER CHAPTER 7 OF THE TEXAS WATER CODE.

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
LPST CORRECTIVE ACTION RESPONSE FORM

LPST-ID: 111747

3/26/2003 Proposal For: SEMI-ANNUAL & ANNUAL GW MONITORING (2 EVENTS/YR)

TCEQ TECHNICAL RESPONSE

ACTIVITY COST SUMMARY

Proposed Cost:	7,926.00	Maximum Pre-Approved:	7,260.00
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Signature:


Scott Lawless
Project Manager

Date: 4/30/03 Telephone: 512/239-2200


TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
LPST CORRECTIVE ACTION RESPONSE FORM

LPST-ID: 111747
3/26/2003 Proposal For: PSH REMOVAL

GENERAL INFORMATION

LPST-ID	: 111747	Priority: 4.1	
Responsible Party	: FEDERAL EXPRESS		Tel: 901/395-4064
Facility # & Name	: 0029044	FEDERAL EXPRESS	
Facility Address	: 5811	TECHNI CENTER	
Facility City	: AUSTIN		County: TRAVIS
CAPM & Name	: CAPM01502	RUSSELL C. FORD	
RCAS & Name	: RCAS00387	HBC ENGINEERING, INC.	

TCEQ TECHNICAL RESPONSE

Proposed activity is approved with the following modifications:

This office has completed its review of the proposal for product recovery utilizing Mobile Dual Phase Extraction (MPDE) technology. This preapproval is for one 8-hour MDPE event; however, if a reduced scope of work is completed, the maximum reimbursable cost will be adjusted accordingly. Following completion of the MDPE event, a Product Recovery Report should be submitted. Please note the following comments regarding this proposal:

1. We have observed that successful NAPL removal generally occurs when groundwater elevations are low; therefore, MDPE events should not be conducted unless the "smear zone" is exposed under natural conditions. After reviewing historic groundwater elevation data for the site, a decision on whether to mobilize for an MDPE event should be made based on current NAPL thickness and groundwater elevations.
2. If additional MDPE events are proposed for NAPL removal following completion of the this preapproved event, please include the following information in your proposal: an estimate of the quantity of NAPL remaining, an estimate of the mass recovery rate, and an estimate of the time required to remove the remaining NAPL.
3. Please note that influent air samples should be sampled at the beginning of the pilot test (TPH only), half-way through the pilot test (TPH\BTEX), and toward the end (TPH). Effluent air samples should be sampled at the beginning of the pilot test (TPH\BTEX) to meet vapor emission permit (PI-7) requirements. The preapproved dollar amount shown below includes costs for 2 BTEX and 4 TPH air samples.
4. During each event after gauging all the wells, at least evacuate total fluids from all the wells that contain NAPL greater than 0.1 feet (15 minutes per well) without sealing off the well casing. Then proceed with dual phase extraction.

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
LPST CORRECTIVE ACTION RESPONSE FORM

LPST-ID: 111747
3/26/2003 Proposal For: PSH REMOVAL

TCEQ TECHNICAL RESPONSE

5. Please make sure that the instrument (FID, PID) used to monitor the influent vapor concentrations is calibrated with a standard gas that has similar response to the instrument as the of gasoline vapors. Check with the manufacturer of the instrument to select the appropriate calibration gas.

You are required to notify the appropriate TCEQ field office no later than 10 days in advance of conducting the approved activity.

ACTIVITY COST SUMMARY

Proposed Cost:	5,140.00	Maximum Pre-Approved:	5,611.00
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Signature: Scott Lawless

Scott Lawless
Project Manager

Date: 4/30/03 Telephone: 512/239-2200



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
LPST CORRECTIVE ACTION RESPONSE FORM

LPST-ID: 111747
3/26/2003 Proposal For: PSH REMOVAL

Pursuant to 30 TAC Section 334.82 (b), you are required to notify all parties affected by the contamination. If you determine that contamination from the release has migrated off-site, or if you are required by the TCEQ to conduct further assessment or other corrective actions off-site, then you are required to notify the affected landowner(s) within 30 days of documenting the impact. Please note that landowners may include state and local owners of right-of-way properties. For the purpose of this requirement, notice shall be through any means described in 30 TAC Section 334.82 (a). Please provide documentation that the affected landowner(s) has/have been notified within 30 days of notification. **Please note that failure to notify affected parties as required herein is grounds for formal enforcement proceedings.**

Please note that preapproval of this activity DOES NOT guarantee reimbursement. Eligibility is determined at the time of reimbursement application review. If the release is eligible, the preapproved amount is the maximum allowable for the proposed activities. The actual amount of reimbursement will be determined after the completed reimbursement application and all related receipts and invoices are submitted, and the completed activity is subject to technical and reimbursable cost review. In all instances, the completed work must be technically justifiable and should serve to advance the site in the corrective action process. The amount of preapproved work performed should be based on completion of the activity's objectives. Additionally, please also note that preapproved amounts include all eligible markup.

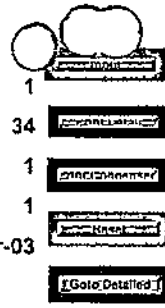
Claims for reimbursement should only be submitted after the completion of an annual cycle for remediation system operation and maintenance, and quarterly groundwater monitoring unless a more frequent filing period is previously approved by the PST Reimbursement Section. The Reimbursement Section can be reached at 512/239-2001.

cc: Barry Kalda, TCEQ Region 11 Field Office
1921 Cedar Bend, Suite 150, Austin, Texas 78758-5336
Phone: 512/339-2929 Fax: 512/339-3795

Activity 02: PSH Re  eapproval Worksheet

TNRCC #:
 LPST #: 111747
 Facility #:
 Facility Name: fed express
 Facility address: 5811 Technicenter Dr., Austin

Number of wells: 1
 Depth to fluid: 34
 Number of events: 1
 Number of months: 1
 Date: 28-Apr-03
 Prepared by: sel



A. Personnel

A. Personnel

		Total
Report Preparation	=	\$260
Office Personnel	=	\$75
Field Personnel	=	\$480
Subtotal Subcontracted Personnel	\$0	
Subcontractor Markup %	10% =	\$0
Cost Proposal Preparation	=	\$115
A. Total Personnel		\$930

B. Equipment

	# of Units	\$/Unit	Total
Absorbent Socks	0 x	\$10 =	\$0
Passive Skimmer (Sm)	0 x	\$350 =	\$0
Passive Skimmer (Lg)	0 x	\$750 =	\$0
Dedicated PVC Bailer	0 x	\$15 =	\$0
Drums	0 x	\$40 =	\$0
Small Items	0 x	\$20 =	\$0
	0 x	\$0 =	\$0
8-hr MDPE event	1 x	\$3,250 =	\$3,250
xxx	0 x	\$0 =	\$0
Subtotal Subcontracted Equipment =		\$3,250	
Subcontractor Markup %	15% =		\$487
B. Total Equipment			\$3,737

C. Waste Management

C. Waste Management

	# of Units	\$/Unit	Total
Water Truck	4 x	\$75 =	\$300
Disposal	500 x	\$0.40 =	\$200
Subtotal Subcontracted Waste Mgmt.		\$362	
Subcontractor Markup %	10% =		\$36
C. Total Waste Management			\$536

D. Travel

	Units	\$/Unit	Total
Mileage (>100 r.t.)	0 x	\$0.37 =	\$0
One way mileage to site		10	
Travel Time	0 x	\$58 =	\$0
Per diem	0 x	\$80 =	\$0
Airfare	1 x	\$0 =	\$0
Equipment Truck	1 x	\$140 =	\$140
Subtotal Subcontracted Travel		\$0	
Subcontractor Markup %	15% =		\$0
D. Total Travel			\$140


E. Other Expenses

	Units	\$/Unit	Total
btex	2 x	\$63 =	\$125
tph	4 x	\$63 =	\$250
air bags	4 x	\$8 =	\$32
Subtotal Subcontracted Other		\$427	
Subcontractor Markup %	15% =		\$64
E. Total Other Expenses			\$471

Total NAPL Recovery Activity Costs (A+B+C+D+E) = \$5,815

	Proposed		Approved		App.- Prop.
	Amt. Sub'd	Total	Subcontracted	Total	Difference
Personnel	\$0	\$565	\$0	\$930	\$365
Equipment	\$3,250	\$3,738	\$3,250	\$3,737	(\$1)
Waste	\$470	\$697	\$362	\$536	(\$161)
Travel	\$0	\$140	\$0	\$140	\$0
Other	\$0	\$0	\$427	\$471	\$471
Total	\$3,720	\$5,140	\$4,038	\$5,815	\$675

+471 ←
 \$5,611

Activity 07:  Water Monitoring Preapproval W 

TNRCC #: LPST #: 111747
 Facility #: 111747
 Facility Name: federal express
 Facility address: 5811 technicenter dr., austin

Quarter: # of Wells:
 1st 11
 2nd 11
 3rd 0
 4th 0
 Average Well Depth: 37
 Prepared By: sel
 Date: 28-Apr-03

A. Personnel

	# of Units	\$/Unit	Total
Fixed Annual		=	\$840
1st Event	x	=	\$690
2nd Event	x	=	\$690
3rd Event	x	=	\$0
4th Event	x	=	\$0
Subtotal Subcontracted Personnel	=	\$0	
Subcontractor Markup %	=	10% =	\$0
Cost Proposal Preparation		=	\$115
A. Total Personnel			\$2,335

B. Equipment Costs

	# of Units	\$/Unit	Total
Disposable Bailers	22 x	\$8 =	\$176
Small Items	4 x	\$20 =	\$80
Drums (55-gallon, for purge water)	10 x	\$40 =	\$400
(Other)	x	=	\$0
(Other)	x	=	\$0
Subtotal Subcontracted Equipment	=	\$0	
Subcontractor Markup %	=	15% =	\$0
A. Total Equipment			\$656

C. Waste Management

	# of Units	\$/Unit	Total
Vacuum Truck	3 x	\$75	\$225
Fluid Disposal	550 x	\$0.40	\$220
Sub. H Discharge/Alt. Disposal Method	x By Need	=	\$0
Subtotal Subcontracted Waste Mgt.	=	\$337	
Subcontractor Markup %	=	10% =	\$34
A. Total Waste Management			\$479

D. Analytical Costs

	# of Units	\$/Unit	Total
BTEX/MTBE	8 x	\$85 =	\$680
TNRCC 1009/BTEX/MTBE	14 x	\$148 =	\$2,085
TDS	0 x	\$15	\$0
PAH(610)	0 x	\$158	\$0
PAH(8270)	0 x	\$249	\$0
Chlorides	0 x	\$18	\$0
Iron	0 x	\$10	\$0
Nitrates	0 x	\$24	\$0
Phosphates	0 x	\$24 =	\$0
Sulfates	0 x	\$24	\$0
Tot. Org. Carbon (TOC)	0 x	\$32	\$0
Shipping	36 x	\$5	\$180
(Other)	0 x	\$0	\$0
(Other)	0 x	\$0	\$0
Subtotal Subcontracted Analytical	=	\$2,735	
Subcontractor Markup %	=	10% =	\$273
D. Total Analytical			\$3,198

E. Travel

	Units	\$/Unit	Total
Mileage (>100 r.t.)	0 x	\$0.37 =	\$0
One way mileage to site	=	10	
Travel Time	1 x	\$40 =	\$32
Per diem	0 x	\$80 =	\$0
Airfare	2 x	\$0 =	\$0
Equipment Truck	4 x	\$140 =	\$560
Subtotal Subcontracted Travel	=	\$0	
Subcontractor Markup %	=	15% =	\$0
D. Total Travel			\$592

Total Groundwater Monitoring Activity Costs (A+B+C+D+E) = \$7,260

Item	Proposed		Approved		Approved - Proposed Difference
	Subcontracted	Total	Subcontracted	Total	
Personnel	0	2195	0	2335	140
Equipment	0	496	0	658	160
Waste Management	590	839	337	479	-360
Analytical	3519	4116	2735	3198	-918
Travel	0	280	0	592	312
Total	4109	7926	3071	7260	-666

TRANSACTION REPORT

P. 01

APR-30-2003 WED 11:07 AM

BROADCAST

DATE	START	RECEIVER	TX TIME	PAGES	TYPE	NOTE	M#	DP
APR-30	10:59 AM	9-19014349235	4' 37"	8	SEND	OK	970	
	11:04 AM	9-3393795	2' 46"	8	SEND	OK	970	
TOTAL :						7M 23S	PAGES: 16	

TCEQ FAX TRANSMITTAL

DATE: 4/30/03 NO. OF PAGES (including this sheet): 8

TO: Name MR JAMAL MANSOUR
 Organization FEDERAL EXPRESS
 Fax Number (901) 434-9235

FROM: TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
 Name Scott Lawless
Project Manager
 Telephone 512/239-2200
 Fax Number 512/239-2216
 Mail MC-137, PO Box 13087, Austin, Tx 78711-3087

NOTES: Response to Corrective Action Proposal(s) for LPST #: 111747 , Facility ID: 0029044.

**TEXAS NATURAL RESOURCE CONSERVATION COMMISSION
PETROLEUM STORAGE TANK
CORRESPONDENCE IDENTIFICATION SHEET**

*LPST
117747
RPR
3/17*

Date: March 11, 2003
Site Name: Federal Express Corporation
Site Address: 5811 Technicenter Drive, Austin, TX

SEL

LPST ID No.: 111747
Facility ID No.: 0029044

This checklist **must** accompany all correspondence submitted to the RPR Section and should be affixed to the front of your submittal as a cover page. Please check the appropriate box for the type of correspondence which you have submitted to the RPR Section. Check all boxes that apply if you are submitting more than one type of correspondence. If you cannot find an appropriate category, please complete the "other" section.

PROPOSALS

- | | | |
|---|---|---|
| <input type="checkbox"/> Initial Abatement (1) | <input type="checkbox"/> Tank Removal (2) | <input type="checkbox"/> Excavation (3) |
| <input type="checkbox"/> Waste Treatment (4) | <input type="checkbox"/> Site Assessment (5) | <input type="checkbox"/> Aquifer Testing (6) |
| <input type="checkbox"/> VES/Sparge Testing (7) | <input type="checkbox"/> Qtrly. GW Monitoring (8) | <input type="checkbox"/> CAP Prep. (9) |
| <input type="checkbox"/> GW Extrac./Treatment (10) | <input type="checkbox"/> Soil Vapor Extrac. (11) | <input type="checkbox"/> Operation & Main. (12) |
| <input type="checkbox"/> Site Closure (13) | <input type="checkbox"/> Plan A Risk Ass. (14) | <input type="checkbox"/> Plan B Risk Ass. (15) |
| <input checked="" type="checkbox"/> Semi-annual GW Mon. (16)* | <input type="checkbox"/> Annual GW Mon. (18) | <input checked="" type="checkbox"/> Product Recovery (19) |
| <input type="checkbox"/> Other proposal _____ | | |

REPORTING FORMS

- | | |
|--|--|
| <input type="checkbox"/> Assessment Report Form (TNRCC-0562) | <input type="checkbox"/> Release Report Form (TNRCC-0621) |
| <input type="checkbox"/> Product Recovery Report Form (TNRCC-0016) | <input type="checkbox"/> Monitoring Event Summary and Status Report (TNRCC-0013) |
| <input type="checkbox"/> Site Closure Request Form (TNRCC-0028) | <input type="checkbox"/> Final Site Closure Report Form (TNRCC-0038) |
| <input type="checkbox"/> Other form _____ | |

REPORTS

- | | | |
|---|---|--|
| <input type="checkbox"/> Tank Closure/Removal | <input type="checkbox"/> Plan A Risk Assessment | <input type="checkbox"/> Annual Groundwater Monitoring |
| <input type="checkbox"/> O&M/Performance Mon. | <input type="checkbox"/> Plan B Risk Assessment | <input type="checkbox"/> CAP Installation/Modification |
| <input type="checkbox"/> Property Divestiture/Phase I ESA | <input type="checkbox"/> Corrective Action Plan (CAP) | <input type="checkbox"/> Aquifer/Pilot Test Results |

MISCELLANEOUS

- | | |
|--|---|
| <input type="checkbox"/> Off-site access assistance | <input type="checkbox"/> Deadline Extension Request |
| <input type="checkbox"/> Tank tightness test results | <input type="checkbox"/> Request for State-Lead |
| <input type="checkbox"/> Request for LPST Waste Code | <input type="checkbox"/> Class V Reinjection Request |
| <input type="checkbox"/> Notice to Owner/Operator for CAS Services | <input type="checkbox"/> Petroleum-Substance Waste Manifest |
| <input type="checkbox"/> Underground Storage Tank Registration Form | <input type="checkbox"/> Aboveground Storage Tank Registration Form |
| <input type="checkbox"/> Other (anything that does not fit into one of the categories above) _____ | |

**Received
MAR 31 2003
TNRCC/RPR**

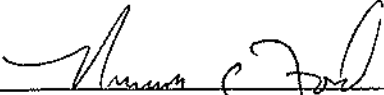
* The proposal for semi-annual monitoring and annual report (Proposal Activity 17) has been discontinued. For semi-annual monitoring, use Proposal Activity 16.

I attest that all work has been conducted in accordance with accepted industry standards/practices and adhered to TNRCC guidance and rules. I certify that I am aware that misrepresentation of any of the above claims is a violation of 30 TAC 334.453(b)(1)(E) and that this violation may result in the disciplinary actions set forth in 30 TAC 334.453 and or 334.463 and 334.465.

If a proposal is attached for preapproval, has the proposed work, in part or in whole, already been performed or in progress?

If yes, what work? _____

HBC Engineering _____ 825 _____ 2/25/04 _____
(Registered Corrective Action Specialist) (RCAS Reg. No.) (Expiration date)

 _____ 3/27/03 _____
(Signature) (Date)
(512) 442-1122 _____ (512) 442-1181 _____
(Telephone #) (FAX #)


Russell C. Ford _____ 1502 _____ 5/9/04 _____
(Project Manager) (CAPM Reg. No.) (Expiration date)

 _____ 3/27/03 _____
(Signature) (Date)

(512) 442-1122 _____ (512) 442-1181 _____
(Telephone #) (FAX #)

By signature below, I certify that documents checked above are included.

Mr. Jamal Mansour _____ Federal Express Corporation _____
(Name of Responsible Party Contact) (Company)

 _____ 3/26/03 _____
(Signature) (Date)

(901) 434-8458 _____ (901) 434-9235 _____
(Telephone #) (FAX #)

WORKPLAN AND PREAPPROVAL REQUEST

LPST ID No.: 111747
Responsible Party: Federal Express Corporation
Property Owner: Federal Express Corporation
Facility Name: Federal Express Corporation
Facility Address: 5811 Technicenter Drive
Facility City: Austin
Facility ID No.: 0029044
TNRCC Region: 11
Case Priority: 4.1

Proposed Activity: 07-1 Quarterly Monitoring

Goal of Proposed Activity

The goal of the proposed activity is to monitor the existing groundwater monitor wells in order to verify plume stability at the site.

Description of Activities

Each of the existing groundwater monitor wells (MW-1 through MW-11) will be sampled and analyzed on a quarterly basis for a period of 6-months (2 sampling events), beginning within the first month subsequent to TCEQ approval.

Groundwater samples will be collected from each of the existing onsite monitor wells not containing phase-separated hydrocarbons (PSH).

Sampling Procedures

The depth to phase-separated hydrocarbons and/or groundwater will be measured in each well. For each well not containing PSH, a minimum of three well volumes (or until dry) will be bailed.

One groundwater sample will be collected from each groundwater monitor well not containing PSH, upon completion of well purging. The groundwater samples will be collected and analyzed for TPH, BTEX, and MTBE, in accordance with EPA-approved methods. The sample containing the highest TPH concentration will also be analyzed for PAH.

Reporting of Activities

Upon the completion of the second quarterly sampling event, a Groundwater Monitoring Report will be completed and submitted to the TCEQ, in accordance with TCEQ guidelines.

Waste Management

Purged groundwater will be temporarily stored on-site in a DOT approved steel drum, pending the results of laboratory analysis. Subsequent to the second quarterly event, the purged groundwater will be properly disposed of in an authorized facility.

Preapproval Request Forms

A Groundwater Monitoring Cost Proposal form is attached for review.

Groundwater Monitoring Cost Proposal

LPST #

131747

Facility ID

29044

Responsible Party Federal Express Corporation

Facility Name and Address

Federal Express, 5811 Technicenter Drive, Austin, TX

Mark appropriate activity:

- 07-1 Quarterly Monitoring (4 events/yr + Annual Report)
- 07-2 Semi-Annual Monitoring (1 event w/MESSR)
- 07-3 Annual Monitoring (1 event w/Annual Report)
- 07-4 Semi & Annual Monitoring (2 events + Annual Report)

PRINT

A. Personnel

	Year	# of Wells	Avg. Depth	Sub	Total
Fixed Annual					\$840
1st Event	2003	11	37		\$820
2nd Event	2003	11	37		\$620
3rd Event					
4th Event					
Subtotal Subcontracted Personnel			\$0		
Subcontractor Markup %					\$0
Cost Proposal Preparation					\$115
A. Total Personnel					\$2,195

B. Equipment

	Units	\$/Unit	Sub	Total
Disposable Baiters	22	\$8		\$176
Small Pumps	2	\$20		\$40
Drums	7	\$40		\$280
		\$0		\$0
		\$0		\$0
Subtotal Subcontracted Equipment		\$0		\$0
Subcontractor Markup %				\$0
B. Total Equipment				\$496

C. Waste Management

	Units	\$/Unit	Sub	Total
Vacuum Truck	8	\$75		\$450
Fluid Disposal	825	\$0.40		\$330
Sub Hr or A/R Disp.		\$0		\$0
Subtotal Subcontracted Waste Mgmt.		\$580		\$580
Subcontractor Markup %		10%		\$59
C. Total Waste Management				\$639

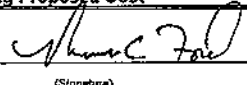
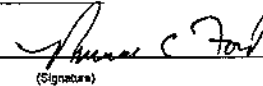
D. Analytical

Type	# Samples	\$/Unit	Sub	Total
TPH/BTEX	x	\$0		\$0
TPH/BTEX/MTBE	22	\$148		\$3,256
TDS	x	\$0		\$0
PAH(810)	x	\$0		\$0
PAH(8270)	2	\$249		\$498
Chlorides	x	\$0		\$0
Iron	x	\$0		\$0
Nitrates	x	\$0		\$0
Phosphates	x	\$0		\$0
Sulfates	x	\$0		\$0
		\$0		\$0
		\$0		\$0
Shipping	2	\$5		\$10
Subtotal Subcontracted Analytical		\$3,518		\$3,518
Subcontractor Markup %		10%		\$352
D. Total Analytical				\$4,116

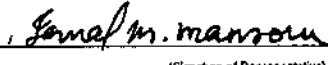
E. Travel

Type	# Samples	\$/Unit	Sub	Total
Equipment Truck	2	\$140		\$280
One way mileage to site				
Mileage (>100 rt)	x	\$0.31		\$0
Travel Time	x	\$40		\$0
Per Diem	x	\$80		\$0
Airfare	x	\$0		\$0
Subtotal Subcontracted Travel		\$0		\$0
Subcontractor Markup %				\$0
E. Total Travel				\$280

F. Total Groundwater Monitoring Proposed Cost **A+B+C+D+E = \$7,926**

Russell C. Ford (CAPM Name, Printed) (512) 442-1122 (Phone #)	 (Signature)	3/27/03 HBC Engineering, Inc. (Company) 1502 (CAPM #) HBC Engineering, Inc. (Company) 397 (RCAS #)	May 28, 2001 (Date) May 9, 2002 (Exp. Date) May 28, 2001 (Date) May 30, 2003 (Exp. Date)
Russell C. Ford (RCAS Rep. Name, Printed) (512) 442-1122 (Phone #)	 (Signature)	3/27/03 HBC Engineering, Inc. (Company) 397 (RCAS #)	May 28, 2001 (Date) May 30, 2003 (Exp. Date)

I acknowledge that the TNRCC may reimburse corrective action activity costs that are at or below the maximum reimbursable amount published in 30 TAC, Chapter 334, Subchapter M. The maximum reimbursable cost will be the amount approved for the activity unless the Executive Director determines that sound justification for a cost surplus exists. I understand that this certification is not intended to limit what a Registered Corrective Action Specialist, Corrective Action Project Manager, or Contractor may charge. I further understand that the amount of the reimbursement for the above activity will be determined after all receipts are submitted and subjected to technical and reimbursable cost review. I certify that this TNRCC form has not been altered.

Federal Express Corporation (Name of Responsible Party) (801) 434-8458 (Phone #)	 (Signature of Representative) 901-434-9235 (Fax #)	Jamal Mansour (Name Printed) (801) 434-9235 (Date)	Federal Express Corporation (Company) 3-26-03 (Date)
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WORKPLAN AND PREAPPROVAL REQUEST

LPST ID No.: 111747
Responsible Party: Federal Express Corporation
Property Owner: Federal Express Corporation
Facility Name: Federal Express Corporation
Facility Address: 5811 Technicenter Drive
Facility City: Austin
Facility ID No.: 0029044
TNRCC Region: 11
Case Priority: 4.1

Proposed Activity: 02 Phase-Separated Hydrocarbon (PSH) Recovery

Goal of Proposed Activity

The goal of the activity is to remove residual PSH observed in onsite monitor well MW-6.

Description of Activities

A single Mobile Dual-Phase Extraction (MDPE) event will be conducted on well MW-6. The event will be performed for an 8-hour period using a self-contained truck mounted MDPE unit. Recovered PSH and water will be properly disposed offsite at an authorized facility.

Preapproval Request Forms

A PSH Recovery Preapproval Proposal form is attached for review.

Initial Abatement/ICAP/PSH Removal Cost Proposal

LPST # 111747

Facility ID: 29044

Responsible Party: Federal Express Corporation Facility Name and Address: Federal Express, 5811 Technicenter Drive, Austin, TX

Mark appropriate activity: 01-1 Initial Abatement 02-1 Interim Corrective Action Plan 02-2 PSH Recovery

Print

Interim Corrective Action Plan \$0

Initial Abatement/Manual PSH Removal

A. Personnel

	Sub.	Total
Report Preparation	—	—
Office Personnel	—	\$0
Field Personnel	—	\$450
Subtotal Subcontracted Personnel	\$0	
Subcontractor Markup %	0	\$0
Cost Proposal Preparation	—	\$116
A. Total Personnel		\$566

B. Equipment

	# of Units	\$/Unit	Sub.	Total
Balers	—	\$0	—	\$0
Small Items	—	\$0	—	\$0
Drums	—	\$0	—	\$0
Skimmers (sm)	—	\$0	—	\$0
Skimmers (lg)	—	\$0	—	\$0
Canisters	—	\$0	—	\$0
Sorbents	—	\$0	—	\$0
MOPE Event	1	\$3,250	—	\$3,250
—	—	\$0	—	\$0
—	—	\$0	—	\$0
—	—	\$0	—	\$0
—	—	\$0	—	\$0
—	—	\$0	—	\$0
Subtotal Subcontracted Equipment		\$3,250		
Subcontractor Markup %	15%			\$488
B. Total Equipment				\$3,738

C. Waste Management

	# of Units	\$/Unit	Sub.	Total
Water Truck	6	\$75	—	\$450
Disposal	500	\$0.40	—	\$200
Subtotal Subcontracted Waste Mgmt.		\$470		
Subcontractor Markup %		10%		\$47
C. Total Waste Management				\$697

D. Travel

	Units	\$/Unit	Sub.	Total
Mileage (>100 mi)	—	\$0.31	—	\$0
One-way mileage to site	—	—	—	—
Travel Time	—	\$40	—	\$0
Per diem	—	\$0	—	\$0
Airfare	—	\$0	—	\$0
Equipment Truck	1	\$140	—	\$140
Subtotal Subcontracted Travel		\$0		
Subcontractor Markup %				\$0
D. Total Travel				\$140

E. Other Expenses

	Units	\$/Unit	Sub.	Total
—	—	\$0	—	\$0
—	—	\$0	—	\$0
—	—	\$0	—	\$0
Subtotal Subcontracted Other		\$0		
Subcontractor Markup %				\$0
E. Total Other Expenses				\$0

F. Total Initial Abatement/PSH Recovery Proposed Cost = A+B+C+D+E = \$5,140

Russell C. Ford, *Russell C. Ford*, 3/27/03, HBC Engineering, Inc., May 28, 2001
 (CAPM Name, Printed) (Signature) (Company) (Date)
 (512) 442-1122 (512) 442-1181, 1502, May 9, 2004
 (Phone #) (FAX #) (CAPM #) (Exp. Date)
 Russell C. Ford, *Russell C. Ford*, 3/27/03, HBC Engineering, Inc., May 28, 2004
 (RCAS Rep. Name, Printed) (Signature of Representative) (Company) (Date)
 (512) 442-1122 (512) 442-1181, 387, 3/25/04
 (Phone #) (FAX #) (RCAS #) (Exp. Date)

I acknowledge that the TNRC may reimburse corrective action costs that are at or below the maximum reimbursable amount published in 30 TAC, Chapter 334, Subchapter M. The maximum reimbursable cost will be the amount approved for the activity unless the Executive Director determines that sound justification for a cost surplus exists. I understand that this certification is not intended to limit what a Registered Corrective Action Specialist, Corrective Action Project Manager, or Contractor may charge. I further understand that the amount of the reimbursement for the above activity will be determined after all receipts are submitted and subjected to technical and reimbursable cost review. I certify that this TNRC form has not been altered.

Federal Express Corporation, *Jamal Mansour*, Jamal Mansour, Federal Express Corporation
 (Name of Responsible Party) (Signature of Representative) (Name Printed) (Company)
 (901) 434-8458 (901) 434-9235, 3-26-03
 (Phone #) (FAX #) (Date)



Protecting Texas
by Reducing and
Preventing Pollution

FAX TRANSMITTAL

DATE: February 21, 2003 NUMBER OF PAGES (including this cover sheet): 1

TO: Name Mr. Jamal Mansour
Organization Federal Express Corporation
FAX Number (901)434-9235

FROM: TEXAS COMMISSION on ENVIRONMENTAL QUALITY
Name Emmanuel A. Ekpo
Division/Section Remediation / PST Responsible Party Remediation Section (PST/RPR)
Telephone Number 512-239-2200
FAX Number 512-239-2216
E-Mail Address @tceq.state.tx.us
TCEQ RPR -Web Page www.tceq.state.tx.us/permitting/remed/rpr/index.html

NOTES:
Re: Technical Response to TCEQ comments, Federal Express Facility, 5811 Technicenter Drive, Austin (Travis County), Texas (LPST ID No. 111747 - Priority 4.1 - Facility ID No. 0029044); R-11

Dear Mr. Mansour:

The above referenced submittal dated 12/23/02, in response to TCEQ comments following review of your Site Closure Request, has been received. Your answer to our comments, and the arguments you have stated in favor of final concurrence, are noted. However this office still recommends confirmatory or verification activities to be performed prior to final concurrence.

Please submit a workplan and cost proposal, as previously requested, for one confirmatory event of NAPL recovery by mobile dual-phase extraction (MDPE), and for two (2) additional verification events of groundwater monitoring and sampling. These will serve to evaluate the potential for subsequent rebound of NAPL, or otherwise confirm its recovery to the maximum extent, with stability of the contaminant plume.

TRANSACTION REPORT

P. 01

FEB-21-2003 FRI 02:15 PM

FOR:

DATE	START	RECEIVER	TX TIME	PAGES	TYPE	NOTE	M#	DP
FEB-21	02:15 PM	9-19014349235	38"	1	SEND	OK	114	
TOTAL :						38S PAGES:	1	

FAX TRANSMITTAL



Protecting Texas
by Reducing and
Preventing Pollution

DATE: February 21, 2003

NUMBER OF PAGES (including this cover sheet):

1

TO:

Name

Mr. Jamal Mansour

Organization

Federal Express Corporation

FAX Number

(901)434-9235

FROM:

TEXAS COMMISSION on ENVIRONMENTAL QUALITY

Name

Emmanuel A. Ekpo

Division/Section

Remediation / PST Responsible Party Remediation
Section (PST/RPR)

Telephone Number

512-239-2200

FAX Number

512-239-2216

E-Mail Address

@tceq.state.tx.us

TCEQ RPR -Web Page

www.tceq.state.tx.us/permitting/remed/rpr/index.html

NOTES:



JEANE



HBC Terracon

5307 Industrial Oaks Boulevard, Suite 160
Austin, Texas 78735
(512) 442-1122 Fax: (512) 442-1181

111747
Jack Ryan

December 23, 2002

Mr. Scott Lawless
Coordinator
PST-Responsible Party Remediation Section
Remediation Division
Texas Commission on Environmental Quality
MC-137
P.O. Box 13087
Austin, Texas 78711-3087

Telephone: (512) 239-2200
Fax: (512) 239-2216

Re: Federal Express Facility, 5811 Technicenter Drive, Austin, Texas
LPST ID No. 111747, Facility ID No. 0029044
HBC Reference No. 96007145

RECEIVED
OCT 04 2005
TCEQ
CENTRAL FILE ROOM

Received
DEC 30 2002
TNRCC/PST-RPR

Dear Mr. Lawless:

The following letter is in response to your November 26, 2002 comment letter regarding the Annual Groundwater Monitoring Report and Site Closure Request for the referenced site. As indicated in your comment #2, the agency is not granting final concurrence for site closure and is requiring that workplans and preapproval proposals to conduct Mobile Dual-Phase Extraction (MDPE) and continued groundwater sampling be submitted. HBC does not feel that additional remediation or groundwater monitoring at this site is warranted.

Regarding the need for additional remediation in the form of a MDPE event, as indicated in the approved Corrective Action Response Form (CARF) for passive phase separated hydrocarbon (PSH) skimming (dated July 13, 2001), if the wells contain 0.1 feet or less of PSH, the PSH has been removed to the maximum extent practicable and it poses no threat to human health and the environment and continued removal is not required. As documented in the Annual Groundwater Monitoring Report, PSH thicknesses have been below 0.1 feet from the site wells since October of 2001. Additionally, only one site well, MW-6, has had measurable PSH since October of 2001 and the data indicate that it has consistently been less than the aforementioned 0.1-foot thickness criteria.

It does not appear that there is a sufficient amount of PSH remaining in the site well to warrant any additional remediation and that any further PSH remediation efforts would not appear to be cost effective. HBC feels that the PSH at the site has been removed to the maximum extent practicable and that any residual amount remaining poses no threat to human health and the environment.

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Mr. Lawless
December 23, 2002
Page 2



Regarding the need for additional groundwater monitoring, as documented in the Groundwater Monitoring Report, the dissolved hydrocarbon concentrations in the site wells generally appear to be decreasing, indicating that the dissolved plume is stable or is reducing. Furthermore, as indicated in comment #2 of your 11/26/02 letter, you acknowledge that there is a decreasing trend of contamination in the groundwater. Based on this documented decreasing trend, HBC does not feel that any further groundwater monitoring is warranted. On behalf of our client, Federal Express Corporation, we are requesting a meeting with you at your convenience to further discuss these issues. Please call me at (512) 442-1122 to let me know when you are available to meet to discuss these issues and I will coordinate with Federal Express personnel to attend the meeting.

We look forward to working with you during the completion of the site closure activities. Should you have any questions or require additional information, please do not hesitate to call.

Sincerely,

HBC/Terracon

A handwritten signature in cursive script that reads "Russell C. Ford".

Russell C. Ford, C.P.G.
Senior Hydrogeologist

cc: Mr. Jamal Mansour/Federal Express Corporation

SEL

Robert J. Huston, *Chairman*
R. B. "Ralph" Marquez, *Commissioner*
Kathleen Hartnett White, *Commissioner*
Margaret Hoffman, *Executive Director*



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
Protecting Texas by Reducing and Preventing Pollution

November 26, 2002

Mr. Jamal Monsour
Federal Express Corporation
3620 Hacks Cross Boulevard, Building B
Memphis, Tennessee 38125

CERTIFIED MAIL
#7002 0860 0004 6483 7847
RETURN RECEIPT REQUESTED

Re: Comments to the Annual Groundwater Monitoring Report dated September 20, 2002 and Site Closure Request, dated September 22, 2002 for the Federal Express Facility, 5811 Technicenter Drive, Austin (Travis County), Texas (LPST ID No. 111747 - Priority 4.1 - Facility ID No. 0029044); R-11

Dear Mr. Mansour:

The Texas Commission on Environmental Quality (TCEQ) has reviewed the above-referenced submittal. A list of comments is enclosed. If you need to respond to the comments, please prepare a written response, referencing the assigned TCEQ LPST ID number. The information in the TCEQ reference line above should be included in your response.

Your written response to these comments, if necessary, should be submitted to the TCEQ Central Office at the letterhead address, using mail code number MC-137. Please submit your response on or before December 26, 2002. Should you need additional information or wish to discuss these comments, please call me at (512) 239-2200. We appreciate your continued cooperation in this matter.

Sincerely,

Scott Lawless
Coordinator
PST-Responsible Party Remediation Section
Remediation Division

SEL/jhm
111747.ltr

Enclosure: Specific Comments

Mr. Jamal Mansour
Page 2
November 26, 2002
Enclosure 1: Specific Comments

Specific Comments

1. The TCEQ has reviewed and accepts the Annual Groundwater Monitoring Report, dated September 20, 2002.
2. This Office has reviewed the Site Closure Request, dated September 22, 2002, for site closure activities of the above referenced site. We have completed our review of all available file information pertaining to the above-referenced incident. After careful review of all the data provided and pursuant to Title 30, Texas Administrative Code (TAC), Sections 334.78-334.81, we conclude that a final concurrence cannot be issued for this LPST case. This Office acknowledges the decreasing trend of contamination in groundwater at this site. The most recent measurement of Non-Aqueous Phase Liquids (NAPL) in monitor well MW-6 indicated a thickness of approximately 0.01 feet. The TCEQ requires that NAPL be removed to the extent that is practicable. A workplan and preapproval proposal to conduct Mobile Dual-Phase Extraction (MDPE) event targeting the remaining NAPL should be submitted in an effort to achieve this goal. After the MDPE event, please remove all skimmers if this has not already been done. Additionally, please submit a workplan and preapproval proposal for continued groundwater sampling of all monitor wells. Once these activities are completed, the site should be re-evaluated to determine it's eligibility for closure.

D

Q

LPST# 111747

7002 0560 0000 4000 0990 2002 2482 6849

U.S. Postal Service
CERTIFIED MAIL RECEIPT
 (Domestic Mail Only; No Insurance Coverage Provided)

SELFTM LPST# 111747 UHSE

Postage	\$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	\$

11/26/02

Postmark
Here

Sent To: MR. Jamal Monsour
 Street, Apt. No.,
 or PO Box No. 3620 Hacks Cross Blvd. Bldg B
 City, State, ZIP+4 Memphis, Tennessee 38125

PS Form 3800, April 2002

See Reverse for Instructions



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F A X T R A N S M I T T A L

DATE: 10/23/02 NUMBER OF PAGES (including this cover sheet): 1

TO: Name Mr. Jamal Mansour
Organization Federal Express Corporation
FAX Number (901) 434-9235

FROM: TEXAS COMMISSION on ENVIRONMENTAL QUALITY
Name Mr. Scott Lawless *SEL*
Division/Section Remediation / PST Responsible Party Remediation Section (PST/RPR)
Telephone Number 512-239-2200
FAX Number 512-239-2216
E-Mail Address @tceq.state.tx.us
TCEQ RPR -Web Page www.tceq.state.tx.us/permitting/remed/rpr/index.html

NOTES:

Re: Comments to the Product Recovery Report, dated September 20, 2002 for the Federal Express Facility, 5811 Technicenter Drive, Austin (Travis County), Texas (LPST ID No. 111747 - Priority 4.1 - Facility ID No. 0029044); R-11

Based upon all information submitted, this site met all site and risk assessment requirements by the September 1, 2002 deadline.

This site is characterized as groundwater beneficial use category II and priority 4.1.

The TCEQ has reviewed and accepts the Product Recovery Report, dated September 20, 2002.

The Annual Groundwater Monitoring Report and Site Closure Request that accompanied this report will be review in the near term.

If there are any questions, please call me at 512-239-1059.

TRANSACTION REPORT

P.01

OCT-23-2002 WED 01:23 PM

BROADCAST

DATE	START	RECEIVER	TX TIME	PAGES	TYPE	NOTE	M#	DP
OCT-23	01:23 PM	9-19014349235	36"	1	SEND	OK	520	
TOTAL :						36S PAGES:	1	



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Preventing Pollution

FAX TRANSMITTAL

DATE: 10/23/02 NUMBER OF PAGES (including this cover sheet): 1

TO: Name Mr. Jamal Mansour
 Organization Federal Express Corporation
 FAX Number (901) 434-9235

FROM: TEXAS COMMISSION on ENVIRONMENTAL QUALITY
 Name Mr. Scott Lawless *SL*
 Division/Section Remediation / PST Responsible Party Remediation Section (PST/RPR)
 Telephone Number 512-239-2200
 FAX Number 512-239-2216
 E-Mail Address @tceq.state.tx.us
 TCEQ RPR -Web Page www.tceq.state.tx.us/permitting/remed/rpr/index.html

EXHIBIT-IB

CONFLICT OF INTEREST
CERTIFICATION BY PERFORMING PARTY

Site Name: _____ LPST #: 111747

In accordance with Section 5.29, entitled Conflict of Interest, of the General Conditions, the PERFORMING PARTY hereby discloses by Attachment to this exhibit, which is incorporated herein for all purposes: (1) information on its status and the status of its parent companies, subsidiaries, affiliates, and subcontractors as potentially responsible parties at the above Site; (2) inflation on any past, present or future services performed or anticipated to be performed at the site by the PERFORMING PARTY, its parent companies, subsidiaries, affiliates, subcontractors or other agents or associates for any and all potentially responsible parties at the above Site, or their parent companies, subsidiaries, affiliates, subcontractors, and current clients or attorneys and agents; and information on past, present or anticipated financial, legal and business relationships (including services related to any proposed or pending litigation) of the PERFORMING PARTY, its parent companies, subsidiaries, affiliates, subcontractors or other agents or associates with any and all potentially responsible parties at the above Site or their parent companies, subsidiaries, affiliates, subcontractors, and current clients or attorneys and agents.

The PERFORMING PARTY hereby certifies that to the best of its knowledge and belief, all such conflict of interest information relating to the above-described site has been disclosed or that no such information exists. The PERFORMING PARTY hereby further certifies that it will provide continuing disclosure of any such conflict of interest or potential conflict of interest information. Should there be a change in circumstances which would modify the information supplied herein, the PERFORMING PARTY shall modify such information in writing as a supplement to this Exhibit.

AES - REGULATORY SERVICES, INC.

COMPANY NAME

By: Sharla W. [Signature]
(Signature)

Title: ASSISTANT SECRETARY
(Principal or Officer)

EXHIBIT-IB

CONFLICT OF INTEREST
CERTIFICATION BY PERFORMING PARTY

Site Name: _____ LPST #: 111747

In accordance with Section 5.29, entitled Conflict of Interest, of the General Conditions, the PERFORMING PARTY hereby discloses by Attachment to this exhibit, which is incorporated herein for all purposes: (1) information on its status and the status of its parent companies, subsidiaries, affiliates, and subcontractors as potentially responsible parties at the above Site; (2) inflation on any past, present or future services performed or anticipated to be performed at the site by the PERFORMING PARTY, its parent companies, subsidiaries, affiliates, subcontractors or other agents or associates for any and all potentially responsible parties at the above Site, or their parent companies, subsidiaries, affiliates, subcontractors, and current clients or attorneys and agents; and information on past, present or anticipated financial, legal and business relationships (including services related to any proposed or pending litigation) of the PERFORMING PARTY, its parent companies, subsidiaries, affiliates, subcontractors or other agents or associates with any and all potentially responsible parties at the above Site or their parent companies, subsidiaries, affiliates, subcontractors, and current clients or attorneys and agents.

The PERFORMING PARTY hereby certifies that to the best of its knowledge and belief, all such conflict of interest information relating to the above-described site has been disclosed or that no such information exists. The PERFORMING PARTY hereby further certifies that it will provide continuing disclosure of any such conflict of interest or potential conflict of interest information. Should there be a change in circumstances which would modify the information supplied herein, the PERFORMING PARTY shall modify such information in writing as a supplement to this Exhibit.

AES - REGULATORY SERVICES, INC.

COMPANY NAME
Charles W. ...
By: _____
(Signature)
Title: _____ ASSISTANT SECRETARY
(Principal or Officer)

TNRCC FAX TRANSMITTAL

DATE: 7/13/01 NO. OF PAGES (including this sheet):

8

TO: Name MR JAMAL MANSOUR
Organization FEDERAL EXPRESS
Fax Number (901) 395-6664 434-9235

FROM: TEXAS NATURAL RESOURCE CONSERVATION COMMISSION
Name Scott Lawless
Coordinator
Telephone 512/239-2200
Fax Number 512/239-2216
Mail MC-137, PO Box 13087, Austin, Tx 78711-3087

NOTES: Response to Corrective Action Proposal(s) for
LPST #: 111747 , Facility ID: 0029044.
If you have any problems receiving this fax, please
call 512/239-2200 .

Please note that new Corrective Action Preapproval Forms have been required since September 1, 1995. The forms are available at no cost by downloading from the TNRCC Bulletin Board Services (BBS) (512/239-0700), or over the Internet at <http://www.tnrcc.state.tx.us>. You may also order the forms on diskette from the TNRCC, MC-195, P.O. Box 13088, Austin, TX 78711-3088 (please specify the Corrective Action Preapproval Forms on diskette). A pamphlet with reproducible forms is available at no cost by calling TNRCC Publications at 512/239-0028.

Please note that all LPST corrective action proposals and reports need to be prepared by an environmental contracting/consulting firm registered as a Corrective Action Specialist (CAS) and need to have the the signatures and registration numbers of both the CAS and registered Corrective Action Project Manager (CAPM) included pursuant to Title 30, Texas Administrative Code (TAC), Subchapter J. Any proposal that has been prepared by a consulting firm not registered as a CAS by the Texas Natural Resource Conservation Commission (TNRCC) or which does not include the signature and registration number of the Project Manager may be rejected. Please reserve the use of the telefax machines for submitting proposals and data for LPST cases that rank as new priority 1's and for emergency abatement activities.

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

LPST CORRECTIVE ACTION RESPONSE FORM

LPST-ID: 111747

5/29/2001 Proposal For: QUARTERLY GW MONITORING (4 EVENTS/YR)

GENERAL INFORMATION

LPST-ID : 111747 Priority: 4.1
Responsible Party : FEDERAL EXPRESS Tel: 901/395-4064
Facility # & Name : 0029044 FEDERAL EXPRESS
Facility Address : 5811 TECHNI CENTER
Facility City : AUSTIN County: TRAVIS
CAPM & Name : CAPM01502 RUSSELL C. FORD
RCAS & Name : RCAS00387 HBC ENGINEERING, INC.

TNRCC TECHNICAL RESPONSE

Proposed activity is approved with the following modifications:

This preapproval is for one year of quarterly groundwater monitoring for the 11 existing monitor wells to begin on or after the date of this Corrective Action Response Form (CARF). Ground-water samples will be analyzed for BTEX\MTBE\TPH(1005) with one PAH analysis per quarter conducted on the sample containing the highest TPH concentration if the TPH concentration exceeds previous maximum levels (The PAH constituent concentrations observed in the 04/04/01 sampling event were below action levels and cleanup levels). Following completion of the last sampling event, an Annual Groundwater Monitoring Report should be submitted. If a reduced scope of work is completed, the maximum reimbursable cost will be adjusted accordingly. All work must be technically justifiable to be eligible for reimbursement.

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION
LPST CORRECTIVE ACTION RESPONSE FORM

LPST-ID: 111747
5/29/2001 Proposal For: QUARTERLY GW MONITORING (4 EVENTS/YR)

TNRCC TECHNICAL RESPONSE

ACTIVITY COST SUMMARY

Proposed Cost:	13,746.00	Maximum Pre-Approved:	13,746.00
----------------	-----------	-----------------------	-----------

Signature:

Scott Lawless JB
Scott Lawless
Coordinator

Date: 7/13/01 Telephone: 512/239-2200

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION
LPST CORRECTIVE ACTION RESPONSE FORM

LPST-ID: 111747
5/29/2001 Proposal For: PSH REMOVAL

GENERAL INFORMATION

LPST-ID	: 111747	Priority: 4.1	
Responsible Party	: FEDERAL EXPRESS		Tel: 901/395-4064
Facility # & Name	: 0029044	FEDERAL EXPRESS	
Facility Address	: 5811	TECHNI CENTER	
Facility City	: AUSTIN		County: TRAVIS
CAPM & Name	: CAPM01502	RUSSELL C. FORD	
RCAS & Name	: RCAS00387	HBC ENGINEERING, INC.	

TNRCC TECHNICAL RESPONSE

Proposed activity is approved with the following modifications:

We have completed our review of the Operation, Monitoring, and Performance report (OMPR) prepared on the above-referenced site by your consultant, HBC Engineering, dated May 29, 2001. Based on the information available to us, we provide the following comments:

The following tables and graphs were not included in the OMPR:

- (1) Cumulative graph of cost per mass of hydrocarbons removed;
- (2) Graph of system operational periods.
- (3) Graph of performance target goals.
- (4) Cumulative table of estimated mass of hydrocarbons remaining.

Please insure that future OMPRs include all required graphs and tables.

This proposal to conduct bi-weekly (26 visits) PSH recovery from two wells for one year using passive skimmers to begin on or after the date of this Corrective Action Response Form (CARF) and prepare a Product Recovery Report is approved with the following modification:

The proposed cost for waste disposition (vacuum truck) and 500 gallons of waste is denied. The approved PSH removal activities will not likely generate any significant amount of waste. Please combine and dispose of the PSH with purged groundwater generated during approved sampling activities.

If after six months the PSH thickness is not diminishing, an alternative method should be considered.

Please note: If these wells contain 0.1 feet or less of PSH, the PSH has been removed to the maximum extent practicable and it poses no threat to human health or the environment, continued removal is not required.

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION
LPST CORRECTIVE ACTION RESPONSE FORM

LPST-ID: 111747
5/29/2001 Proposal For: PSH REMOVAL

TNRCC TECHNICAL RESPONSE

ACTIVITY COST SUMMARY

Proposed Cost:	8,097.00	Maximum Pre-Approved:	7,570.00
----------------	----------	-----------------------	----------

Signature:

Scott Lawless ^{1ES}
Scott Lawless
Coordinator

Date: 7/13/01 Telephone: 512/239-2200

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

LPST CORRECTIVE ACTION RESPONSE FORM

LPST-ID: 111747
5/29/2001 Proposal For: PSH REMOVAL

Pursuant to 30 TAC Section 334.82 (b), you are required to notify all parties affected by the contamination. If you determine that contamination from the release has migrated off-site, or if you are required by the TNRCC to conduct further assessment or other corrective actions off-site, then you are required to notify the affected landowner(s) within 30 days of documenting the impact. Please note that landowners may include state and local owners of right-of-way properties. For the purpose of this requirement, notice shall be through any means described in 30 TAC Section 334.82 (a). Please provide documentation that the affected landowner(s) has/have been notified within 30 days of notification. Please note that failure to notify affected parties as required herein is grounds for formal enforcement proceedings.

Please note that preapproval of this activity DOES NOT guarantee reimbursement. Eligibility is determined at the time of reimbursement application review. If the release is eligible, the preapproved amount is the maximum allowable for the proposed activities. The actual amount of reimbursement will be determined after the completed reimbursement application and all related receipts and invoices are submitted, and the completed activity is subject to technical and reimbursable cost review. In all instances, the completed work must be technically justifiable and should serve to advance the site in the corrective action process. The amount of preapproved work performed should be based on completion of the activity's objectives. Additionally, please also note that preapproved amounts include all eligible markup.

Claims for reimbursement should only be submitted after the completion of an annual cycle for remediation system operation and maintenance, and quarterly groundwater monitoring unless a more frequent filing period is previously approved by the PST Reimbursement Section. The Reimbursement Section can be reached at 512/239-2001.

Activity 07: Groundwater Monitoring Preapproval Worksheet

TNRCC #: _____
 LPST #: 111747
 Facility #: 29044
 Facility Name: fedex
 Facility address: 5811 technicenter dr., austin

Quarter: _____ Number of Wells: _____
 1st 11
 2nd 11
 3rd 11
 4th 11
 Average Well Depth: 37
 Prepared By: sel
 Date: 11-Jul-01



A. Personnel

	# of Units	\$/Unit	Total
Fixed Annual		=	\$940
1st Event	x	=	\$690
2nd Event	x	=	\$690
3rd Event	x	=	\$690
4th Event	x	=	\$690
Subtotal Subcontracted Personnel	=	\$0	
Subcontractor Markup %	=	10%	\$0
Cost Proposal Preparation		=	\$115
A. Total Personnel			\$3,715

B. Equipment Costs

	# of Units	\$/Unit	Total
Disposable Bailleurs	44 x	\$8 =	\$352
Small Items	8 x	\$20 =	\$160
Drums (55-gallon, for purge water)	20 x	\$40 =	\$800
(Other)	x	=	\$0
(Other)	x	=	\$0
Subtotal Subcontracted Equipment	=	\$0	
Subcontractor Markup %	=	15%	\$0
A. Total Equipment			\$1,312

C. Waste Management

	# of Units	\$/Unit	Total
Vacuum Truck	6 x	\$75	\$450
Fluid Disposal	1100 x	\$0.40	\$440
Subchp. H Discharge/AIL Disposal Metho	0 x	By Need =	\$0
Subtotal Subcontracted Waste Mgt.	=	\$673	
Subcontractor Markup %	=	10%	\$67
A. Total Waste Management			\$957

D. Analytical Costs

	# of Units	\$/Unit	Total
TNRCC 1005/BTEX	0 x	\$125 =	\$0
TNRCC 1005/BTEX/MTBE	44 x	\$148 =	\$6,512
TDS	0 x	\$15	\$0
PAH(610)	0 x	\$158	\$0
PAH(6270)	4 x	\$249	\$998
Chlorides	0 x	\$18	\$0
Iron	0 x	\$10	\$0
Nitrates	0 x	\$24	\$0
Phosphates	0 x	\$24 =	\$0
Sulfates	0 x	\$24	\$0
Total Organic Carbon (TOC)	0 x	\$32	\$0
Shipping	48 x	\$5	\$240
(Other)	0 x	\$0	\$0
(Other)	0 x	\$0	\$0
Subtotal Subcontracted Analytical	=	\$3,622	
Subcontractor Markup %	=	10%	\$362
D. Total Analytical			\$8,110

E. Travel

	Units	\$/Unit	Total
Mileage (>100 r.t.)	0 x	\$0.31 =	\$0
One way mileage to site	=	\$0	
Travel Time	2 x	\$40 =	\$64
Per diem	0 x	\$80 =	\$0
Airfare	4 x	\$0 =	\$0
Equipment Truck	8 x	\$140 =	\$1,120
Subtotal Subcontracted Travel	=	\$0	
Subcontractor Markup %	=	15%	\$0
D. Total Travel			\$1,184

TOTAL GROUNDWATER MONITORING ACTIVITY COST (A+B+C+D+E) = \$15,278

Item	Proposed		Approved		Approved - Proposed Difference
	Subcontracted	Total	Subcontracted	Total	
Personnel	0	3435	0	3715	280
Equipment	0	1032	0	1312	280
Waste Management	590	839	673	957	118
Analytical	3519	7880	3622	8110	230
Travel	0	560	0	1184	624
Total	4109	13746	4295	15278	1532

Activity 02: PSH Reco Preapproval Worksheet

TNRCC #: _____
 LPST #: 111747
 Facility #: 29044
 Facility Name: fedex
 Facility address: 5811 technicenter dr., austin

Number of wells: 2
 Depth to fluid: 33
 Number of events: 26
 Number of months: 12
 Date: 11-Jul-01
 Prepared by: sel

Print
 Print Detail
 Print Condensed
 Reset
 Print Detailed

A. Personnel

		Total
Report Preparation	=	\$260
Office Personnel	=	\$900
Field Personnel	=	\$2,080
Subtotal Subcontracted Personnel	\$0	
Subcontractor Markup %	10% =	\$0
Cost Proposal Preparation	=	\$115
A. Total Personnel		\$3,355

C. Waste Management

	# of Units	\$/Unit	Total
Water Truck	0 x	\$75 =	\$0
Disposal	0 x	\$0.40 =	\$0
Subtotal Subcontracted Waste Mgmt.	=		
Subcontractor Markup %		10% =	\$0
C. Total Waste Management			\$0

B. Equipment

	# of Units	\$/Unit	Total
Absorbent Socks	0 x	\$10 =	\$0
Passive Skimmer (Sm)	0 x	\$350 =	\$0
Passive Skimmer (Lar)	2 x	\$750 =	\$1,500
Dedicated PVC Bailer	0 x	\$15 =	\$0
Drums	0 x	\$40 =	\$0
Small Items	26 x	\$20 =	\$520
xxx	0 x	\$0 =	\$0
xxx	0 x	\$0 =	\$0
xxx	0 x	\$0 =	\$0
Subtotal Subcontracted Equipment =		\$2,020	
Subcontractor Markup %	15% =		\$303
B. Total Equipment			\$2,323

D. Travel

	Units	\$/Unit	Total
Mileage (>100 r.L.)	0 x	\$0.31 =	\$0
One way mileage to site		10 =	
Travel Time	9 x	\$40 =	\$352
Per diem	0 x	\$80 =	\$0
Airfare	22 x	\$0 =	\$0
Equipment Truck	11 x	\$140 =	\$1,540
Subtotal Subcontracted Travel	=	\$0	
Subcontractor Markup %		15% =	\$0
D. Total Travel			\$1,892

E. Other Expenses

	Units	\$/Unit	Total
xxx	0 x	\$0 =	\$0
xxx	0 x	\$0 =	\$0
xxx	0 x	\$0 =	\$0
Subtotal Subcontracted Other	=	\$0	
Subcontractor Markup %		15% =	\$0
E. Total Other Expenses			\$0

	Proposed		Approved		App.- Prop. Difference
	Amt. Sub'd	Total	Subcontracted	Total	
Personnel	\$0	\$1,805	\$0	\$3,355	\$1,650
Equipment	\$1,700	\$1,955	\$2,020	\$2,323	\$368
Waste	\$470	\$697	\$0	\$0	(\$697)
Travel	\$0	\$3,640	\$0	\$1,892	(\$1,748)
Other	\$0	\$0	\$0	\$0	\$0
Total	\$2,170	\$6,097	\$2,020	\$7,570	(\$527)

TRANSACTION REPORT

P. 01

JUL-13-2001 FRI 10:16 AM

DATE	START	RECEIVER	TX TIME	PAGES	TYPE	NOTE	M#	DP
JUL-13	10:12 AM	9-19014349235	3' 44"	8	SEND	OK ✓	327	
			TOTAL :	3M 44S	PAGES:	8		

TNRCC FAX TRANSMITTAL

DATE: 7/13/01

NO. OF PAGES (including this sheet):

8

TO:

Name

MR. JAMAL MANSOUR

Organization

FEDERAL EXPRESS

Fax Number

(901) 395-6664 434-9235

FROM:

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

Name

Scott Lawless

Coordinator

Telephone

512/239-2200

Fax Number

512/239-2216

Mail

MC-137, PO Box 13087, Austin, Tx 78711-3087

NOTES:

Response to Corrective Action Proposal(s) for
LPST #: 111747

111747
Prop 12 add



A DIVISION OF
Terracon

FAX TRANSMITTAL FORM

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Please deliver this to: Vickie Montgomery

Company: TURCO - PST

Fax No.: 239-2216 Phone No.: _____

Date: 7/17/07 8/14/07

MESSAGE:

Vickie

Attached are the removed calculations. Used only the TPH value that was 04 or higher. For the C103 concentration this was 505 ppm. New total is 9,329 gallons. I think this is probably closer to the actual amount. Call me to discuss if questions.

Travis

FROM: NAME: Russ Ford

COMPANY: HBC ENGINEERING, INC., 3913 TODD LANE, SUITE 312, AUSTIN, TEXAS 78744

PHONE NO.: 512/442-1122 FAX NO.: 512/442-1181

PAGES SENT INCLUDING COVER 3

MEMORANDUM

HBC

ENGINEERING, INC.

a division of Terracon

To: Vicki Montgomery/RPR Section-TNRCC, via Fax 239-2216

From: Russell C. Ford, CAPM/HBC Engineering, Inc.

Subject: Fedex Site, LPST No. 111747

Date: August 14, 2000

Attached are the revised calculations for determining the hydrocarbon mass recovery volumes for the referenced site as you requested. ~~We used the TPH data from the November 3, 1998 sampling which was for the C4 hydrocarbons and higher.~~ This concentration, 505 ppmv, was then converted to mg/cubic meter and a revised total mass recovered of about 9,329 gallons was calculated. ~~We feel that this total is still probably a little higher than what was actually removed due to the time between the sampling points, which resulted in a higher average concentration.~~ For the proposed new system, we will collect concentration data points, which are closer together so that a more accurate average concentration over time can be calculated. ~~Regarding the cost estimates that we have previously submitted, the two cost quotes were the only ones we were able to obtain for the type of system proposed.~~ We also contacted VaporTek but they no longer offer the equipment. We would propose to use the Thermox system as described in the Orion Enterprise cost quote. We trust this additional information will allow you to complete the approval of the proposed new SVE unit. Please call me should you have any questions or require additional information.

Houston
11555 Clay Road
Suite 100
Houston, TX 77043
(713) 690-8989
Fax (713) 690-8787

Dallas
8091 Carpenter Frewy.
Suite 100
Dallas, TX 75247
(214) 630-1010
Fax (214) 630-7070

Fort Worth
2301 E. Loop 820 North
Flagstone & Loop 820
Fort Worth, TX 76116
(817) 268-8600
Fax (817) 268-8602

Austin
8913 T. J. Lane
Suite 312
Austin, TX 78744
(512) 442-1122
Fax (512) 442-1181

Wichita Falls
1100 Seymour Hwy.
Suite 105
Wichita Falls, TX 76710
(940) 766-6092
Fax (940) 766-6093

ENVIRONMENTAL, GEOTECHNICAL AND CONSTRUCTION MATERIALS SERVICES

PROJECT: Feder
 PROJECT NO.: 96027145
 CALCD. BY: RF DATE: 7/24/00
 CHKD BY: _____ DATE: _____

HBC
 ENGINEERING, INC.

Revised calculations using only TPH above C4

$$C_0 = 83,181 \text{ mg/m}^3$$

$$C_{113} = \frac{505 \text{ ppm(C4)} (102.2)}{24.45} = 2,110 \text{ mg/m}^3$$

$$\text{Average} = 42,645.5 \text{ mg/m}^3$$

mass removed

$$= 142,645 (5500) (113)$$

$$= (2.65 \times 10^{10} \text{ mg}) (3.52 \times 10^{-7} \text{ gal/mg TPH}) = 9,329 \text{ gallons removed in 113 days}$$

TNRCC FAX TRANSMITTAL

DATE: 8/22/00

NO. OF PAGES (including this sheet):

5

TO: Name MR. JAMAL MANSOUR / Russ Ford
Organization FEDERAL EXPRESS / HBC
Fax Number (901) 395-6664 / (512) 442-1181

FROM: TEXAS NATURAL RESOURCE CONSERVATION COMMISSION
Name Victoria K. Montgomery
Coordinator
Telephone 512/239-2200
Fax Number 512/239-2216
Mail MC-137, PO Box 13087, Austin, Tx 78711-3087

NOTES: Response to Corrective Action Proposal(s) for
LPST #: 111747, Facility ID: 0029044.
If you have any problems receiving this fax, please
call 512/239-2200.

Please note that new Corrective Action Preapproval Forms have been required since September 1, 1995. The forms are available at no cost by downloading from the TNRCC Bulletin Board Services (BBS) (512/239-0700), or over the Internet at <http://www.tnrcc.state.tx.us>. You may also order the forms on diskette from the TNRCC, MC-195, P.O. Box 13088, Austin, TX 78711-3088 (please specify the Corrective Action Preapproval Forms on diskette). A pamphlet with reproducible forms is available at no cost by calling TNRCC Publications at 512/239-0028.

Please note that all LPST corrective action proposals and reports need to be prepared by an environmental contracting/consulting firm registered as a Corrective Action Specialist (CAS) and need to have the the signatures and registration numbers of both the CAS and registered Corrective Action Project Manager (CAPM) included pursuant to Title 30, Texas Administrative Code (TAC), Subchapter J. Any proposal that has been prepared by a consulting firm not registered as a CAS by the Texas Natural Resource Conservation Commission (TNRCC) or which does not include the signature and registration number of the Project Manager may be rejected. Please reserve the use of the telefax machines for submitting proposals and data for LPST cases that rank as new priority 1's and for emergency abatement activities.

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

LPST CORRECTIVE ACTION RESPONSE FORM

LPST-ID: 111747

1/31/2000 Proposal For: OPERATION & MAINTENANCE OF REMEDIATION SYSTEM

GENERAL INFORMATION

LPST-ID : 111747 Priority: 4.1
Responsible Party : FEDERAL EXPRESS Tel: 901/395-4064
Facility # & Name : 0029044 FEDERAL EXPRESS
Facility Address : 5811 TECHNI CENTER
Facility City : AUSTIN County: TRAVIS
CAPM & Name : CAPM00227 CHRISTOPHER J. KOPEC
RCAS & Name : RCAS00387 HBC ENGINEERING, INC.

TNRCC TECHNICAL RESPONSE

Proposed activity is approved with the following modifications:

This preapproval is for 6 months of Operation, Monitoring, and Performance (O&M) visits for the Soil Vapor Extraction (SVE) remediation system to begin on or after the date of this Corrective Action Response Form (CARF). Following completion of the last O&M visit, an Operation, Monitoring, and Performance Report (OMPR) should be submitted. If a reduced scope of work is completed, the maximum reimbursable cost will be adjusted accordingly. All work must be technically justifiable to be eligible for reimbursement. Please note the following comments regarding this proposal:

1. Costs associated with 32 site visits (7 daily visits during the first week of operation and 25 weekly visits for the remainder of the preapproved O&M period) are included in the preapproved dollar amount.

2. As indicated in the 7/24/00 fax from HBC Engineering, a thermox will be used for vapor treatment at a cost of \$2,400 per month. The preapproved dollar amount also includes costs for the start-up services required by the supplier.

3. Because only 6 months of O&M were proposed, costs for only 6 months of groundwater monitoring activities (i.e, 2 quarters) have been approved. In addition, it appears costs associated with system performance sampling were not included in the proposal. Vapor samples should be collected (prior to entering the vapor treatment portion of the system) on a daily basis during the first week of O&M, and monthly thereafter. Costs for the following analyses are included in the preapproved dollar amount shown below:

groundwater monitoring: 22 BTEX/TPH/MTBE, 2 PAH
system performance (air): 12 BTEX/TPH

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION
LPST CORRECTIVE ACTION RESPONSE FORM

LPST-ID: 111747

1/31/2000 Proposal For: OPERATION & MAINTENANCE OF REMEDIATION SYSTEM

TNRCC TECHNICAL RESPONSE

ACTIVITY COST SUMMARY

Proposed Cost:	54,962.00	Maximum Pre-Approved:	41,336.00
----------------	-----------	-----------------------	-----------

Signature: Victoria K. Montgomery ^{km} Date: 8/22/00 Telephone: 512/239-2200
Victoria K. Montgomery
Coordinator

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

LPST CORRECTIVE ACTION RESPONSE FORM

LPST-ID: 111747

1/31/2000 Proposal For: OPERATION & MAINTENANCE OF REMEDIATION SYSTEM

Pursuant to 30 TAC Section 334.82 (b), you are required to notify all parties affected by the contamination. If you determine that contamination from the release has migrated off-site, or if you are required by the TNRCC to conduct further assessment or other corrective actions off-site, then you are required to notify the affected landowner(s) within 30 days of documenting the impact. Please note that landowners may include state and local owners of right-of-way properties. For the purpose of this requirement, notice shall be through any means described in 30 TAC Section 334.82 (a). Please provide documentation that the affected landowner(s) has/have been notified within 30 days of notification. **Please note that failure to notify affected parties as required herein is grounds for formal enforcement proceedings.**

Please note that preapproval of this activity DOES NOT guarantee reimbursement. Eligibility is determined at the time of reimbursement application review. If the release is eligible, the preapproved amount is the maximum allowable for the proposed activities. The actual amount of reimbursement will be determined after the completed reimbursement application and all related receipts and invoices are submitted, and the completed activity is subject to technical and reimbursable cost review. In all instances, the completed work must be technically justifiable and should serve to advance the site in the corrective action process. The amount of preapproved work performed should be based on completion of the activity's objectives. Additionally, please also note that preapproved amounts include all eligible markup.

Claims for reimbursement should only be submitted after the completion of an annual cycle for remediation system operation and maintenance, and quarterly groundwater monitoring unless a more frequent filing period is previously approved by the PST Reimbursement Section. The Reimbursement Section can be reached at 512/239-2001.

TRANSACTION REPORT

P. 01

AUG-22-2000 TUE 05:20 PM

DATE	START	RECEIVER	TX TIME	PAGES	TYPE	NOTE	M#	DP
AUG-22	05:17 PM	9-19013956664	2' 56"	5	SEND	OK	667	

TOTAL : 2M 56S PAGES: 5

TNRCC FAX TRANSMITTAL

DATE: 8/22/00 NO. OF PAGES (including this sheet): 5

TO: Name MR. JAMAL MANSOUR / Russ Ford
 Organization FEDERAL EXPRESS / HRC
 Fax Number (901) 395-6664 / (512) 442-1181

FROM: TEXAS NATURAL RESOURCE CONSERVATION COMMISSION
 Name Victoria K. Montgomery
Coordinator
 Telephone 512/239-2200
 Fax Number 512/239-2216
 Mail MC-137, PO Box 13087, Austin, Tx 78711-3087

NOTES: Response to Corrective Action Proposal(s) for LPST #: 111747 , Facility ID: 0029044.

Activity 10: Operation, Monitoring, & Performance

TNRC #: na
 LPST #: 111747
 Facility #: 29044
 Facility Name: Federal Express
 Facility address: 5811 Techni Center, Austin
 Date: 21-Aug-00
 Prepared by: VKM

Depth of wells	# wells	System	# of Wells
1 st quarter	37	1 st system	Yes
2 nd quarter	11	Emmissions Ctrl.	Yes
3 rd quarter	11	Add'l systems	0
4 th quarter	0	# of wells >3/sys.	0
	0	Number of visits	32
		Number of months	6

% of Subtotal subject to markup	100.00%	Subtotal Equipment:	\$21,585.00
Total Subcontracted Personnel	\$21,585.90	Markup 15%	\$3,237.88
		Total Equipment:	\$24,823.88

Print Date	To Contents

Activity 10: Operation, Monitoring, & Performance

TNRCC #:	na	111747	Depth of wells	37	System	# of Wells
LPST #:		29044	1 st quarter		11 Emmissions Ctrl.	Yes
Facility #:			2 nd quarter		11 Addt'l systems	Yes
Facility Name:	Federal Express		3 rd quarter		0 # of wells >3/sys.	0
Facility address:	5811 Techni Center, Austin		4 th quarter		0 Number of visits	0
Date:		21-Aug-00			Number of months	32
Prepared by:	VKM					6

Part C: Analytical Costs - See Note 3

Page 2/2

Section 1: Groundwater Testing				
ITEM	ACTIVITY	UNITS	\$/UNIT	TOTAL
TNRCC 1005/BTEX		0	\$125.00	\$0.00
TNRCC 1005/BTEX w/ MTBE		22	\$147.50	\$3,245.00
PAH (810)		2	\$158.00	\$316.00
PAH (8270)		2	\$249.00	\$498.00
Nitrates - w		0	\$24.00	\$0.00
Phosphates - w		0	\$24.00	\$0.00
Sulfates - w		0	\$24.00	\$0.00
Shipping		48	\$5.00	\$240.00
Total Section 1				\$4,299.00
Section 2: System Performance Analytical Testing				
ITEM	ACTIVITY	UNITS	\$/UNIT	TOTAL
TNRCC 1005 (Water)		0	\$62.50	\$0.00
BTEX (Water, Air)		12	\$62.50	\$750.00
BTEX w/ MTBE (Water)		0	\$85.00	\$0.00
TOTAL LEAD (Water)		0	\$31.00	\$0.00
TPH - w a		12	\$62.50	\$750.00
Tedlar bags		12	\$7.50	\$90.00
Shipping		12	\$5.00	\$60.00
Total Section 2				\$1,650.00
% of Subtotal subject to markup			0.00%	Subtotal Analytical
Total Subcontracted Analytical			\$0.00	Markup 10%
				\$0.00
				\$5,949.00

Comments

Part D: Waste Management Costs - See Note 5

ITEM	ACTIVITY	UNITS	\$/UNIT	TOTAL
Vacuum Truck		3	\$75.00	\$225.00
Fluid Disposal		550	\$0.40	\$220.00
Subchapter H Discharge or Alternate Dis	As Needed	0	\$0.00	\$0.00
% of Subtotal subject to markup			0.00%	Subtotal Waste
Total Subcontracted Waste management			\$0.00	Markup 10%
				\$0.00
				\$445.00

Comments
yes
no

Part E: Travel Costs - See Note 8

ITEM	ACTIVITY	UNITS	UNIT COST	TOTAL
Equipment truck	includes first 50 miles one way (100 r.t.)	19.5	\$140.00	\$2,730.00
Mileage (>100 r.t., max 400/mrp)	\$2.10/mi at 0 m/mrp	0	\$0.31	\$0.00
Travel time Tech. - r.t./50mph		0	\$50.00	\$0.00
Airfare		0	\$0.00	\$0.00
Per Diem	0 night, 0 tech.	0	\$80.00	\$0.00
% of Subtotal subject to markup			0.00%	Subtotal Travel
Total Subcontracted Travel			\$0.00	Markup 16%
				\$0.00
				\$2,730.00

Comments
\$140.00/Day
\$0.31
\$50.00/hour
By Need
\$80.00/Day if > 12 hr day

Part F: Other Expenses

ITEM	UNITS	UNIT COST	TOTAL
	0	\$0.00	\$0.00
	0	\$0.00	\$0.00
	0	\$0.00	\$0.00
% of Subtotal subject to markup		0.00%	Subtotal Other
Total Subcontracted Other		\$0.00	Markup 15%
			\$0.00
			\$0.00

Comments

	Proposed		Approved		Approved - Proposed Difference
	Amount Subcontracted	Total	Subcontracted	Total	
Personnel	\$0	\$5,710	\$0	\$6,790	\$3,080
Equipment	\$21,546	\$24,778	\$21,586	\$24,824	\$46
Analytical	\$0	\$4,914	\$0	\$5,949	\$1,035
Waste	\$0	\$994	\$0	\$445	(\$549)
Travel	\$0	\$4,940	\$0	\$2,730	(\$2,210)
Other	\$0	\$0	\$0	\$0	(\$0)
Total	\$21,546	\$41,336	\$21,586	\$42,738	\$1,402

- Notes:**
- Please refer to Appendix A, Part 1 for a breakdown of personnel costs.
 - An OMP Plan for existing systems should be submitted for any site where a remediation system was in operation at the time the system performance reporting requirements were adopted by the TNRCC.
 - Please refer to Appendix A, Part 5 for a listing of equipment costs. Mark-up for subcontracted costs vary. Refer to Appendix A, Part 9.
 - This line will be used if a remediation system or a component(s) of the remediation will be reimbursed in this Activity. See Activity 09: Remediation System Installation.
 - Please refer to Appendix A, Part 2 for additional laboratory analyses and costs. Mark-up is allowed only on subcontracted items.
 - Please refer to Appendix A, Part 7 for a breakdown of waste management costs.
 - Please refer to Appendix A, Part 4 for a breakdown of travel policy and costs. The TNRCC will pay for one Technician to travel to the site and perform O&M and Groundwater Sampling events. The TNRCC will reimburse this individual at the T3 rate when O&M is performed and at the T1 rate when sampling is performed. Travel will be paid at the T3 rate.

111747



A DIVISION OF Terracon

FAX TRANSMITTAL FORM

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Please deliver this to: Vicki Montgomery

Company: TNRCC-PST

Fax No.: 234-2216 Phone No.: _____

Date: 7/24/00

MESSAGE:

Vicki

just quoted specs for Thermo-x system for
 Lelux. Will get you some revised calculations
 this afternoon. Call w/ questions

Thanks

FROM: NAME: Ross Ford

COMPANY: HBC ENGINEERING, INC., 3913 TODD LANE, SUITE 312, AUSTIN, TEXAS 78744

PHONE NO.: 512/442-1122 FAX NO.: 512/442-1181

PAGES SENT INCLUDING COVER _____



Onion Enterprises 7385 Stonegate Naples FL 34109
www.onionenterprises.com

Date: 7/20/00

To: HBC Engineering
Russ Ford
Phone: 512-442-1122
Fax: 512-442-1181

From: Onion Enterprises
Barry Zvibleman
Phone: 941-566-7007
Fax: 941-596-3768

Pages: 3

Subject: Thermax Rental

Thank you for your interest in treatment equipment provided by Onion Enterprises. We have reviewed the influent data for the hydrocarbon project and submit the following bid.

Design Conditions

We understand that you wish to treat approximately 100cfm of soil vapor from a site that is contaminated with petroleum hydrocarbons. Onion Enterprises Environmental intends to treat the air stream via thermal oxidation. The initial concentrations are 20,000 ppm. The system will need dilute these concentrations to below 9000 ppm. Extra precautions will need to be performed during start up at so high of concentrations. Attached is the general specification for the system.

Price:

For the above-described Onion Enterprises we are pleased to quote a price, F.O.B. point of manufacture, \$2,400.00 per Month base on a six month contract. Attached is a contract for your review.

Terms:

Our standard terms are first and last month payment with order, payment before each month

Additional terms and conditions shown on the attached sheet are herein made a part of this proposal.

Shipment:

Based on our production schedule, shipment will be made 3 to 4 weeks from date of receiving your order at our Naples facility. Shipment will be out of Ontario, CA. A formal project schedule will be prepared and submitted to you during the initial phase of the project.

Start-Up Service

Onion Enterprises provides a mandatory start-up services for the system! We can train your people during normal business hours in system operation and maintenance. The price for start-up and training assistance is \$700.00 per day plus travel and living expenses. Complete operating instructions will be provided for the system, as outlined above.

We look forward to working with Onion Enterprises on this project. Please contact me at 941-566-7007 if you have any questions.

Sincerely,

ONION ENTERPRISES

Barry Zvibleman
Manager of Environmental Services

*2x \$700
2x \$80 per diem
Roundtrip to Florida
~\$310*

Costs for required startup services as per phone conversation w/Russ Ford on 8/21

SPECIFICATIONS FOR K.B/H MMC-5B10 (100 scfm ThermOx System)

THERMAL OXIDIZER

NOMINAL FLOW CAPACITY:	100 scfm
THERMAL CAPACITY:	1 X 10 ⁶ Btu/hr
EQUIVALENT BTEX CONC.	3.4%
DAILY DESTRUCTION RATE	1300 lbs of BTEX
DIMENSIONS:	47" L x 44" W x 72" H
COMBUSTION CHAMBER:	24" diam. x 6'H; Stainless steel Type 304
WEIGHT:	650 lbs
OPERATING TEMPERATURE:	1,450° F
EFFLUENT TEMPERATURE:	800 - 1000° F
TYPICAL DESTRUCTION EFFICIENCY:	99%
SUPPLEMENTARY FUEL:	Natural Gas: 7.3 cu ft/min; Propane: 0.09 gal/min Supply Pressure 2 psig

FEATURES:

- VACUUM INDICATOR
- INLET FILTER
- BLOWER DISCHARGE TEMPERATURE INDICATOR
- BLOWER DISCHARGE MUFFLER
- PROCESS GAS FLOW SENSOR AND INDICATOR
- DILUTION AIR VALVE (MANUAL) WITH FILTER/MUFFLER
- FLOW CONTROL FROM 100 DOWN TO 70 SCFM
- FLAME ARRESTOR WITH SHUTDOWN INTERLOCK
- PROCESS GAS LOW PRESSURE LIMIT SWITCH
- PROPRIETARY PREMIX BURNER
- UV SENSOR
- SUPPLEMENTARY FUEL SYSTEM:
 - MANUAL AND SOLENOID ISOLATION VALVES
 - PRESSURE REGULATOR FOR MAIN AND PILOT FLAMES
 - HIGH/LOW GAS PRESSURE LIMIT SWITCH
 - TEMPERATURE CONTROLLED FUEL FLOW
- HIGH/LOW TEMPERATURE SHUTDOWN
- ADJUSTABLE DRAFT AIR PORTS
- 3', GALVANIZED STEEL, 28 gauge EXHAUST STACK
- SYSTEM EVALUATED BY THE AMERICAN GAS ASSOCIATION (AGA)

STANDARD VACUUM BLOWER (VCU): SELECTED TO MEET CUSTOMER'S SITE REQUIREMENTS.
A typical package would consist of the following:

TYPE:	Rotary Positive Displacement or Regenerative
BRAND (Typical):	M-D Pneumatics 3206
VACUUM @ CUST. P.O.C.:	6" Hg @ 100 SCFM
DRIVE MOTOR:	5 hp TEFC, 230 V, 1 or 3 phase
DIMENSIONS:	48" L x 25" W x 25" H
WEIGHT:	450 lbs

OPTIONS:

- TRAILER MOUNTED*, BED SIZE 5' W x 10' L
- VAPOR-LIQUID SEPARATOR w/ EXPLOSION PROOF FLOAT SWITCH
- VACUUM RELIEF VALVE
- SOUND ENCLOSURE
- MULTIPoint RECORDER
- COMMUNICATION PACKAGE, PC or FAX
- EXHAUST STACK 9'; GALVANIZED STEEL 28 gauge

* The MMC-5B10 system consists of a thermal oxidizer (ThOx) and vacuum/compressor unit (VCU). The two major components have their own base supports, suitable for forklift, and can be configured to customer's preferred layout. A trailerized option is also available.



Protecting Texas
by Reducing and
Preventing Pollution

FAX TRANSMITTAL

DATE: 7/17/00 NUMBER OF PAGES (including this cover sheet): 2

TO: Name Russ Ford
Organization HBC
FAX Number 442-1781

FROM: TEXAS NATURAL RESOURCE CONSERVATION COMMISSION
Name _____
Division/Region PST/RPR
Telephone Number (512) 239-2200
FAX Number (512) 239-2216

NOTES:

Russ,
Here are my calculations for mass
removal at IPST 111747. Sorry it took me so
long to get them to you! Let me know what you think!
Heidi

Vapor Concentration Conversion:

$$\frac{\text{mg}}{\text{m}^3} = \frac{(\text{PPM})(\text{gram Molecular weight})}{24.45} \quad (\text{see RQ-36, p. 16})$$

Assume MW of weathered gas is 102.2

$$C_{\text{CO}} \rightarrow \frac{(19,900 \text{ ppm})(102.2)}{24.45} = 83,181 \text{ mg/m}^3$$

$$C_{\text{C}_{11}\text{B}} \rightarrow \frac{(14,800 \text{ ppm})(102.2)}{24.45} = 61,803 \text{ mg/m}^3$$

$$\text{Average concentration} = \frac{83,181 + 61,803}{2} = 72,522 \text{ mg/m}^3$$

Mass removed

$$\begin{aligned} \text{Mass} &= (\text{Concentration})(\text{flow})(\text{time}) \\ &= (72,522 \frac{\text{mg}}{\text{m}^3})(5500 \frac{\text{m}^3}{\text{day}})(113 \text{ days}) \\ &= 4.5 \times 10^{10} \text{ mg} \end{aligned}$$

(see "How to Evaluate Alternate Cleanup Technologies for Underground Storage Tank Sites" P. II-28)

$$(4.5 \times 10^{10} \text{ mg})(3.52 \times 10^{-7} \text{ gal/mg TPH}) = 15,840 \text{ gals removed in 113 days}$$

VKM



June 14, 2000

Ms. Vicki Montgomery, Coordinator
 PST Responsible Party Remediation Section, Remediation Division
 Texas Natural Resource Conservation Commission
 MC-137
 P.O. Box 13087
 Austin, Texas 78711-3087

RECEIVED

JUN 28 2000

Telephone: (512) 239-2200
 Fax: (512) 239-2216

TNRCC / PST

Re: Federal Express Facility, 5811 Technicenter Drive, Austin, Texas, LPST ID No. 111747
 HBC Reference No. 96007145

111747
See copy
(copy of 6/14/00 P. 10 of Act 12)

Dear Ms. Montgomery:

The following letter provides a response to the comments contained in your May 26, 2000 LPST Corrective Action Response Form regarding the request for Operation and Monitoring (O&M) of the remediation system and the Operation, Monitoring, and Performance Report (OMPR) for the referenced site. The following responses are provided:

Comment #1-Calculations

A copy of the calculations used for determining the mass of hydrocarbons remaining and the mass removal rate was submitted to you, via fax, in a memo dated May 31, 2000. A copy of that memo is attached.

Comment #2- Projected Cleanup Time

The projected cleanup time of 6 months, as indicated in the OMPR, is the same cleanup time predicted and contained in the original Corrective Action Plan (CAP) prepared for the site and previously approved by the TNRCC. As stated in the original CAP, the system, as designed, was estimated to operate for approximately 6 months. After 6 months, the anticipated hydrocarbon removal rate would drop below 7.5 pounds TPH per day and the free product thickness should be reduced to less than 0.1 foot. This would result in the cumulative hydrocarbon recovery of approximately 2,420 gallons following 6 months of operation. The remaining hydrocarbon mass would then be allowed to naturally attenuate. Since the new system as proposed in the recently submitted O&M is essentially the same remedial design as contained in the approved CAP (SVE system with catalytic oxidizer vapor treatment driven by an IC engine), the same estimated cleanup time of 6-months, as contained in the CAP, was proposed in the new O&M.

*2420 gals
 in 6 months?
 or total?*

\\AUSMAIL\ENR\dox\Phase1\com\96007145.tnrcc\tr.doc

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 Fax (713) 690-8787

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 Fax (940) 766-6093

Ms. Montgomery
June 14, 2000
Page 2

Comment #3- Equipment Description

The proposed equipment to be used is the AcuVac System SVE I-6. A copy of the equipment specifications were originally submitted along with the OMPR. A copy of those specifications are attached. A cost estimate for rental of the equipment from AcuVac Remediation, Inc. is also attached. The original supplier used at the site, VaporTek, no longer supplies the type of equipment proposed. Additional cost quotes from other manufacturers are currently being pursued, however, due to the type of equipment proposed, the number of qualified and dependable suppliers is very limited.

need bids

Comment #4- Number of Site Visits

The O&M indicates 48 site visits. This was arrived at based on daily visits during the first week of operation (7 visits) and then weekly visits for the remaining 25 weeks for a total of 32 visits. The number of personnel units per visit was estimated at 1.5, which when multiplied by the number of visits, 32, equals the total of 48 as contained in the O&M.

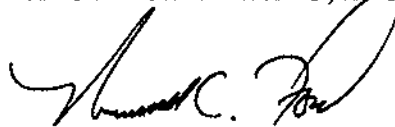
Comment #5-Travel Distance

The travel distance to the site from the HBC Austin office is approximately 10 miles, one way.

We trust the attached information is sufficient to address the comments contained in your May 26, 2000 letter and allow you to approve the current O&M. Should you have any questions or require additional information, please do not hesitate to call.

Sincerely,

HBC ENGINEERING, INC.



Russell C. Ford, C.P.G., CAPM
Senior Hydrogeologist

RECEIVED

JUN 28 2000

**TNRCC / PST
APR**

Encl.: Calculations; Equipment Specifications/Costs

cc: Mr. Jamal Mansour/Federal Express, w/o encl.



MEMORANDUM

To: Vicki Montgomery/RPR Section-TNRCC, via Fax 239-2216

From: Russell C. Ford, CAPM/HBC Engineering, Inc. *WR*

Subject: Fedex Site, LPST No. 111747

Date: May 31, 2000

Attached are the calculations for determining the hydrocarbon recovery volumes for the referenced site as you requested. We used the original release estimate of 6,700 gallons of product as our starting point. Prior to the installation of the SVE system, a total of 1,752 gallons of product had been recovered. This resulted in a total mass of hydrocarbons present at the start of the SVE of about 30,900 ^{444 x 0.86} pounds. We then used the formulas contained in the CAP to calculate the volume of hydrocarbons recovered. We used the influent TPH data collected at the start up of the system on June 12, 1998 (19,900 ppmv) and the influent concentration on November 3, 1998 (14,800 ppmv). We calculated that, due to system down time and breakdowns, the total time between these two readings, which the system was actually operational was 113 days. Based on the influent concentrations, the number of days of operation and the system flow rate of 135 cfm, we calculated a total volume of hydrocarbons recovered of 296 gallons or 1,850 pounds. This equals a recovery rate of 0.68 pounds per hour. This indicates that the SVE system appeared to be extracting the hydrocarbons at a sufficient rate, however, as indicated in the previously submitted OMPR, the destruction rate of the unit was not meeting the specified destruction efficiency of 98% and had to be shut down. The proposed new SVE system should meet the destruction efficiency rate while still providing for sufficient hydrocarbon recovery rates. We trust this additional information will allow you to complete the approval of the proposed new SVE unit. Please call me should you have any questions or require additional information.

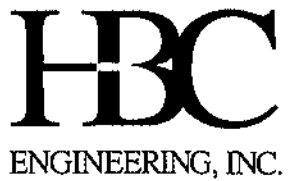
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Fax (940) 766-6093



PROJECT: Fedex
 PROJECT NO.: 96007145
 CALCD. BY: RF DATE: 3/20/00
 CHKO BY: _____ DATE: _____

Volume of original Release - $6,700 \text{ gallons} \times 6.25 \text{ lbs/gal} = \underline{41,875 \text{ lbs}}$
 Volume previously Recovered - $1,752 \text{ gallons} \times 6.25 \text{ lbs/gal} = \underline{10,950 \text{ lbs}}$
 Estimated Mass at start of SVE - 30,925 lbs rounded to 30,900

Use Formulas in CAP to calculate hydrocarbon removal rates of SVE system.

Calculate decay constant using TPH influent data collected at startup and after operation for ~ 3 months. Use Equation 1

$$C = C_0 e^{-kt} \quad (1)$$

where C = Concentration at time t in mg/m^3
 C_0 = Initial Concentration in mg/m^3
 k = Decay constant in day^{-1}
 t = time in days.

$C_0 = \frac{19,900 \text{ ppm} (6/12/96)}{10} = 59,700 \text{ mg}/\text{m}^3$
 $C = \frac{14,800 \text{ ppm} (11/3/98)}{10} = 44,400 \text{ mg}/\text{m}^3$
 $t = 113 \text{ days}$ (time system operational from 6/12 to 11/3 accounting for down time of system due to malfunctions in Sept - October.
 Solve for $k = -0.0185 \text{ day}^{-1}$

Calculate Volume of hydrocarbons recovered using Equation 2

$$V = (3.525 \times 10^{-3}) Q C_0 \left(\frac{1}{k} \right) (e^{kt} - 1)$$

where V = volume of hydrocarbons, gallons
 Q = Flow rate, m^3/day
 $3.525 \times 10^{-3} = \text{converts mg TPH to gallons of water using } 0.75 \text{ specific gravity}$
 Flow rate of $135 \text{ CFM} = 5,500 \text{ m}^3/\text{day}$
 Substituting in Q , C_0 , and k values yields volume recovered of 296 gallons or 1850 lbs

$1850 \text{ lbs for } 113 \text{ days} = \underline{0.68 \text{ lb/hr}}$

Total mass recovered = $10,950 \text{ lbs} + 1850 \text{ lbs} = \underline{12,800 \text{ lbs}}$
 Mass Remaining = $30,900 - 1850 = \underline{29,050}$



AcuVac Remediation Inc.

11020 Old Katy Road, Suite 111 • Houston, Texas 77043 • (713) 468-6688 • fax (713) 468-6689

November 16, 1999

Mr. Chris Kopec
HBC Engineering
3913 Todd Lane, Suite 312
Austin, TX 78744

Dear Chris:

RE: SVE Leased System - Techni Center Drive

The following is a lease cost proposal for a term of one month with a 5 month extension option, to install, operate and provide maintenance on an AcuVac I-6 SVE System. The System will be fitted with a new computerized fuel controller. The System will be installed at the above referenced location.

<u>TERMS:</u>	<u>1st Month</u>	<u>2nd - 6th Months</u>
Lease Cost @ \$4,000.00/Month	\$4,000.00	\$4,000.00
Operation & Maintenance, including all parts, labor (100% warranty), preventive maintenance including System upgrades & 24 hr/day on call service (does not include laboratory analytical costs, includes operational data and sampling)	1,500.00	1,500.00*
Mobilization, Demobilization & Transportation (including up to 2 days on-site for start-up)	<u>2,500.00</u>	<u>0.00</u>
TOTAL System Cost	<u>\$8,000.00</u>	<u>\$5,500.00</u>

*Optional with AcuVac Certified Trained Technician.

AcuVac will extend the lease for an additional five months at the cost of \$4,000.00/month. This option must be exercised each 7 days in advance. During the first month AcuVac will provide the O & M as stated above. After the first month, HBC will have the option to conduct the O & M only with an AcuVac certified technician. Payment for the mobilization, monthly lease and other costs will be determined prior to signing of the Lease.

The Lessee is responsible for all additional costs including but not limited to the monthly cost of auxiliary fuel (propane or natural gas), tank or meter installation, liability insurance, permitting (PI-7), security fencing and security light, operational, sales or any other applicable taxes, with signed Texas Resale Certificate, the cost of installation of any piping valves or connections associated with the underground or aboveground manifold SVE piping system, pad for parking the SVE System and disposal of groundwater that may be collected in the moisture knockout tank.

Enclosed are the engineering schematics on the AcuVac System - SVE I-6 - including the Equipment and Operating Specifications. The leased unit will be a new System or one that has been reconditioned prior to

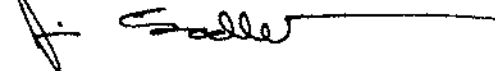
delivery. Our objective is to maximize operating hours and reduce remediation time and cost to the minimum. Our Systems installed in New Mexico, Texas and Oklahoma have a combined run time of over 95% of available operating hours. The System will meet all State and Federal air emission standards. No electrical connections are required for operation. An electrical light and plug, installed in the compound, is desired.

The estimated cost for auxiliary fuel for natural gas should be based on 2.2 to 2.8 therms per hour, depending on the load (horsepower) requirement, and for propane it is 2.3 to 2.7 gals/hour. This does not take into consideration any fuel value obtained from the influent vapors which become part of the IC engine fuel.

AcuVac is a certified HUB in the State of Texas and W/DBE in the City of Houston.

The lead time from contract to delivery is two to three weeks. The lease proposal is good for 90 days. If you should have any questions or need additional information, please let me know. We appreciate the opportunity to submit this proposal.

Sincerely,



James E. Sadler
Engineer/Environmental

ACUVAC SYSTEM - SVE I-6

OPERATING SPECIFICATIONS 300 Cubic Inch/4.9 Liter/6 Cylinder IC Engine

Electrical Requirements	None
Engine RPM	1,800 RPM to 2,500 RPM/site specific. Calculations below based upon 2,200 RPM
Fuel Source	Well flow/contamination (or) natural gas (or) propane (or) combination well flow and alternate fuel
Fuel Consumption/Propane	1. Maximum usage 4.8 gallons/hour Actual usage 3.0 gallons/hour
Fuel Consumption/Natural Gas	1. Maximum usage 4.39 therms/hr Actual usage 2.74 therms/hr
Fuel Consumption/Well Flow	Site specific, 0 to 4.5 gal/hr projected
Fuel Consumption/BTUs	1. Maximum usage 432,000 BTUs/hour Actual usage 274,000 BTUs/hour
Total Fresh Air/Fuel Flow	Maximum usage 160 cfm Actual usage 90 - 120 cfm
Well Flow	0 to 120/site specific
Fresh Air Flow	0 to 80/site specific
Combustion Efficiency with Catalytic Converters	2. 87% 2. 99.9% (less than .9 lbs VOC/day)
Vacuum/Well Manifold	0" to 15" HG/site specific Actual 0.25" to 3.00" HG
Noise Level	Less than 50 db at 20 feet
Ambient Temperature	-20°F to + 120°F

1. Maximum usage and actual usage differ because of the load factor on the engine. Actual information has been obtained from field data. Fuel usage stated for propane and natural gas assumes no BTU value from well flow.
2. This efficiency rating assumes the engine is maintained and tuned and the catalysts are in good working order.

AcuVac System SVE I-6 Specifications

Engine - Power Source/Thermal Oxidizer

Make: Ford internal combustion engine with power with power take-off
Model: CSG-649P Year: 1998
300 cubic inch displacement (4.9), 120 HP, 6 cylinders
Propane or natural gas co-fired

Catalytic Converter

Make: NAPA
Model: ICEN 703
100 cfm, temperature 600-1500°F
Anticipated life 4,000 hours; performance examination
recommended every 500 hours; three in series

Vacuum Pump

Make: Dresser-Roots Model: 33 RAI Universal
Engine driven, maximum flow 155 scfm,
Actual operating flow rates 20 - 70 scfm

*Air Injection Pump

Make: Dresser-Roots Model: 22 RAI Universal
Engine driven, maximum flow 55 scfm,
Actual operating flow rates 18 - 40 scfm
Heat Exchanger: Stainless Steel Fin Tube

System Dimensions

8.0' length, 4.0' width, 6.5' height
(with trailer 12' 6" L X 4' 9" W x 8' H; 2,900 lbs)
Tank size: 3.0' diameter, 5.0' height
Trailer: Custom made by Manufacturer

Stack

Height: 10'
Temperature: 700 - 850°F
Exhaust Pipe: 2 1/2"

Other

Flow Gauges: Dwyer (including flow sensors)
Instrumentation & Safety Shut-off; Murphy Gauges
Electrical: 12 volts, HD battery
Air Intake Filter: Ford Industrial
Valves: Heavy Duty Brass
Moisture Knockout Tank: Custom made by Manufacturer
Moisture Knockout Filter: Custom made by Manufacturer
Leveling Jacks: Custom made by Manufacturer
Vacuum Connection Hose to SVE Manifold (2.0 inch HD)

*Optional Equipment

Engine Control System

The S.A.V.E.TM engine control system is designed to optimize cleanup from vapor extraction wells and optimize run time by automatically adjusting alternate fuel, dilution air and well valves. In systems which include Dual Phase Vacuum Extraction (DPVE), the tank vacuum is also controlled by the Phoenix 1000 engine control system.

The Phoenix 1000 controller starts the engine running on dilution air and alternate fuel through an idle and warm-up period. After warm-up, the system slowly begins opening the well/tank valve. As the well/tank valve is opening, the controller constantly adjusts all of the other valves to maintain the set RPM and to hold a near stoichiometric fuel ratio in the engine. The system continuously increases the well/tank valve while decreasing the alternate fuel and dilution air inlet valves. If the well is very rich (high concentration of hydrocarbons), the alternate fuel valve will eventually close. The control system will close the dilution air valve if the well is very lean. The well/tank valve will continue to open until one of several possible events occur; either the alternate fuel or the dilution valves completely opens or closes, the RPM strays too far from the set point, or the rate of change of the RPM exceeds a predetermined level. As the well conditions change, the system will continuously adjust to maintain the maximum flow from the wells/tank. On the units equipped with a DPVE tank, the Servo Valve is connected to the controller. The quantity of air coming from the well is controlled in order to maintain vacuum and flow from the tank. Please refer to Figures 1 and 2 for graphical illustration of system operation.

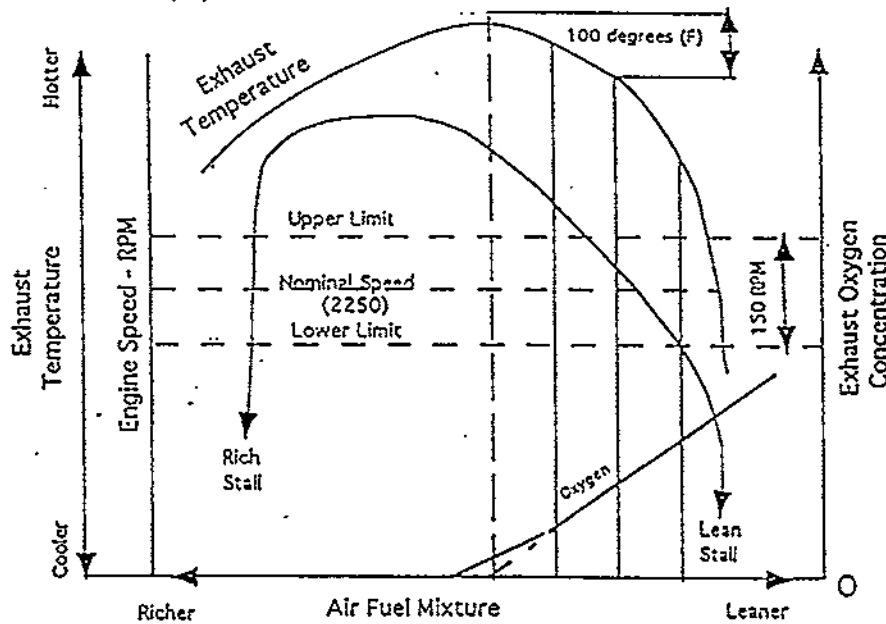


Figure 1

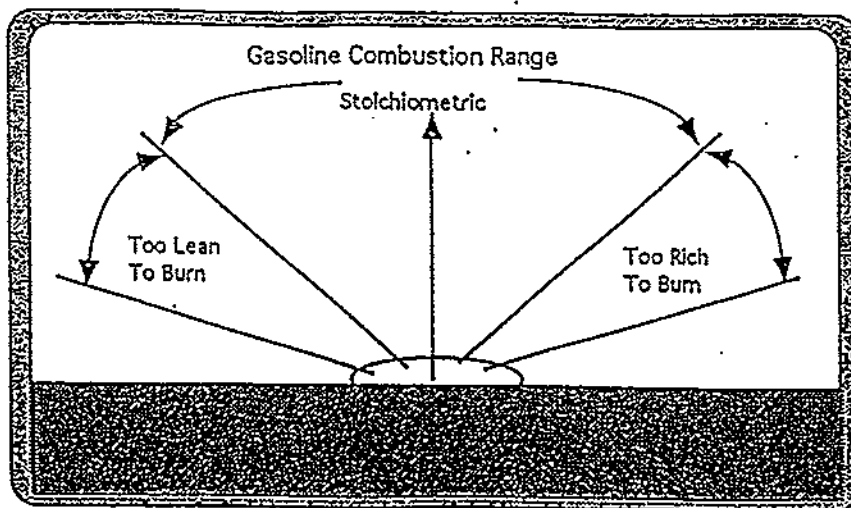


Figure 2

HBC

ENGINEERING INC

111747
Prop Act 12

(see 4/27/00 Prop Act 12
for add info + proposed
costs)

FAX TRANSMITTAL FORM

CONFIDENTIAL NOTICE

The documents accompanying this telecopy transmission contain confidential information which is legally privileged. The information is intended only for the use of the recipient named below. If you have received this telecopy in error, please immediately notify us by telephone to arrange for the return of the telecopied documents to us, and you are hereby notified that any disclosure, copying, distribution, or the taking of any action in reliance on the contents of this telecopied information is strictly prohibited.

Please deliver this to: Ms. Vicki Montgomery

Company: TNRCC

Fax No.: 512-239-2216 Phone No.: 512-239-2200

Date: 6/14/00

WITHDRAWN
STILL
NEED
MORE
INFO

MESSAGE:

FAXED
6/14/00

FROM NAME: Russell C. Ford
COMPANY: HBC ENGINEERING, INC., 3913 TODD LANE, SUITE 312, AUSTIN, TEXAS 78744
PHONE NO.: 512/442-1122 FAX NO.: 512/442-1181

PAGES SENT INCLUDING COVER 10

ENVIRONMENTAL, GEOTECHNICAL, AND CONSTRUCTION MATERIALS SERVICES



June 14, 2000

Ms. Vicki Montgomery, Coordinator
 PST Responsible Party Remediation Section, Remediation Division
 Texas Natural Resource Conservation Commission
 MC-137
 P.O. Box 13087
 Austin, Texas 78711-3087

Telephone: (512) 239-2200
 Fax: (512) 239-2216

Re: Federal Express Facility, 5811 Technicenter Drive, Austin, Texas; LPST ID No. 111747
 HBC Reference No. 96007145

Dear Ms. Montgomery:

The following letter provides a response to the comments contained in your May 26, 2000 LPST Corrective Action Response Form regarding the request for Operation and Monitoring (O&M) of the remediation system and the Operation, Monitoring, and Performance Report (OMPR) for the referenced site. The following responses are provided:

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Ms. Montgomery
June 14, 2000
Page 2

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The travel distance to the site from the HBC Austin office is approximately 10 miles, one way.

We trust the attached information is sufficient to address the comments contained in your May 26, 2000 letter and allow you to approve the current O&M. Should you have any questions or require additional information, please do not hesitate to call.

Sincerely,

HBC ENGINEERING, INC.

Russell C. Ford, C.P.G., CAPM
Senior Hydrogeologist

Encl.: Calculations; Equipment Specifications/Costs

cc: Mr. Jamal Mansour/Federal Express, w/o encl.

MEMORANDUM

HBC
 ENGINEERING, INC.

To: Vicki Montgomery/RPR Section-TNRCC, via Fax 237-2216

From: Russell C. Ford, CAPM/HBC Engineering, Inc.

Subject: Fedex Site, LPST No. 111747

Date: May 31, 2000

Attached are the calculations for determining the hydrocarbon recovery volumes for the referenced site as you requested. We used the original release estimate of 6,700 gallons of product as our starting point. Prior to the installation of the SVE system, a total of 1,752 gallons of product had been recovered. This resulted in a total mass of hydrocarbons present at the start of the SVE of about 30,900 pounds. We then used the formulas contained in the CAP to calculate the volume of hydrocarbons recovered. We used the influent TPH data collected at the start up of the system on June 12, 1998 (19,900 ppmv) and the influent concentration on November 3, 1998 (14,800 ppmv). We calculated that, due to system down time and breakdowns, the total time between these two readings, which the system was actually operational was 113 days. Based on the influent concentrations, the number of days of operation and the system flow rate of 135 cfm, we calculated a total volume of hydrocarbons recovered of 296 gallons or 1,850 pounds. This equals a recovery rate of 0.68 pounds per hour. This indicates that the SVE system appeared to be extracting the hydrocarbons at a sufficient rate, however, as indicated in the previously submitted OMPR, the destruction rate of the unit was not meeting the specified destruction efficiency of 98% and had to be shut down. The proposed new SVE system should meet the destruction efficiency rate while still providing for sufficient hydrocarbon recovery rates. We trust this additional information will allow you to complete the approval of the proposed new SVE unit. Please call me should you have any questions or require additional information.

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PAGE 2 OF 2

ENVIRONMENTAL, GEOTECHNICAL AND CONSTRUCTION MATERIALS SERVICES

PROJECT: Fedex
 PROJECT NO.: 96007145
 CALCD. BY: RF DATE: 3/20/00
 CHKO BY: _____ DATE: _____

HBC

ENGINEERING, INC.

Volume of original Release - 6,700 gallons \times 6.25 lbs/gal = 41,875 lbs

Volume previously Recovered - 1,752 gallons \times 6.25 lbs/gal = 10,950 lbs

Estimated Mass at start of SVE - 30,925 lbs rounded to 30,900

Use Formulas in CAP to calculate hydrocarbon removal rates of SVE system.

Calculate decay constant using TPH influent data collection at startup and after operation for ~ 3 months. Use Equation 2

$$C = C_0 e^{-kt} \quad (2)$$

where C = Concentration at time t in mg/m^3
 C_0 = Initial Concentration in mg/m^3
 k = Decay constant in day^{-1}
 T = Time in days.

$$C_0 = 19,900 \text{ ppm (6/12/98)} = 59,700 \text{ mg/m}^3$$

$$C = 14,900 \text{ ppm (11/3/98)} = 44,900 \text{ mg/m}^3$$

T : 113 days (time system operational from 6/12 to 11/3 accounting for downtime of system due to malfunctions in Sept - October.

$$\text{Solve for } k = -0.0185 \text{ day}^{-1}$$

Calculate Volume of hydrocarbons recovered using Equation 2

$$V = (3.525 \times 10^7) Q C_0 (1/k) (e^{kt} - 1)$$

where V = volume of hydrocarbons, gallons

Q = Flow rate, m^3/day

3.525×10^7 converts mg TPH to gallons equivalent using 0.75 specific gravity

Flow rate of 135 cfm = 5,500 m^3/day

Substituting in Q , C_0 , and k values yields volume recovered of 296 gallons or 1850 lbs

$$1850 \text{ lbs for 113 days} = \underline{0.68 \text{ lb/hr}}$$

$$\text{Total mass remaining} = 10,950 \text{ lbs} + 1850 \text{ lbs} = \underline{12,800 \text{ lbs}}$$

$$\text{Mass Remaining} = 30,900 - 1850 = \underline{29,050}$$


AcuVac Remediation Inc.

11020 Old Katy Road, Suite 111 • Houston, Texas 77043 • (713) 468-6688 • fax (713) 468-6689

November 16, 1999

Mr. Chris Kopec
 HBC Engineering
 3913 Todd Lane, Suite 312
 Austin, TX 78744

Dear Chris:

RE: SVE Leased System - Techni Center Drive

The following is a lease cost proposal for a term of one month with a 5 month extension option, to install, operate and provide maintenance on an AcuVac I-6 SVE System. The System will be fitted with a new computerized fuel controller. The System will be installed at the above referenced location.

<u>TERMS:</u>	<u>1st Month</u>	<u>2nd - 6th Months</u>
Lease Cost @ \$4,000.00/Month	\$4,000.00	\$4,000.00
Operation & Maintenance, including all parts, labor (100% warranty), preventive maintenance including System upgrades & 24 hr/day on call service (does not include laboratory analytical costs, includes operational data and sampling)	1,500.00	1,500.00*
Mobilization, Demobilization & Transportation (including up to 2 days on-site for start-up)	<u>2,500.00</u>	<u>0.00</u>
TOTAL System Cost	<u>\$8,000.00</u>	<u>\$5,500.00</u>

*Optional with AcuVac Certified Trained Technician.

AcuVac will extend the lease for an additional five months at the cost of \$4,000.00/month. This option must be exercised each 7 days in advance. During the first month AcuVac will provide the O & M as stated above. After the first month, HBC will have the option to conduct the O & M only with an AcuVac certified technician. Payment for the mobilization, monthly lease and other costs will be determined prior to signing of the Lease.

The Lessee is responsible for all additional costs including but not limited to the monthly cost of auxiliary fuel (propane or natural gas), tank or meter installation, liability insurance, permitting (PI-7), security fencing and security light, operational, sales or any other applicable taxes, with signed Texas Resale Certificate, the cost of installation of any piping valves or connections associated with the underground or aboveground manifold SVE piping system, pad for parking the SVE System and disposal of groundwater that may be collected in the moisture knockout tank.

Enclosed are the engineering schematics on the AcuVac System - SVE I-6 - including the Equipment and Operating Specifications. The leased unit will be a new System or one that has been reconditioned prior to

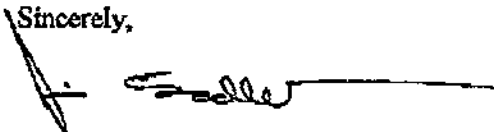
delivery. Our objective is to maximize operating hours and reduce remediation time and cost to the minimum. Our Systems installed in New Mexico, Texas and Oklahoma have a combined run time of over 95% of available operating hours. The System will meet all State and Federal air emission standards. No electrical connections are required for operation. An electrical light and plug, installed in the compound, is desired.

The estimated cost for auxiliary fuel for natural gas should be based on 2.2 to 2.8 therms per hour, depending on the load (horsepower) requirement, and for propane it is 2.3 to 2.7 gals/hour. This does not take into consideration any fuel value obtained from the influent vapors which become part of the IC engine fuel.

AcuVac is a certified HUB in the State of Texas and W/DBE in the City of Houston.

The lead time from contract to delivery is two to three weeks. The lease proposal is good for 90 days. If you should have any questions or need additional information, please let me know. We appreciate the opportunity to submit this proposal.

Sincerely,



James E. Sadler
Engineer/Environmental

ACUVAC SYSTEM - SVE I-6

OPERATING SPECIFICATIONS 300 Cubic Inch/4.9 Liter/6 Cylinder IC Engine

Electrical Requirements	None
Engine RPM	1,800 RPM to 2,500 RPM/site specific. Calculations below based upon 2,200 RPM
Fuel Source	Well flow/contamination (or) natural gas (or) propane (or) combination well flow and alternate fuel
Fuel Consumption/Propane	¹ Maximum usage 4.8 gallons/hour Actual usage 3.0 gallons/hour
Fuel Consumption/Natural Gas	² Maximum usage 4.3 ⁹ therms/hr Actual usage 2.74 therms/hr
Fuel Consumption/Well Flow	Site specific, 0 to 4.5 gal/hr projected
Fuel Consumption/BTUs	¹ Maximum usage 432,000 BTUs/hour Actual usage 274,000 BTUs/hour
Total Fresh Air/Fuel Flow	Maximum usage 160 cfm Actual usage 90 - 120 cfm
Well Flow	0 to 120/site specific
Fresh Air Flow	0 to 80/site specific
Combustion Efficiency with Catalytic Converters	² 87% ² 99.9% (less than .9 lbs VOC/day)
Vacuum/Well Manifold	0" to 15" HG/site specific Actual 0.25" to 3.00' HG
Noise Level	Less than 50 db at 30 feet
Ambient Temperature	-20°F to + 120°F

1. Maximum usage and actual usage differ because of the load factor on the engine. Actual information has been obtained from field data. Fuel usage stated for propane and natural gas assumes no BTU value from well flow.

2. This efficiency rating assumes the engine is maintained and tuned and the catalysts are in good working order.

AcuVac System SVE I-6 Specifications

Engine - Power Source/Thermal Oxidizer

Make: Ford internal combustion engine with power with power take-off
 Model: CSG-649P Year: 1998
 300 cubic inch displacement (4.9), 120 HP, 6 cylinders
 Propane or natural gas co-fired

Catalytic Converter

Make: NAPA
 Model: ICEN 703
 100 cfm, temperature 600-1500°F
 Anticipated life 4,000 hours; performance examination
 recommended every 500 hours; three in series

Vacuum Pump

Make: Dresser-Roots Model: 33 RAI Universal
 Engine driven, maximum flow 155 scfm,
 Actual operating flow rates 20 - 70 scfm

*Air Injection Pump

Make: Dresser-Roots Model: 22 RAI Universal
 Engine driven, maximum flow 55 scfm,
 Actual operating flow rates 18 - 40 scfm
 Heat Exchanger: Stainless Steel Fin Tube

System Dimensions

8.0' length, 4.0' width, 6.5' height
 (with trailer 12' 6" L X 4' 9" W x 8' H; 2,900 lbs)
 Tank size: 3.0' diameter, 5.0' height
 Trailer: Custom made by Manufacturer

Stack

Height: 10'
 Temperature: 700 - 850°F
 Exhaust Pipe: 2 1/2"

Other

Flow Gauges: Dwyer (including flow sensors)
 Instrumentation & Safety Shut-off; Murphy Gauges
 Electrical: 12 volts, HD battery
 Air Intake Filter: Ford Industrial
 Valves: Heavy Duty Brass
 Moisture Knockout Tank: Custom made by Manufacturer
 Moisture Knockout Filter: Custom made by Manufacturer
 Leveling Jacks: Custom made by Manufacturer
 Vacuum Connection Hose to SVE Manifold (2.0 inch HD)

*Optional Equipment

Engine Control System

The S.A.V.E.TM engine control system is designed to optimize cleanup from vapor extraction wells and optimize run time by automatically adjusting alternate fuel, dilution air and well valves. In systems which include Dual Phase Vacuum Extraction (DPVE), the tank vacuum is also controlled by the Phoenix 1000 engine control system.

The Phoenix 1000 controller starts the engine running on dilution air and alternate fuel through an idle and warm-up period. After warm-up, the system slowly begins opening the well/tank valve. As the well/tank valve is opening, the controller constantly adjusts all of the other valves to maintain the set RPM and to hold a near stoichiometric fuel ratio in the engine. The system continuously increases the well/tank valve while decreasing the alternate fuel and dilution air inlet valves. If the well is very rich (high concentration of hydrocarbons), the alternate fuel valve will eventually close. The control system will close the dilution air valve if the well is very lean. The well/tank valve will continue to open until one of several possible events occur; either the alternate fuel or the dilution valves completely opens or closes, the RPM strays too far from the set point, or the rate of change of the RPM exceeds a predetermined level. As the well conditions change, the system will continuously adjust to maintain the maximum flow from the wells/tank. On the units equipped with a DPVE tank, the Servo Valve is connected to the controller. The quantity of air coming from the well is controlled in order to maintain vacuum and flow from the tank. Please refer to Figures 1 and 2 for graphical illustration of system operation.

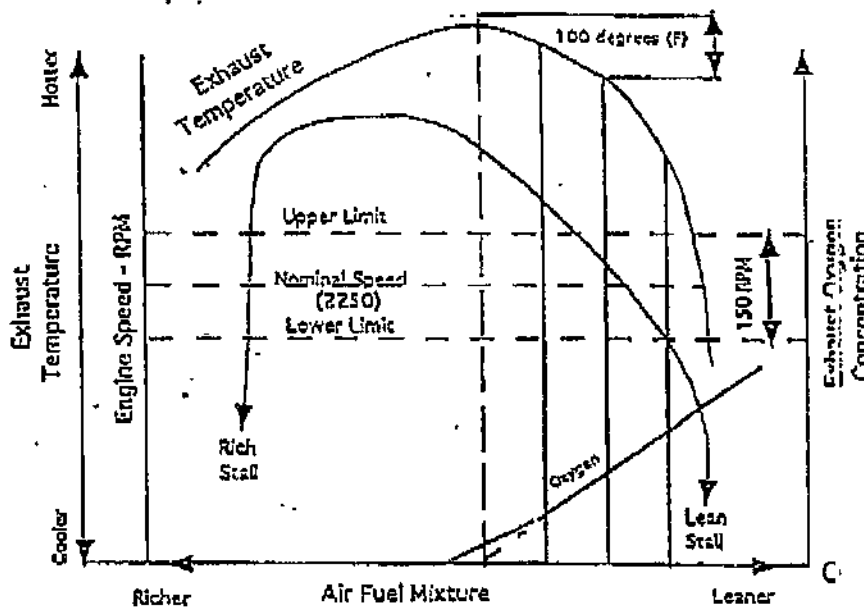


Figure 1

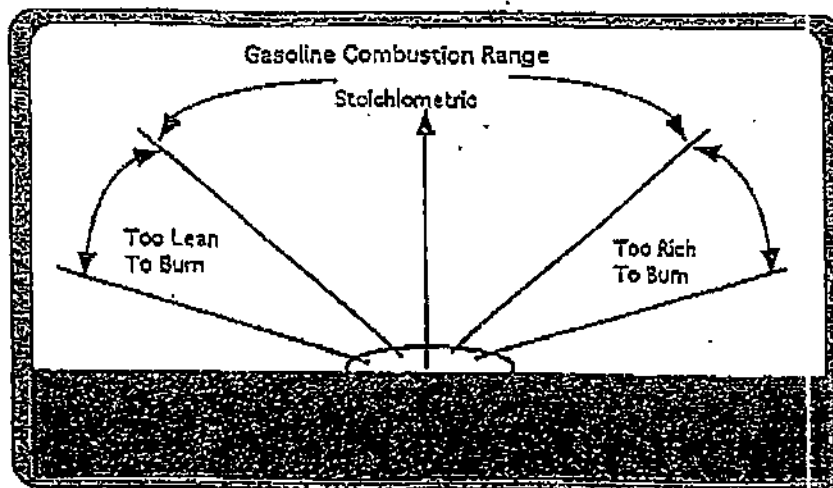


Figure 2

111747
TECH RESP
5/31/00



A DIVISION OF
Terracon

FAX TRANSMITTAL FORM

CONFIDENTIAL NOTICE

The documents accompanying this telecopy transmission contain confidential information which is legally privileged. The information is intended only for the use of the recipient named below. If you have received this telecopy in error, please immediately notify us by telephone to arrange for the return of the telecopied documents to us, and you are hereby notified that any disclosure, copying, distribution, or the taking of any action in reliance on the contents of this telecopied information is strictly prohibited.

Please deliver this to: Vicki Montgomery

Company: TERRACON subin PST Division

Fax No.: 239-2216 Phone No.: _____

Date: 5/31/00

MESSAGE:

Vicki,

attached are our sales for the product Recovery rates at the Fedex site. Sorry for the delay in getting this to you as I was out of town until today for the Memorial Day Holiday. Give me a call if any questions. Also, could you fax me a copy of the letter you sent to Fedex for my files. Thank you soon.

Dennis

FROM: NAME: Russ Ford

COMPANY: HBC ENGINEERING, INC., 3913 TODD LANE, SUITE 312, AUSTIN, TEXAS 78744

PHONE NO.: 512/442-1122 FAX NO.: 512/442-1181

PAGES SENT INCLUDING COVER 3

ENVIRONMENTAL, GEOTECHNICAL AND CONSTRUCTION MATERIALS SERVICES

MEMORANDUM

HBC

ENGINEERING, INC.

To: Vicki Montgomery/RPR Section-TNRCC, via Fax 239-2216

From: Russell C. Ford, CAPM/HBC Engineering, Inc.

Subject: Fedex Site, LPST No. 111747

Date: May 31, 2000

Attached are the calculations for determining the hydrocarbon recovery volumes for the referenced site as you requested. We used the original release estimate of 6,700 gallons of product as our starting point. Prior to the installation of the SVE system, a total of 1,752 gallons of product had been recovered. This resulted in a total mass of hydrocarbons present at the start of the SVE of about 30,900 pounds. We then used the formulas contained in the CAP to calculate the volume of hydrocarbons recovered. We used the influent TPH data collected at the start up of the system on June 12, 1998 (19,900 ppmv) and the influent concentration on November 3, 1998 (14,800 ppmv). We calculated that, due to system down time and breakdowns, the total time between these two readings, which the system was actually operational was 113 days. Based on the influent concentrations, the number of days of operation and the system flow rate of 135 cfm, we calculated a total volume of hydrocarbons recovered of 296 gallons or 1,850 pounds. This equals a recovery rate of 0.68 pounds per hour. This indicates that the SVE system appeared to be extracting the hydrocarbons at a sufficient rate, however, as indicated in the previously submitted OMPR, the destruction rate of the unit was not meeting the specified destruction efficiency of 98% and had to be shut down. The proposed new SVE system should meet the destruction efficiency rate while still providing for sufficient hydrocarbon recovery rates. We trust this additional information will allow you to complete the approval of the proposed new SVE unit. Please call me should you have any questions or require additional information.

Houston
11555 Clay Road
Suite 100
Houston, TX 77043
(713) 690-8989
Fax (713) 690-8747

Dallas
8901 Carpenter Frewy.
Suite 100
Dallas, TX 75247
(214) 630-7010
Fax (214) 630-7070

Fort Worth
2201 E. Loop 820 North
Flagstone & Loop 820
Fort Worth, TX 76118
(817) 268-8600
Fax (817) 268-8602

Austin
3913 Todd Lane
Suite 312
Austin, TX 78744
(512) 442-1122
Fax (512) 442-1181

Wichita Falls
3100 Seymour Hwy.
Suite 105
Wichita Falls, TX 76310
(940) 766-6092
Fax (940) 766-6093

ENVIRONMENTAL, GEOTECHNICAL AND CONSTRUCTION MATERIALS SERVICES

PROJECT: Fedex
 PROJECT NO.: 96007145
 CALCD. BY: RF DATE: 3/20/00
 CHKD BY: _____ DATE: _____

HBC
 ENGINEERING, INC.

Volume of original Release - 6,700 gallons \times 6.25 lbs/gal = 41,875 lbs

Volume previously Recovered - 1,752 gallons \times 6.25 lbs/gal = 10,950 lbs

Estimated Mass at start of SVE - 30,925 lbs rounded to 30,900

Use Formulas in CAP to calculate hydrocarbon removal rates of SVE system.

Calculate decay constant using TPH influent data collected at startup and after operation for ~ 3 months. Use equation 1

$$C = C_0 e^{kt} \quad (1)$$

where C = Concentration at time t in mg/m^3
 C_0 = Initial Concentration in mg/m^3
 k = Decay constant in day^{-1}
 t = time in days.

$$C_0 = 19,900 \text{ ppm (6/12/98)} = 59,700 \text{ mg}/\text{m}^3$$

$$C = 14,800 \text{ ppm (11/3/98)} = 44,400 \text{ mg}/\text{m}^3$$

t : 113 days (time system operational from 6/12 to 11/3 accounting for downtime of system due to malfunctions in Sept - October.

$$\text{Solve for } k = -0.0185 \text{ day}^{-1}$$

Calculate Volume of hydrocarbons recovered using Equation 2

$$V = (3.525 \times 10^7) Q C_0 \left(\frac{1}{k} \right) (e^{kt} - 1)$$

where V = volume of hydrocarbons, gallons

Q = Flow rate, m^3/day

3.525×10^7 - converts mg TPH to gallons equivalent using 0.75 specific gravity.

Flow rate of 135 cfm = 5,500 m^3/day

substituting in Q , C_0 , and k values yields volume recovered of 296 gallons or 1850 lbs

$$1850 \text{ lbs for 113 days} = \underline{0.68 \text{ lb/hr}}$$

$$\text{Total mass recovered} = 10,950 \text{ lb} + 1850 \text{ lb} = \underline{12,800 \text{ lbs}}$$

$$\text{Mass Remaining} = 30,900 - 1850 = \underline{29,050}$$

TNRCC FAX TRANSMITTAL

DATE: 5/26/00 NO. OF PAGES (including this sheet):

4

TO: Name MR. JAMAL MANSOUR
Organization FEDERAL EXPRESS
Fax Number (901) 395-6664

FROM: TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

Name Victoria K. Montgomery
Coordinator
Telephone 512/239-2200
Fax Number 512/239-2216
Mail MC-137, PO Box 13087, Austin, Tx 78711-3087

NOTES: Response-to-Corrective Action Proposal(s) for
LPST #: 111747, Facility ID: 0029044.
If you have any problems receiving this fax, please
call 512/239-2200.

Please note that new Corrective Action Preapproval Forms have been required since September 1, 1995. The forms are available at no cost by downloading from the TNRCC Bulletin Board Services (BBS) (512/239-0700), or over the Internet at <http://www.tnrcc.state.tx.us>. You may also order the forms on diskette from the TNRCC, MC-195, P.O. Box 13088, Austin, TX 78711-3088 (please specify the Corrective Action Preapproval Forms on diskette). A pamphlet with reproducible forms is available at no cost by calling TNRCC Publications at 512/239-0028.

Please note that all LPST corrective action proposals and reports need to be prepared by an environmental contracting/consulting firm registered as a Corrective Action Specialist (CAS) and need to have the the signatures and registration numbers of both the CAS and registered Corrective Action Project Manager (CAPM) included pursuant to Title 30, Texas Administrative Code (TAC), Subchapter J. Any proposal that has been prepared by a consulting firm not registered as a CAS by the Texas Natural Resource Conservation Commission (TNRCC) or which does not include the signature and registration number of the Project Manager may be rejected. Please reserve the use of the telefax machines for submitting proposals and data for LPST cases that rank as new priority 1's and for emergency abatement activities.

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

LPST CORRECTIVE ACTION RESPONSE FORM

LPST-ID: 111747

1/31/2000 Proposal For: OPERATION & MAINTENANCE OF REMEDIATION SYSTEM

GENERAL INFORMATION

LPST-ID : 111747 Priority: 4.1
Responsible Party : FEDERAL EXPRESS Tel: 901/395-4064
Facility # & Name : 0029044 FEDERAL EXPRESS
Facility Address : 5811 TECHNI CENTER
Facility City : AUSTIN County: TRAVIS
CAPM & Name : CAPM00227 CHRISTOPHER J. KOPEC
RCAS & Name : RCAS00387 HBC ENGINEERING, INC.

TNRCC TECHNICAL RESPONSE

Proposed activity is not approved for these technical reasons:

Costs associated with 6 months of Operation and Monitoring (O&M) of the remediation system are not approved at this time. We have reviewed the Operation, Monitoring, and Performance Report (OMPR) documenting system operation from 5/23/98 to 3/24/00 and request that the following items be addressed:

1. Please provide your calculations for determining the mass of hydrocarbons remaining (29,050 lbs) and the mass removal rate (.68 lb/hr).
2. Based on the estimated mass of hydrocarbons remaining and the estimated mass removal rate provided in Section V of the OMPR, the projected cleanup time of 6-12 months appears incorrect. Please reevaluate the projected cleanup time.
3. Please provide a description of the equipment to be rented and provide 3 quotes for the equipment. Please note that if equipment will be needed for more than 2 years, purchasing is usually the most cost effective option. The choice to rent the equipment may need to be reevaluated based on the revision of the projected cleanup time requested in item 2 above.
4. The cost proposal indicates that 48 visits will be required; however, the workplan indicates that weekly visits will be required for six months (i.e., a total of 26 O&M visits). Please clarify this discrepancy. In addition, if the revised cleanup time is projected to be greater than one year, please submit an O&M proposal for one year (rather than six months).
5. Please provide the distance from the site to the nearest RCAS/CAPM office to facilitate calculation of travel costs.

This information is being sent to you only. Please forward this response to your Corrective Action Specialist.

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION
LPST CORRECTIVE ACTION RESPONSE FORM

LPST-ID: 111747

1/31/2000 Proposal For: OPERATION & MAINTENANCE OF REMEDIATION SYSTEM

TNRCC TECHNICAL RESPONSE

ACTIVITY COST SUMMARY

Proposed Cost:	54,962.00	Maximum Pre-Approved:	0.00
----------------	-----------	-----------------------	------

Signature: Victoria K. Montgomery Date: 5/26/00 Telephone: 512/239-2200
Victoria K. Montgomery
Coordinator

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

LPST CORRECTIVE ACTION RESPONSE FORM

LPST-ID: 111747

1/31/2000 Proposal For: OPERATION & MAINTENANCE OF REMEDIATION SYSTEM

Pursuant to 30 TAC Section 334.82 (b), you are required to notify all parties affected by the contamination. If you determine that contamination from the release has migrated off-site, or if you are required by the TNRCC to conduct further assessment or other corrective actions off-site, then you are required to notify the affected landowner(s) within 30 days of documenting the impact. Please note that landowners may include state and local owners of right-of-way properties. For the purpose of this requirement, notice shall be through any means described in 30 TAC Section 334.82 (a). Please provide documentation that the affected landowner(s) has/have been notified within 30 days of notification. **Please note that failure to notify affected parties as required herein is grounds for formal enforcement proceedings.**

Please note that preapproval of this activity DOES NOT guarantee reimbursement. Eligibility is determined at the time of reimbursement application review. If the release is eligible, the preapproved amount is the maximum allowable for the proposed activities. The actual amount of reimbursement will be determined after the completed reimbursement application and all related receipts and invoices are submitted, and the completed activity is subject to technical and reimbursable cost review. In all instances, the completed work must be technically justifiable and should serve to advance the site in the corrective action process. The amount of preapproved work performed should be based on completion of the activity's objectives. Additionally, please also note that preapproved amounts include all eligible markup.

Claims for reimbursement should only be submitted after the completion of an annual cycle for remediation system operation and maintenance, and quarterly groundwater monitoring unless a more frequent filing period is previously approved by the PST Reimbursement Section. The Reimbursement Section can be reached at 512/239-2001.

TRANSACTION REPORT

P. 01

MAY-26-2000 FRI 06:15 PM

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TNRCC FAX TRANSMITTAL

DATE: 5/26/00 NO. OF PAGES (including this sheet): 4

TO: Name MR. JAMAL MANSOUR
 Organization FEDERAL EXPRESS
 Fax Number (901) 395-6664

FROM: TEXAS NATURAL RESOURCE CONSERVATION COMMISSION
 Name Victoria K. Montgomery
Coordinator
 Telephone 512/239-2200
 Fax Number 512/239-2216
 Mail MC-137, PO Box 13087, Austin, Tx 78711-3087

NOTES: Response to Corrective Action Proposal(s) for LPST #: 111747 , Facility ID: 0029044.

HBC
ENGINEERING, INC.

April 27, 2000

VKM

111747

Prop 12

Ms. Vicki Montgomery
Texas Natural Resource Conservation Commission
Petroleum Storage Tank Division
Responsible Party Remediation Section
P.O. Box 13087
M.C. 137
Austin, Texas 78711-3087

Re: Work Plan and Cost Proposal Submittal
Federal Express Facility
5811 Technicenter Drive
Austin, Texas
LPST #111747

Dear Ms. Montgomery:

As requested in your April 26, 2000 telephone conversation with Russ Ford, HBC Engineering, Inc. (HBC) is resubmitting a Work Plan and Cost Proposal for the above referenced property. The work plan details the operation and maintenance of an SVE system for a period of six months, and four quarterly groundwater monitoring events at the site.

Should you have any questions or require any additional information, please do not hesitate to call me at (512) 442-1122.

Sincerely,

HBC ENGINEERING, INC.

M. Russell C. Ford

Russell C. Ford, C.P.G.
Senior Hydrogeologist

RECEIVED

APR 27 2000

**TNRCC / PST
RPR**

Houston
11555 Clay Road
Suite 100
Houston, TX 77043
(713) 690-8989
Fax (713) 690-8787

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Fax (512) 442-1181

Wichita Falls
3100 Seymour Hwy.
Suite 105
Wichita Falls, TX 76310
(940) 766-6092
Fax (940) 766-6093

C. Work Plan and Cost Proposal (Operation, Monitoring, and Performance of a Remedial System)

LPST ID#: 111747
Facility ID#: 0029044
Responsible Party: Federal Express Corporation
Facility Name: Federal Express
Facility Address: 5811 Techni Center Drive
Facility City: Austin, TX
TNRCC Region: 11
Case Priority: 4.1

Proposed Activities: 07-1 Quarterly Monitoring
10-1 Operation and Maintenance of Remediation System

Goal of Proposed Activity

The goal of the proposed activity is to operate and maintain a SVE system at peak efficiency and to monitor groundwater quality at the referenced site on a quarterly basis to establish the baseline groundwater quality.

A review of the TNRCC site closure criteria – please refer to the work plan for corrective action plan preparation (HBC, 1977a) – indicates the most probable path to closure includes (1) recovery of free product; (2) stabilization of the dissolved-phase hydrocarbon plume; (3) delineation to Category I levels; and (4) closure, possibly with controls, allowing natural attenuation to passively restore the site. This work plan addresses operation, monitoring, and performance of a SVE system designed to recover free product and stabilize the dissolved-phase hydrocarbon plume.

Description of Activities

The SVE system proposed for the site consists of a system of extraction wells, collection piping, and an integrally designed, internal combustion engine/catalytic oxidization treatment unit. The IC engine/catox unit must be maintained by periodically changing the oil and filters. Standard Exemption 68 requires the efficiency of the unit be evaluated weekly. Actual system performance will be compared to the projected performance as described in the CAP.

Four quarterly monitoring events are proposed for 2000. There are a total of eleven monitor wells at the site. Groundwater quality will be assessed over a period of one year to evaluate dissolved-phase plume stability. For each monitoring event, the fluid level will be measured in each well, the presence of phase-separated hydrocarbons will be checked, and the wells purged and sampled for TPH and BTEX.

OMP Procedures

During the start up period, the system efficiency will be checked daily by measuring the inlet and outlet hydrocarbon levels with a PID or FID. After the 7 day startup period the efficiency will be checked weekly per SE 68 requirements. Accumulative total of hydrocarbons recovered will be kept on a weekly basis and compared to the recovery as projected in the CAP. Significant departures will be evaluated and, if necessary, recommendations for operational or system modifications will be made.

For each monitoring event, the following sampling procedure will be followed:

1. Unlock all well caps and allow the fluid levels in the wells to stabilize.
2. Measure the dept to water and product thickness in each well. Record measurements on field data sheets.
3. For all wells not containing free product, bail three well volumes of water from the well or until dry.
4. Sample each well that does not contain free product using a disposable polyethylene bailer with minimal agitation. Place sample in clean 40ml VOA vials and 1 liter amber jars, as appropriate for the laboratory analyses to be run.
5. Label sample jars appropriately and apply custody seal. Chill samples to 4 degrees C and place in a portable cooler with ice.
6. Secure wells. Complete and sign chain-of-custody form and transport sample to laboratory.

Methods 1005 and 8020 will be used to analyze to TPH and BTEX, respectively.

Reporting of Activities

An operation, monitoring, and performance report will be submitted after 6 months of system operation prior to the projected system shutdown and after 4 quarterly monitoring events.

Waste Management

Purged groundwater will be stored temporarily onsite in 55-gallon drums. The water will then be transported to an appropriate offsite disposal facility.

Pre-approval Request Forms

A "Quarterly, Semi, and Annual Groundwater Monitoring Pre-approval Request" form and an "Operation and Maintenance Pre-approval Proposal" are attached for review,

TNRCC FAX TRANSMITTAL

DATE: 3/3/00 NO. OF PAGES (including this sheet):

4

TO: Name MR. JAMAL MANSOUR
Organization FEDERAL EXPRESS
Fax Number (901) 395-6664

FROM: TEXAS NATURAL RESOURCE CONSERVATION COMMISSION
Name Victoria K. Montgomery
Coordinator
Telephone 512/239-2200
Fax Number 512/239-2216
Mail MC-137, PO Box 13087, Austin, Tx 78711-3087

NOTES: Response to Corrective Action Proposal(s) for
LPST #: 111747, Facility ID: 0029044.
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TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

LPST CORRECTIVE ACTION RESPONSE FORM

LPST-ID: 111747

1/31/2000 Proposal For: OPERATION & MAINTENANCE OF REMEDIATION SYSTEM

GENERAL INFORMATION

LPST-ID : 111747 Priority: 4.1
Responsible Party : FEDERAL EXPRESS Tel: 901/395-4064
Facility # & Name : 0029044 FEDERAL EXPRESS
Facility Address : 5811 TECHNI CENTER
Facility City : AUSTIN County: TRAVIS
CAPM & Name : CAPM00227 CHRISTOPHER J. KOPEC
RCAS & Name : RCAS00387 HBC ENGINEERING, INC.

TNRCC TECHNICAL RESPONSE

Proposed activity is not approved for these technical reasons:

Costs associated with 6 months of Operation and Monitoring (O&M) of the remediation system are not approved at this time. O&M costs were approved in a Corrective Action Response Form (CARF) dated 2/11/98; however, no information regarding system operation has been received by this Office since the 2/11/98 approval. Please provide the current status of the remediation system. If the system was operational following the 2/11/98 approval, an Operation, Monitoring, and Performance Report (OMPR) should be submitted so the effectiveness of the system can be evaluated.

If the system was not operated following the 2/11/98 approval, an explanation for the inactivity should be provided. In addition, documentation of your Non-Aqueous Phase Liquid (NAPL) removal efforts over this time period should be provided. Please note that as per Title 30 TAC Section 334.79, you are required to remove any NAPL to the maximum extent practicable, regardless of reimbursement eligibility.

A proposal for O&M of the remediation system should be re-submitted (if appropriate) with either 1) an OMPR, or 2) documentation of all NAPL and groundwater data collected to date.

This information is being sent to you only. Please forward this response to your Corrective Action Specialist.

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION
LPST CORRECTIVE ACTION RESPONSE FORM

LPST-ID: 111747

1/31/2000 Proposal For: OPERATION & MAINTENANCE OF REMEDIATION SYSTEM

TNRCC TECHNICAL RESPONSE

ACTIVITY COST SUMMARY

Proposed Cost:	54,962.00	Maximum Pre-Approved:	0.00
----------------	-----------	-----------------------	------

Signature: Victoria K. Montgomery ^{fm} Date: 3/03/00 Telephone: 512/239-2200
Victoria K. Montgomery
Coordinator

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

LPST CORRECTIVE ACTION RESPONSE FORM

LPST-ID: 111747

1/31/2000 Proposal For: OPERATION & MAINTENANCE OF REMEDIATION SYSTEM

Pursuant to 30 TAC Section 334.82 (b), you are required to notify all parties affected by the contamination. If you determine that contamination from the release has migrated off-site, or if you are required by the TNRCC to conduct further assessment or other corrective actions off-site, then you are required to notify the affected landowner(s) within 30 days of documenting the impact. Please note that landowners may include state and local owners of right-of-way properties. For the purpose of this requirement, notice shall be through any means described in 30 TAC Section 334.82 (a). Please provide documentation that the affected landowner(s) has/have been notified within 30 days of notification. **Please note that failure to notify affected parties as required herein is grounds for formal enforcement proceedings.**

Please note that preapproval of this activity DOES NOT guarantee reimbursement. Eligibility is determined at the time of reimbursement application review. If the release is eligible, the preapproved amount is the maximum allowable for the proposed activities. The actual amount of reimbursement will be determined after the completed reimbursement application and all related receipts and invoices are submitted, and the completed activity is subject to technical and reimbursable cost review. In all instances, the completed work must be technically justifiable and should serve to advance the site in the corrective action process. The amount of preapproved work performed should be based on completion of the activity's objectives. Additionally, please also note that preapproved amounts include all eligible markup.

Claims for reimbursement should only be submitted after the completion of an annual cycle for remediation system operation and maintenance, and quarterly groundwater monitoring unless a more frequent filing period is previously approved by the PST Reimbursement Section. The Reimbursement Section can be reached at 512/239-2001.

TRANSACTION REPORT

P. 01

MAR-03-2000 FRI 03:06 PM

DATE	START	RECEIVER	TX TIME	PAGES	TYPE	NOTE	M#	DP
MAR-03	03:03 PM	9-19013958884	2' 30"	5	SEND	OK	219	
TOTAL :						2M 30S	PAGES:	5

TNRCC FAX TRANSMITTAL

DATE: 3/3/00 NO. OF PAGES (including this sheet): 4

TO: Name MR. JAMAL MANSOUR
 Organization FEDERAL EXPRESS
 Fax Number (901) 395-6664

FROM: TEXAS NATURAL RESOURCE CONSERVATION COMMISSION
 Name Victoria K. Montgomery
Coordinator
 Telephone 512/239-2200
 Fax Number 512/239-2216
 Mail MC-137, PO Box 13087, Austin, Tx 78711-3087

NOTES: Response to Corrective Action Proposal(s) for
 LPST #: 111747 , Facility ID: 0029044.
 If you have any problems receiving this fax, please

TRANSACTION REPORT

P. 01

MAR-03-2000 FRI 02:00 PM

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MAR-03	02:00 PM	9-1901395664	**' **"	0	SEND	BUSY	201	
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TNRCC FAX TRANSMITTAL

DATE: 3/3/00 NO. OF PAGES (including this sheet): 4

TO: Name MR. JAMAL MANSOUR
 Organization FEDERAL EXPRESS
 Fax Number (901) 395-6664

FROM: TEXAS NATURAL RESOURCE CONSERVATION COMMISSION
 Name Victoria K. Montgomery
Coordinator
 Telephone 512/239-2200
 Fax Number 512/239-2216
 Mail MC-137, PO Box 13087, Austin, Tx 78711-3087

NOTES: Response to Corrective Action Proposal(s) for
 LPST #: 111747 , Facility ID: 0029044.
 If you have any problems...



February 2, 2000

VRM

111747
Russ Ford

Ms. Vicki Montgomery
Texas Natural Resource Conservation Commission
Petroleum Storage Tank Division
Responsible Party Remediation Section
P.O. Box 13087
M.C. 137
Austin, Texas 78711-3087

Re: Submittal of Work Plan and Cost Proposal
Federal Express
5811 Technicenter Drive
Austin, Texas
LPST #111747

Dear Ms. Montgomery:

Enclosed please find a Work Plan and Cost Proposal for the above referenced property. The work plan details the operation and monitoring of an SVE system for a period of six months, and four quarterly groundwater monitoring events at the site.

If you should have any questions or comments, please contact Russ Ford at (512) 442-1122.

Sincerely,

HBC ENGINEERING, INC.

M. Kevin Denson

M. Kevin Denson
Project Hydrogeologist

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FEB 04 2000

Houston
11555 Clay Road
Suite 100
Houston, TX 77043
(713) 690-8989
Fax (713) 690-8787

Dallas
8901 Carpenter Frwy.
Suite 100
Dallas, TX 75247
(214) 630-1010
Fax (214) 630-7070

Fort Worth
2301 E. Loop 820 North
Flagstone & Loop 820
Fort Worth, TX 76118
(817) 268-8600
Fax (817) 268-8602

Austin
3913 Todd Lane
Suite 312
Austin, TX 78744
(512) 442-1122
Fax (512) 442-1181

Wichita Falls
3100 Seymour Hwy
Suite 100
Wichita Falls, TX 76710
(940) 766-6092
Fax (940) 766-6093

NRCC/PSI
APP

C. Work Plan and Cost Proposal (Operation, Monitoring, and Performance of a Remedial System)

LPST ID#: 111747
Facility ID#: 0029044
Responsible Party: Federal Express Corporation
Facility Name: Federal Express
Facility Address: 5811 Techni Center Drive
Facility City: Austin, TX
TNRCC Region: 11
Case Priority: 4.1

Proposed Activities: 07-1 Quarterly Monitoring
10-1 Operation and Maintenance of Remediation System

Goal of Proposed Activity

The goal of the proposed activity is to operate and maintain a SVE system at peak efficiency and to monitor groundwater quality at the referenced site on a quarterly basis to establish the baseline groundwater quality.

A review of the TNRCC site closure criteria – please refer to the work plan for corrective action plan preparation (HBC, 1977a) – indicates the most probable path to closure includes (1) recovery of free product; (2) stabilization of the dissolved-phase hydrocarbon plume; (3) delineation to Category I levels; and (4) closure, possibly with controls, allowing natural attention to passively restore the site. This work plan addresses operation, monitoring, and performance of a SVE system designed to recover free product and stabilize the dissolved-phase hydrocarbon plume.

Description of Activities

The SVE system proposed for the site consists of a system of extraction wells, collection piping, and an integrally designed, internal combustion engine/catalytic oxidization treatment unit. The IC engine/catox unit must be maintained by periodically changing the oil and filters. Standard Exemption 68 requires the efficiency of the unit be evaluated weekly. Actual system performance will be compared to the projected performance as described in the CAP.

Four quarterly monitoring events are proposed for 2000. There are a total of eleven monitor wells at the site. Groundwater quality will be assessed over a period of one year to evaluate dissolved-phase plume stability. For each monitoring event, the fluid level will be measured in each well, the presence of phase-separated hydrocarbons will be checked, and the wells purged and sampled for TPH and BTEX.

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OMP Procedures

During the start up period, the system efficiency will be checked daily by measuring the inlet and outlet hydrocarbon levels with a PID or FID. After the 7 day startup period the efficiency will be checked weekly per SE 68 requirements. Accumulative total of hydrocarbons recovered will be kept on a weekly basis and compared to the recovery as projected in the CAP. Significant departures will be evaluated and, if necessary, recommendations for operational or system modifications will be made.

For each monitoring event, the following sampling procedure will be followed:

1. Unlock all well caps and allow the fluid levels in the wells to stabilize.
2. Measure the dept to water and product thickness in each well. Record measurements on field data sheets.
3. For all wells not containing free product, bail three well volumes of water from the well or until dry.
4. Sample each well that does not contain free product using a disposable polyethylene bailer with minimal agitation. Place sample in clean 40ml VOA vials and 1 liter amber jars, as appropriate for the laboratory analyses to be run.
5. Label sample jars appropriately and apply custody seal. Chill samples to 4 degrees C and place in a portable cooler with ice.
6. Secure wells. Complete and sign chain-of-custody form and transport sample to laboratory.

Methods 1005 and 8020 will be used to analyze to TPH and BTEX, respectively.

Reporting of Activities

An operation, monitoring, and performance report will be submitted after 6 months of system operation prior to the projected system shutdown and after 4 quarterly monitoring events.

Waste Management

Purged groundwater will be stored temporarily onsite in 55-gallon drums. The water will then be transported to an appropriate offsite disposal facility.

Pre-approval Request Forms

A "Quarterly, Semi, and Annual Groundwater Monitoring Pre-approval Request" form and an "Operation and Maintenance Pre-approval Proposal" are attached for review.

Texas Natural Resource Conservation Commission
PRODUCT STORAGE TANK

NOTICE OF REMEDIAL SYSTEM INSTALLATION (NRSI) FORM

111747
NRC

Date: 3-2-98 JVM

LPST ID No.: 111747
 Facility ID No.: 0029044
 Site Priority: 4.1

Facility Name: Federal Express
 Facility Address: 5811 Techni Center Drive
 City: Austin State: Texas Zip: 78721

RP Name: Federal Express
 RP Address: 3975 Airways Boulevard, Module E
 City: Memphis State: Tennessee Zip: 38116

Brief description of installation and/or modification activities: Install soil vapor extraction system including collection piping, manifold, and internal combustion engine to treat extracting vapors.

Date installation and/or modification activities will begin: March 30, 1998
 Estimated date that installation and/or modification activities will be completed: April 10, 1998
 Estimated date of system startup: April 10, 1998

Vincent G. Trageser III (HBC Engineering, Inc.) 01124 1/10/99
 (CAPM Name - please print) (RCAPM Reg. No.) (Expiration Date)

Vincent G. Trageser 3-2-98
 (Signature) (Date)

(713) 722-0700 (713) 722-0788
 (Telephone #) (Fax #)

According to 30 Texas Administrative Code, §334.308 (21), the costs associated with the installation or construction of on-site equipment, structures or systems used in the extraction or management of wastes, except soil excavation, landfill disposal, well sampling, or monitoring will not be considered eligible for reimbursement unless the construction and installation of the equipment, structures or systems is performed under the supervision of a registered professional engineer (P.E.). If a P.E. will be supervising the installation and/or modification of the system:

Fredric P. Fitter (HBC Engineering, Inc.) 81196
 (P.E. Name - please print) (P.E. Registration #)

Fredric P. Fitter, P.E. 3/2/98
 (Signature) (Date)

(214) 630-1010 (214) 630-7070
 (Telephone #) (Fax #)

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TNRCC FAX TRANSMITTAL

DATE: 2/13/98

NO. OF PAGES (including this sheet):

3

TO: Name Mr. Jamal Mansour
 Organization Federal Express
 Fax Number (901) 922-2042

FROM: TEXAS NATURAL RESOURCE CONSERVATION COMMISSION
 Name Victoria K. Montgomery
 Coordinator
 Telephone 512/239-2200
 Fax Number 512/239-2216
 Mail MC-137, PO Box 13087, Austin, Tx 78711-3087

NOTES: Response to Corrective Action Proposal(s) for
 LPST #: 111747 , Facility ID: 0029044.
 If you have any problems receiving this fax, please
 call 512/239-2200 .

Please note that new Corrective Action Preapproval Forms have been required since September 1, 1995. The forms are available at no cost by downloading from the TNRCC Bulletin Board Services (BBS) (512/239-0700), or over the Internet at <http://www.tnrcc.state.tx.us>. You may also order the forms on diskette from the TNRCC, MC-195, P.O. Box 13088, Austin, TX 78711-3088 (please specify the Corrective Action Preapproval Forms on diskette). A pamphlet with reproducible forms is available at no cost by calling TNRCC Publications at 512/239-0028.

Please note that all LPST corrective action proposals and reports need to be prepared by an environmental contracting/consulting firm registered as a Corrective Action Specialist (CAS) and need to have the the signatures and registration numbers of both the CAS and registered Corrective Action Project Manager (CAPM) included pursuant to Title 30, Texas Administrative Code (TAC), Subchapter J. Any proposal that has been prepared by a consulting firm not registered as a CAS by the Texas Natural Resource Conservation Commission (TNRCC) or which does not include the signature and registration number of the Project Manager may be rejected. Please reserve the use of the telefax machines for submitting proposals and data for LPST cases that rank as new priority 1's and for emergency abatement activities.

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION LPST CORRECTIVE ACTION RESPONSE FORM

LPST-ID: 111747
11/04/97 Proposal For: SVE

GENERAL INFORMATION

LPST-ID : 111747 Priority: 4.1
Responsible Party : Federal Express Tel: 901/397-4397
Facility # & Name : 0029044 Federal Express
Facility Address : 5811 Techni Center
Facility City : Austin County: Travis
CAPM & Name : CAPM01124 VINCENT C. TRAGESSE III
RCAS & Name : RCAS00387 HBC ENGINEERING, INC.

TNRCC TECHNICAL RESPONSE


Proposed activity is approved as proposed, but for a reduced amount.

PLEASE NOTE THAT THIS CARF REPLACES THE ONE DATED 12/2/97 FOR INSTALLATION OF A SOIL VAPOR EXTRACTION (SVE) SYSTEM.

Costs for installation of the SVE system are approved. All comments in the 12/2/97 CARF concerning the SVE system have been adequately addressed by the submittal received in this Office on 1/12/98.

ACTIVITY COST SUMMARY

Proposed Cost: 23,438.00 Maximum Pre-Approved: 17,266.00

Signature:  Date: 2/13/98 Telephone: 512/239-2200
Victoria K. Montgomery
Coordinator

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

LPST CORRECTIVE ACTION RESPONSE FORM

LPST-ID: 111747
11/04/97 Proposal For: SVE

Pursuant to 30 TAC Section 334.82 (b), you are required to notify all parties affected by the contamination. If you determine that contamination from the release has migrated off-site, or if you are required by the TNRCC to conduct further assessment or other corrective actions off-site, then you are required to notify the affected landowner(s) within 30 days of documenting the impact. Please note that landowners may include state and local owners of right-of-way properties. For the purpose of this requirement, notice shall be through any means described in 30 TAC Section 334.82 (a). Please provide documentation that the affected landowner(s) has/have been notified within 30 days of notification. **Please note that failure to notify affected parties as required herein is grounds for formal enforcement proceedings.**

Please note that preapproval of this activity DOES NOT guarantee reimbursement. Eligibility is determined at the time of reimbursement application review. If the release is eligible, the preapproved amount is the maximum allowable for the proposed activities. The actual amount of reimbursement will be determined after the completed reimbursement application and all related receipts and invoices are submitted, and the completed activity is subject to technical and reimbursable cost review. In all instances, the completed work must be technically justifiable and should serve to advance the site in the corrective action process. The amount of preapproved work performed should be based on completion of the activity's objectives. Additionally, please also note that preapproved amounts include all eligible markup.

Claims for reimbursement should only be submitted after the completion of an annual cycle for remediation system operation and maintenance, and quarterly groundwater monitoring unless a more frequent filing period is previously approved by the PST Reimbursement Section. The Reimbursement Section can be reached at 512/239-2001.

cc: Chris Smith, TNRCC Region 11 Field Office
1921 Cedar Bend, Suite 150, Austin, Texas 78758-5336
Phone: 512/339-2929 Fax: 512/339-3744

TNRCC FAX TRANSMITTAL

DATE: 2/13/98 NO. OF PAGES (including this sheet): 3

TO: Name Mr. Jamal Manjour
 Organization Federal Express
 Fax Number (901) 922-2042

FROM: TEXAS NATURAL RESOURCE CONSERVATION COMMISSION
 Name Victoria K. Montgomery
Coordinator
 Telephone 512/239-2200
 Fax Number 512/239-2216
 Mail MC-137, PO Box 13088, Austin, Tx 78711-3087

NOTES: Response to Corrective Action Proposal(s) for
 LPST #: 111747, Facility ID: 0029044.
 If you have any problems receiving this fax, please
 call 512/239-2200.

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Please note that all LPST corrective action proposals and reports need to be prepared by an environmental contracting/consulting firm registered as a Corrective Action Specialist (CAS) and need to have the signatures and registration numbers of both the CAS and registered Corrective Action Project Manager (CADM) included pursuant to Title 30, Texas Administrative Code (TAC), Subchapter J. Any proposal that has been prepared by a consulting firm not registered as a CAS by the Texas Natural Resource Conservation Commission (TNRCC) or which does not include the signature and registration number of the Project Manager may be rejected. Please reserve the use of the telefax machines for submitting proposals and data for LPST cases that rank as new priority 1's and for emergency abatement activities.

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TOTAL 0:01'37" 3

NOTE:

No. : OPERATION NUMBER 48 : 4800BPS SELECTED EC : ERROR CORRECT G2 : G2 COMMUNICATION
 PD : POLLED BY REMOTE SF : STORE & FORWARD RJ : RELAY INITIATE RS : RELAY STATION
 MB : SEND TO MAILBOX PG : POLLING A REMOTE MP : MULTI-POLLING RM : RECEIVE TO MEMORY

Activity 09: Remediation System Installation

TNRCC #:	na	Type of System	Yes or No	Add-Ons/Deletions	Yes or No
LPST #:	111747	PSH	No	SVE	No
Facility #:	29044	Pump & Treat	No	Off-Gas Treatment	No
Facility Name:	Federal Express	SVE	Yes	Add/Delete wells	0
Facility address:	5811 Techni Center Drive, Austin	Dual Phase	No	PI-7	No
Date:	13-Feb-98	<input type="button" value="Input"/> <input type="button" value="Print Details"/>			
Prepared by:	VKM				

Part A1: Consultant Office and Field Costs, PSH Recovery System - See Note 1

Section 1: Installation and Startup of Basic 3-well System				
ITEM	ACTIVITY	UNITS	\$/UNIT	TOTAL
Senior Engineer (P2)	Project Oversight	0	\$95.00	\$0.00
Associate Engineer (P1)	Management, Regulatory Interaction, Field O	0	\$85.00	\$0.00
Staff E/G/H (SF)	Field Preparation, Installation and Startup	0	\$70.00	\$0.00
Technician II (T2)	Field Preparation, Installation and Startup	0	\$45.00	\$0.00
PI-7 Standard Exemption Form	Preparation and Submission	0	\$195.00	\$0.00
FAR- System Installation	Preparation and Submission	0	\$855.00	\$0.00
Total, Section 1				\$0.00
Section 2: Add/Delete Wells (Any System) - Per Well				
ITEM	ACTIVITY	UNITS	\$/UNIT	TOTAL
Associate Engineer (P1)	Management, Regulatory Interaction	0	\$85.00	\$0.00
Staff Engineer (SF)	Office Planning	0	\$70.00	\$0.00
Staff Engineer (SF)	Installation and Startup	0	\$70.00	\$0.00
Technician II (T2)	Office Preparation	0	\$45.00	\$0.00
Technician II (T2)	Installation and Startup	0	\$45.00	\$0.00
Subtotal, Section 2				\$0.00
# of Wells to Add/Delete				0
Total, Section 2				\$0.00
TOTAL, PART A1				\$0.00

Comments

If Required

Part A2: Consultant Office and Field Costs, Groundwater Pump-and-Treat System - See Note 1

Section 1: Installation and Startup of Basic 3-well System				
ITEM	ACTIVITY	UNITS	\$/UNIT	TOTAL
Senior Engineer (P2)	Project Oversight	0	\$95.00	\$0.00
Associate Engineer (P1)	Management, Regulatory Interaction, Field O	0	\$85.00	\$0.00
Associate Engineer (P1)	Field Oversight	0	\$85.00	\$0.00
Staff Engineer (SF)	Office Planning	0	\$70.00	\$0.00
Staff Engineer (SF)	Installation and Startup	0	\$70.00	\$0.00
Technician II (T2)	Office Preparation	0	\$45.00	\$0.00
Technician II (T2)	Installation and Startup	0	\$45.00	\$0.00
PI-7 Standard Exemption Form	Preparation and Submission	0	\$195.00	\$0.00
FAR- System Installation	Preparation and Submission	0	\$2,300.00	\$0.00
Total, Section 1				\$0.00
Section 2: Add Soil Vapor Extraction (SVE) System (3-well)				
ITEM	ACTIVITY	UNITS	\$/UNIT	TOTAL
Senior Engineer (P2)	Project Oversight	0	\$95.00	\$0.00
Associate Engineer (P1)	Management, Regulatory Interaction	0	\$85.00	\$0.00
Associate Engineer (P1)	Field Oversight	0	\$85.00	\$0.00
Staff Engineer (SF)	Office Planning	0	\$70.00	\$0.00
Staff Engineer (SF)	Installation and Startup	0	\$70.00	\$0.00
Technician II (T2)	Office Preparation	0	\$45.00	\$0.00
Technician II (T2)	Installation and Startup	0	\$45.00	\$0.00
Total, Section 2				\$0.00
Section 3: Add Off-gas Treatment System				
ITEM	ACTIVITY	UNITS	\$/UNIT	TOTAL
Associate Engineer (P1)	Management, Regulatory Interaction	0	\$85.00	\$0.00
Staff Engineer (SF)	Office Planning	0	\$70.00	\$0.00
Staff Engineer (SF)	Installation and Startup	0	\$70.00	\$0.00
Technician II (T2)	Office Preparation	0	\$45.00	\$0.00
Technician II (T2)	Installation and Startup	0	\$45.00	\$0.00
Total, Section 3				\$0.00
Section 4: Add/Delete Wells (Any System) - Per Well				
ITEM	ACTIVITY	UNITS	\$/UNIT	TOTAL
Associate Engineer (P1)	Management, Regulatory Interaction	0	\$85.00	\$0.00
Staff Engineer (SF)	Office Planning	0	\$70.00	\$0.00
Staff Engineer (SF)	Installation and Startup	0	\$70.00	\$0.00
Technician II (T2)	Office Preparation	0	\$45.00	\$0.00
Technician II (T2)	Installation and Startup	0	\$45.00	\$0.00
Subtotal, Section 2				\$0.00
# of Wells to Add/Delete				0
Total, Section 4				\$0.00
TOTAL, PART A2				\$0.00

If Required
\$2,300.00

Activity 09: Remediation System Installation

TNRCC #:	na	Type of System	Yes or No	Add-Ons/Deletions	Yes or No
LPST #:	111747	PSH	No	SVE	No
Facility #:	29044	Pump & Treat	No	Off-Gas Treatment	No
Facility Name:	Federal Express	SVE	Yes	Add/Delete wells	0
Facility address:	5811 Technl Center Drive, Austin	Dual Phase	No	PI-7	No
Date:	13-Feb-98	<input type="button" value="Input"/> <input type="button" value="Print Detail"/>			
Prepared by:	VKM				

Part A3: Consultant Office and Field Costs, SVE System - See Note 1

Section 1: Installation and Start-up of Basic 3-well System

ITEM	ACTIVITY	UNITS	\$/UNIT	TOTAL
Senior Engineer (P2)	Project Oversight	3	\$95.00	\$285.00
Associate Engineer (P1)	Management, Regulatory Interaction	8	\$85.00	\$680.00
Associate Engineer (P1)	Field Oversight	8	\$85.00	\$765.00
Staff Engineer (SF)	Office Planning	4	\$70.00	\$280.00
Staff Engineer (SF)	Installation and Startup	8	\$70.00	\$560.00
Technician II (T2)	Office Preparation	2	\$45.00	\$90.00
Technician II (T2)	Installation and Startup	20	\$45.00	\$900.00
PI-7 Standard Exemption Form	Preparation and Submission	0	\$195.00	\$0.00
FAR- System Installation	Preparation and Submission	1	\$2,300.00	\$2,300.00
Total, Section 1				\$5,860.00

Section 2: Add Off-gas Treatment System

ITEM	ACTIVITY	UNITS	\$/UNIT	TOTAL
Associate Engineer (P1)	Management, Regulatory Interaction	0	\$85.00	\$0.00
Staff Engineer (SF)	Office Planning	0	\$70.00	\$0.00
Staff Engineer (SF)	Installation and Startup	0	\$70.00	\$0.00
Technician II (T2)	Office Preparation	0	\$45.00	\$0.00
Technician II (T2)	Installation and Startup	0	\$45.00	\$0.00
Total, Section 2				\$0.00

Section 3: Add/Delete Wells - Per Well

ITEM	ACTIVITY	UNITS	\$/UNIT	TOTAL
Associate Engineer (P1)	Management, Regulatory Interaction	0	\$85.00	\$0.00
Staff Engineer (SF)	Office Planning	0	\$70.00	\$0.00
Staff Engineer (SF)	Installation and Startup	0	\$70.00	\$0.00
Technician II (T2)	Office Preparation	0	\$45.00	\$0.00
Technician II (T2)	Installation and Startup	0	\$45.00	\$0.00
Subtotal, Section 3				\$840.00
# of Wells to Add/Delete				0
Total, Section 4				\$0.00
TOTAL, PART A3				\$5,860.00

Part A4: Consultant Office and Field Costs, Dual Extraction System - See Note 1

Section 1: Installation and Start-up of Basic 3-well System

ITEM	ACTIVITY	UNITS	\$/UNIT	TOTAL
Senior Engineer (P2)	Project Oversight	0	\$95.00	\$0.00
Associate Engineer (P1)	Management, Regulatory Interaction	0	\$85.00	\$0.00
Associate Engineer (P1)	Field Oversight	0	\$85.00	\$0.00
Staff Engineer (SF)	Office Planning	0	\$70.00	\$0.00
Staff Engineer (SF)	Installation and Startup	0	\$70.00	\$0.00
Technician II (T2)	Office Preparation	0	\$45.00	\$0.00
Technician II (T2)	Installation and Startup	0	\$45.00	\$0.00
PI-7 Standard Exemption Form	Preparation and Submission	0	\$195.00	\$0.00
FAR- System Installation	Preparation and Submission	0	\$2,300.00	\$0.00
Total, Section 1				\$0.00

Section 2: Add Off-gas Treatment System

ITEM	ACTIVITY	UNITS	\$/UNIT	TOTAL
Associate Engineer (P1)	Management, Regulatory Interaction	0	\$85.00	\$0.00
Staff Engineer (SF)	Office Planning	0	\$70.00	\$0.00
Staff Engineer (SF)	Installation and Startup	0	\$70.00	\$0.00
Technician II (T2)	Office Preparation	0	\$45.00	\$0.00
Technician II (T2)	Installation and Startup	0	\$45.00	\$0.00
Total, Section 2				\$0.00

Section 3: Add/Delete Wells - Per Well

ITEM	ACTIVITY	UNITS	\$/UNIT	TOTAL
Associate Engineer (P1)	Management, Regulatory Interaction	0	\$85.00	\$0.00
Staff Engineer (SF)	Office Planning	0	\$70.00	\$0.00
Staff Engineer (SF)	Installation and Startup	0	\$70.00	\$0.00
Technician II (T2)	Office Preparation	0	\$45.00	\$0.00
Technician II (T2)	Installation and Startup	0	\$45.00	\$0.00
Subtotal, Section 3				\$840.00
# of Wells to Add/Delete				0
Total, Section 4				\$0.00
TOTAL, PART A3				\$0.00

Workplan and Cost Proposal	Preparation and Submission	0	\$115.00	\$0.00
----------------------------	----------------------------	---	----------	--------

% of Subtotal subject to markup		0.00%	Subtotal Personnel	\$5,860.00
Total Subcontracted Personnel		\$0.00	Markup 10%	\$0.00
			Total Personnel	\$5,860.00

No

Activity 09: Remediation System Installation

TNRCC #:	na	Type of System	Yes or No	Add-Ons/Deletions	Yes or No
LPST #:	111747	PSH	No	SVE	No
Facility #:	29044	Pump & Treat	No	Off-Gas Treatment	No
Facility Name:	Federal Express	SVE	Yes	Add/Delete wells	0
Facility address:	5811 Technl Center Drive, Austin	Dual Phase	No	PI-7	No
Date:	13-Feb-98	<input type="button" value="Print"/> <input type="button" value="Print Detail"/>			
Prepared by:	VKM				

Part B: Capital Equipment Costs - See Note 2

ITEM	ACTIVITY	UNITS	\$/UNIT	TOTAL	
Air Compressor		0	\$0.00	\$0.00	
Air Stripping Tower		0	\$0.00	\$0.00	
Catalytic Oxidizer		0	\$0.00	\$0.00	
Control Panel		0	\$0.00	\$0.00	
Oil/Water Separator		0	\$0.00	\$0.00	
Pneumatic Pump		0	\$0.00	\$0.00	
Electric Downhole Pumps		0	\$0.00	\$0.00	
Regenerative Blowers		0	\$0.00	\$0.00	
Holding Tanks		0	\$0.00	\$0.00	
Carbon Polishing Units		0	\$0.00	\$0.00	
(Other)		0	\$0.00	\$0.00	
(Other)		0	\$0.00	\$0.00	
(Other)		0	\$0.00	\$0.00	
		% of Subtotal subject to markup	0.00%	Subtotal Equipment	\$0.00
		Total Subcontracted Equipment	\$0.00	Markup 15%	\$0.00
				Total Equipment	\$0.00

Comments <div style="text-align: center;"> <input type="button" value="Print"/> <input type="button" value="Print Detail"/> </div>

Part C: Installation Costs - See Note 3

ITEM	ACTIVITY	UNITS	\$/UNIT	TOTAL	
Trenching	Sawcut and excavate trench lines	200	\$15.00	\$3,000.00	
Plumbing	Install Piping (Air, Water, Electric) in trenches	200	\$15.00	\$3,000.00	
Resurface Excavations	Recover trench lines	200	\$6.00	\$1,200.00	
Wellhead Modification	Install wellhead access boxes	3	\$0.00	\$0.00	
Well Electrics	Install switches & drop tubes	0	\$200.00	\$0.00	
Well Plumbing	Install air/water tubing & pumps	1	\$200.00	\$200.00	
Concrete slab	Install slab for remediation system	0	\$5.50	\$0.00	
Remediation compound fence	Install protective fence around system	1	\$850.00	\$850.00	
Small Items		0	\$20.00	\$0.00	
Miscellaneous	Fittings, locks, etc.	0	\$100.00	\$0.00	
Utility connection		1	\$690.00	\$690.00	
Steel traffic plates		1	\$500.00	\$500.00	
xxx		0	\$0.00	\$0.00	
		% of Subtotal subject to markup	0.00%	Subtotal Installation	\$9,440.00
		Total Subcontracted Installation	\$0.00	Markup 15%	\$0.00
				Total Installation	\$9,440.00

Comments 15.00/LF 15.00/LF \$6.00/LF At Cost \$200.00/Well \$200.00/Well \$5.50/SqFt \$850 \$20.00/Site/Day \$100

Part D: Waste Management Costs- See Note 4

ITEM	ACTIVITY	UNITS	\$/UNIT	TOTAL	
Load and Haul Excavated Soils and	Assume 1.5' x 3' trench x Part C length	43.33	\$14.00	\$606.67	
Dispose Excavated Soils and Concre		43.33	\$10.25	\$444.17	
Vacuum Truck		0	\$75.00	\$0.00	
Dispose Fluids		0	\$0.40	\$0.00	
Subchapter H Discharge or Alternati		0	\$0.00	\$0.00	
		% of Subtotal subject to markup	0.00%	Subtotal Waste	\$1,050.83
		Total Subcontracted Waste	\$0.00	Markup 10%	\$0.00
				Total Waste	\$1,050.83

Comments <div style="text-align: center;"> <input type="button" value="Print"/> <input type="button" value="Print Detail"/> </div>

Part E: System Performance Analytical Costs- See Note 5

ITEM	ACTIVITY	UNITS	\$/UNIT	TOTAL	
TPH (Water)		2	\$49.00	\$98.00	
BTEX (Water)		2	\$62.50	\$125.00	
BTEX (Air)		0	\$62.50	\$0.00	
BTEX w/ MTBE (Water)		0	\$85.00	\$0.00	
TOTAL LEAD (Water)		0	\$31.00	\$0.00	
xxx		0	\$0.00	\$0.00	
xxx		0	\$0.00	\$0.00	
Shipping		4	\$5.00	\$20.00	
		% of Subtotal subject to markup	0.00%	Subtotal Analytical	\$243.00
		Total Subcontracted Analytical	\$0.00	Markup 10%	\$0.00
				Total Analytical	\$243.00

Comments

Activity 09: Remediation System Installation

TNRCC #:	na	Type of System	Yes or No	Add-Ons/Deletions	Yes or No
LPST #:	111747	PSH	No	SVE	No
Facility #:	29044	Pump & Treat	No	Off-Gas Treatment	No
Facility Name:	Federal Express	SVE	Yes	Add/Delete wells	0
Facility address:	5811 Technl Center Drive, Austin	Dual Phase	No	PI-7	No
Date:	13-Feb-98	<input type="button" value="Input"/> <input type="button" value="Print Detail"/>			
Prepared by:	VKM				

Part F: Travel Costs- See Note 6

Page 4/4

ITEM	ACTIVITY	UNITS	\$/UNIT	TOTAL	Comments
Equipment Truck	\$140.00/day	2	\$140.00	\$280.00	
Mileage (over 100 miles, round trip)		0	\$0.31	\$0.00	
Travel Time	1.6 hrs P1, 1.6 hrs SF, 3.2 hrs TII		\$85/\$70/\$45	\$392.00	
Per Diem	0.0 days P1, 0.0 days SF, 0.0 days TII	0	\$80.00	\$0.00	
Air Fare	By Need	2	\$0.00	\$0.00	
% of Subtotal subject to markup 0.00% Subtotal Travel				\$672.00	
Total Subcontracted travel \$0.00 Markup 15%				\$0.00	
Total Travel				\$672.00	

	Proposed		Approved		Approved - Proposed Difference
	Amount Subcontracted	Total	Subcontracted	Total	
Personnel	\$0	\$7,415	\$0	\$5,860	-\$1,555
Capital Equipment	\$0	\$0	\$0	\$0	\$0
Installation	\$0	\$10,650	\$0	\$9,440	-\$1,410
Waste	\$0	\$1,334	\$0	\$1,051	-\$283
Analytical	\$0	\$2,505	\$0	\$243	-\$2,262
Travel	\$0	\$1,334	\$0	\$672	-\$662
Total	\$0	\$23,438	\$0	\$17,266	-\$6,172

Notes:

- 1: Please refer to Appendix A, Part 1 for a breakdown of personnel costs.
- 2: Equipment purchased for the installation of a remediation system will be costed out by quote by the RCAS in the Interim Corrective Action Plan (ICAP) (see Activity 02), the Corrective Action Plan (CAP) (see Activity 08), or the workplan and cost proposal submitted for Remedial System Installation (see Activity 09). These quotes must be included when these documents are submitted to the TNRCC. Because of the unique nature of each individual site, and the range of equipment types available in the industry, the RCAS should design the remediation system with both efficiency and cost in mind. The cost proposals for remediation systems will be reviewed on a case-by-case basis.
- 3: Mark-up is allowed for subcontracted items only and rental or purchase receipts must accompany the application for reimbursement.
- 4: Please refer to Appendix A, Part 7 for a breakdown of waste management costs.
- 5: Please refer to Appendix A, Part 2 for additional laboratory analyses and costs. Mark-up is allowed only on subcontracted items.
- 6: Please refer to Appendix A, Part 4 for a breakdown of travel policy and costs. Travel time for this section includes total costs for a two-man crew consisting of a Staff Engineer and a Technician II.

**TEXAS NATURAL RESOURCE CONSERVATION COMMISSION
PETROLEUM STORAGE TANK DIVISION
CORRESPONDENCE IDENTIFICATION SHEET**

111747
Project 12

Date: 1-6-98
Site Name: Federal EXPRESS - AUS
Site Address: 521 TECHNICAL CENTER
AUSTIN TEXAS

LPST ID No.: 111747
Facility ID No.: _____

Y
VKM

This checklist must accompany all correspondence submitted to the RPR Section and should be affixed to the front of your submittal as a cover page. Please check the appropriate box for the type of correspondence which you have submitted to the RPR Section. Check all boxes that apply if you are submitting more than one type of correspondence. If you cannot find an appropriate category, please complete the "other" section.

PROPOSALS		
<input type="checkbox"/> Initial Abatement (1)	<input type="checkbox"/> Tank Removal (2)	<input type="checkbox"/> Excavation (3)
<input type="checkbox"/> Waste Treatment (4)	<input type="checkbox"/> Site Assessment (5)	<input type="checkbox"/> Aquifer Testing (6)
<input type="checkbox"/> VES/Sparge Testing (7)	<input type="checkbox"/> Qtrly. GW Monitoring (8)	<input type="checkbox"/> CAP Prep. (9)
<input type="checkbox"/> GW Extrac./Treatment (10)	<input type="checkbox"/> Soil Vapor Extrac. (11)	<input type="checkbox"/> Operation & Main. (12)
<input type="checkbox"/> Site Closure (13)	<input type="checkbox"/> Plan A Risk Ass. (14)	<input type="checkbox"/> Plan B Risk Ass. (15)
<input type="checkbox"/> Semi-annual GW Mon. (16)*	<input type="checkbox"/> Annual GW Mon. (18)	<input type="checkbox"/> Product Recovery (19)
<input checked="" type="checkbox"/> Other proposal <u>Revised CAP</u>		

RECEIVED

REPORTING FORMS	
<input type="checkbox"/> Assessment Report Form (TNRCC-0562)	<input type="checkbox"/> LPST Case Questionnaire
<input type="checkbox"/> Product Recovery Report Form (TNRCC-0016)	<input type="checkbox"/> Release Report Form (TNRCC-0621)
<input type="checkbox"/> Site Closure Request Form (TNRCC-0028)	<input type="checkbox"/> Monitoring Event Summary and Status Report (TNRCC-0013)
<input type="checkbox"/> Final Site Closure Report Form (TNRCC-0038)	<input type="checkbox"/> Priority 4 LPST Case Closure Request Form (TNRCC-0461)
<input type="checkbox"/> Other form _____	

JAN 12 1998

TNRCC/PS1
RPR

REPORTS		
<input type="checkbox"/> Tank Closure/Removal	<input type="checkbox"/> Plan A Risk Assessment	<input type="checkbox"/> Annual Groundwater Monitoring
<input type="checkbox"/> O&M/Performance Mon.	<input type="checkbox"/> Plan B Risk Assessment	<input type="checkbox"/> CAP Installation/Modification
<input type="checkbox"/> Property Divestiture/Phase I ESA	<input type="checkbox"/> Corrective Action Plan (CAP)	<input type="checkbox"/> Aquifer/Pilot Test Results

MISCELLANEOUS	
<input type="checkbox"/> Off-site access assistance	<input type="checkbox"/> Deadline Extension Request
<input type="checkbox"/> Tank tightness test results	<input type="checkbox"/> Request for State-Lead
<input type="checkbox"/> Request for LPST Waste Code	<input type="checkbox"/> Class V ReInjection Request
<input type="checkbox"/> Notice to Owner/Operator for CAS Services	<input type="checkbox"/> Petroleum-Substance Waste Manifest
<input type="checkbox"/> Notice of Continuation of Groundwater Monitoring	<input type="checkbox"/> Underground Storage Tank Registration Form
<input type="checkbox"/> Notice of Continuation of Operation and Maintenance	<input type="checkbox"/> Aboveground Storage Tank Registration Form
<input type="checkbox"/> Other (anything that does not fit into one of the categories above) _____	

* The proposal for semi-annual monitoring and annual report (Proposal Activity 17) has been discontinued. For semi-annual monitoring, use Proposal Activity 16.

I attest that all work has been conducted in accordance with accepted industry standards/practices and adhered to TNRCC guidance and rules. I certify that I am aware that misrepresentation of any of the above claims is a violation of 30 TAC 33.4453(b)(1)(E) and that this violation may result in the disciplinary actions set forth in 30 TAC 334.453 and or 334.463 and 334.465.

If a proposal is attached for preapproval, has the proposed work, in part or in whole, already been performed or in progress? Yes No

If yes, what work?

HBC Engineering, Inc 387 5-30-98
(Registered Corrective Action Specialist) (RCAS Reg. No.) (Expiration date)

[Signature]
(Signature)

1-6-98
(Date)

(713) 722-0700
(Telephone #)

(713) 722-0788
(FAX #)

V. Carol Tragesse 2124 1-10-99
(Project Manager) (CAFM Reg. No.) (Expiration date)

[Signature]
(Signature)

1-6-98
(Date)

(713) 722-0700
(Telephone #)

(713) 722-0788
(FAX #)

By signature below, I certify that documents checked above are included.

JAMAL Mansour
(Name of Responsible Party Contact)

Federal Express Corp
(Company)

Jamal M. Mansour
(Signature)

1-7-97
(Date)

(901) 397-4397
(Telephone #)

(901) 922-5242
(FAX #)

January 6, 1998



Ms. Vicki Montgomery
TNRCC RPR Section
P.O. Box 13087
Austin, TX 78711-3087

Re: LPST ID No. 111747
Federal Express Corporation
5811 Techni Center
Austin, Texas

Dear Ms. Montgomery:

HBC Engineering, Inc. (HBC) is pleased to provide this letter in response to the TNRCC LPST Corrective Action Response Form (CARF) dated December 2, 1997. In the CARF for the SVE system installation, you addressed three (3) areas in which there were questions or additional information required to complete the review.

The first item related to the comments on the boring logs indicating that the soils encountered during the drilling activities. Based on our review of the boring logs and information supplied by the field geologist, it appeared that the soils contained some moisture, however, there was no evidence of saturation or groundwater in the cores.

The second item concerned the corrective action goal for the December 1998 deadline. HBC would like to amend the goals for the December 1998 deadline. The primary goal for December 1998 should be amended to read, "The goal of the corrective actions described in this document is to receive TNRCC preapproval for the SVE System Installation and Operation, Monitoring and Performance proposals along with completion of the installation and startup phase."

The third item stated that the items in Exhibit II-16 of the EPA guidance document entitled "How to Evaluate Alternative Cleanup Technologies for Underground Storage Tank Sites: A guide for the Corrective Action Plan Reviewer" should be described in the text of the CAP or in the design drawings. Upon review of the above exhibit and the design drawings HBC has found that the information is included in the design drawings and VaporTek has submitted a revised schematic to indicate the items that were not originally included in the CAP. HBC has listed the figure number for each component in Exhibit II-16 below:

Flow meter - The flow meter location is shown on both the cross section and plan view drawings in Figure 14.

Vacuum gauge - Vacuum gauges will not be permanent fixtures on the system. The gauges will be attached to the 1/4 inch brass needle valves utilizing rubber hose. The needle valves are shown in Figure 13.

Ms. Vicki Montgomery
TNRCC RPR Section
January 6, 1998
Page #2

Vapor temperature sensor - The original drawing of the VaporTek system did not include the vapor temperature sensor locations. However, HBC has included a revised drawing from VaporTek and has included the drawing for your review.

Sampling port - Sampling ports will be located at each wellhead (MW-1, MW-2, MW-3, MW-4, MW-5, MW-6, MW-7 and MW-8) as indicated by the drawing in Figure 13. The schematic of the VaporTek system indicates that a sample port is located after the manifold and prior to the catch tank. A revised drawing indicates a sample port at the effluent stack, manifold to the blower and the blower discharge.

Vapor sample collection - A vapor sample can be collected from each well utilizing the manifold system. A revised drawing from VaporTek indicates the sample ports at the manifold to blower and blower discharge.

Flow control valves - Flow control valves are located at the manifold as indicated in Figure 14. In addition, a 3 inch PVC dilution valve is indicated in Figure 14.

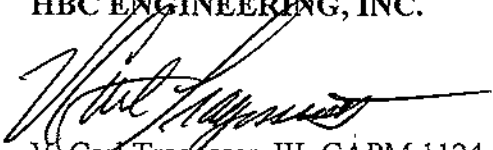
HBC has included two (2) cost proposals for the rental of the internal combustion engine. A third company was requested to submit a proposal but they denied the request.

In addition, the TNRCC requested a revised Operation & Maintenance of Remediation System with the October 1997 cost proposal. The revised cost proposal is attached for your review.

I would like to take this opportunity to thank you for all of your cooperation with us on this site. Should you have any questions please feel free to contact me at (713)722-0700.

Sincerely,

HBC ENGINEERING, INC.



V. Carl Traggesser, III, CAPM 1124
Project Manager

cc: Attachments

FAX TRANSMITTAL

HBC
 ENGINEERING, INC.

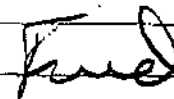
DATE: 12/29/97 TIME: _____
 TO: Carl Tragesser FAX NO. _____
 COMPANY: HBC PHONE NO. _____
 FROM: Fred Fitter OFFICE: HBC-Dallas

 Total Pages Including Cover: 11

REMARKS:

Carl -

I requested a bid from AVR AcuVac Remediation Inc. in Houston, but they declined to bid. They didn't want to supply a third bid to satisfy TNRC requirements. I know of no other IC engine manufacturers.



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HOUSTON

2313 W. Sam Houston Pkwy. N.
 Suite #107
 Houston, Texas 77043
 Phone: (713) 722-0700
 Fax: (713) 722-0788

DALLAS

4747 Irving Blvd.
 Suite #206
 Dallas, Texas 75247
 Phone: (214) 630-1010
 Fax: (214) 630-7070

AUSTIN

3913 Todd Lane
 Suite #312
 Austin, Texas 78744
 Phone: (512) 442-1122
 Fax: (512) 442-1181

ATLANTA

2470 Windy Hill Rd.
 Suite #300
 Marietta, Georgia 30067
 Phone: (770) 618-3055
 Fax: (770) 618-3015

VaporTek USA

2700 EAST BYPASS, SUITE 4600
COLLEGE STATION TX 77840
(409)764-7640 (800)444-7640
Fax (409)683-8729

October 8, 1997

Fred Fitter
HBC Engineering
4747 Irving Blvd, Suite 206
Dallas TX 75247

Dear Mr. Fitter:

Thank you for inquiring about VaporTek USA's vacuum extraction equipment for soil vapor extraction. I am enclosing a brochure of our vacuum extraction engine Model VAK-300 along with our standard rental agreement.

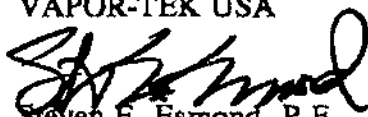
As we discussed, the VaporTek VAK-300 is completely mobile. It can be set up and operating within a few minutes after arrival at the site and requires very little time or training to operate and maintain. Because the site is less than a 2 hour drive from our home office, we can be available on short notice if any problems arise.

We would appreciate the opportunity to work with you on your remediation project in Austin.

Please call me at 800-444-7640 if you have any questions or need any additional information.

Very truly yours,

VAPOR-TEK USA


Steven E. Esmond, P.E.
President

Encl.

Rental Agreement

THIS AGREEMENT is entered into on the ____ day of _____, 19____, by and between _____ (Lessee), phone _____, and VaporTek USA (Lessor), 2700 East Bypass, Suite 4600, College Station, Texas 77845, phone 409/764-7640.

WHEREAS, Lessor owns a Vapor Recovery Engine (VRE) and

WHEREAS, Lessee desires to lease said VRE

THEREFORE:

1. Equipment. Lessee agrees to lease said VRE and appurtenances which are more fully described in Attachment A hereto. Lessee acknowledges that he has had an opportunity to inspect the VRE, and finds it suitable for his needs and in good condition, and that he understands its proper use. Lessee further acknowledges his duty to monitor and maintain the VRE during its use and to notify Lessor of any defects. Any defects in the VRE will be reported in writing or by fax and repairs made by Lessor at Lessor's expense within 48 hours. Rentals will be suspended while the Lessor is making repairs.
2. Terms. The lease term shall commence on the date first written above and shall continue for a period of 6 months. Lessee promises to pay Lessor monthly payments in the amount of \$ 1,750 per month. Lessee has the option of extending the Lease Agreement at the rate of \$ 1,750 per month.

First month's rental will be paid in advance. Succeeding monthly rental payments will be due by the 10th day of the month following the month in which rental costs were incurred. Late payments will be assessed a late charge of \$100 per month.

The rental period will commence upon delivery of the VRE to Lessee's site and end at the end of the term hereof or as extended in writing. Lessor will pick up the VRE at the end of the lease term at no additional transportation charge to Lessee.

3. Mobilization Fee. Lessee agrees to pay an initial mobilization fee of \$1,000.00 for the delivery and installation of said VRE on Lessee's site, located within a 100 mile radius of Austin, Texas. This mobilization fee includes shipping, hookup and the training of Lessee's maintenance personnel and operators.
4. Routine Maintenance. Lessee shall return VRE to Lessor without any damage beyond normal wear and tear. Lessee agrees to maintain said VRE according to the attached

maintenance schedule (Attachment B). Lessee agrees to monitor the operation of said VRE with due care and keep Lessor apprised of problems in a timely manner. Lessor is responsible for maintaining the VRE in working order at Lessor's expense except when the Lessee's negligence or failure to comply with Lessor's maintenance schedule (Attachment B) caused the VRE to malfunction. When the Lessee's negligence or failure to properly operate or maintain the VRE has caused damage or malfunction, Lessee agrees to reimburse Lessor for reasonable travel, labor, and parts required to return said VRE to good working condition. Lessor as part of the monthly rental rate agrees to provide consulting services related to operation of VRE on a 24 hour on-call basis.

5. **Relocation.** Reasonable travel and re-mobilization expenses incurred by the Lessor to move and install said VRE after initial mobilization at a different location during the term of this agreement will be paid by the Lessee. This will include labor at a rate of \$35.00 per hour plus expenses.
6. **Replacement of Malfunctioning VRE.** If the VRE becomes unsafe or in disrepair as a result of normal use, Lessee agrees to discontinue use and notify Lessor, who will replace the VRE within 30 days with similar VRE in good working order. Lessor is not responsible for any incidental or consequential damages caused by delays or otherwise, unless the replacement or repair period extends beyond 30 days.
7. **Warranties.** There is no warranty that this VRE is suited for Lessee's intended use. Lessee's sole remedy for any failure or defect in the VRE shall be the termination of the rental charges at the time of the failure, provided that such failure is reported to Lessor and the VRE is returned or in transit to Lessor within 5 days after such notification. The Lessor warrants that the equipment will operate in accordance with the specifications provided in Attachment A.
8. **Hold Harmless Agreement.** Lessee agrees to assume the risks of, and hold Lessor harmless for property damage or personal injury arising out of or pertaining to negligence related to possession or use of the VRE rented under this agreement. Lessor agrees to assume the risks of and hold harmless Lessee for all property damage on personal injury resulting from defects to the equipment.
9. **Prohibited Use and Lessee's Liability for Misuse of VRE.** Use of the VRE in the following circumstances is prohibited and constitutes a breach of this agreement: (a) Use for illegal purpose or in an illegal manner, (b) Use when the VRE is in bad repair or is unsafe, (c) Improper, unintended use or misuse, (d) Use by anyone other than the Lessee or Lessee's employees without the written consent of Lessor. Lessee shall not abuse, harm or misuse the VRE. Lessee shall not permit any repairs to be made or lien to be placed upon the VRE without Lessor's written consent. In the event of any accident or casualty resulting in bodily injury or property damage arising out of Lessee's use of said VRE, Lessee agrees to accept all responsibility therefor and shall hold Lessor harmless from any claim or action arising

arising therefrom. Lessee shall furnish Lessor with a complete report of any accident involving said VRE, including names and addresses of witnesses. Lessee agrees that the VRE will be used and operated only by a person competent in its operation and further agrees to operate and maintain the VRE in accordance with instructions provided by Lessor.

- 10. Assignments, Subleases and Loans of VRE. Lessor may assign its rights under this contract without Lessee's consent but will remain bound by all obligations herein. Lessee may not sublease or loan the VRE without Lessor's written consent. Any purported assignment by Lessee is void.
- 11. Severability. The provisions of this agreement shall be severable so that the invalidity, unenforceability, or waiver of any of the provisions shall not affect the remaining provisions.
- 12. Indemnity. Lessee agrees to indemnify and reimburse Lessor for liabilities of Lessee, Lessee's agents or third parties arising out of the use of the VRE or a breach of this contract by Lessee. Such indemnity and liabilities shall survive the termination of this agreement.
- 13. Title. The said VRE shall remain the exclusive property of the Lessor and the Lessee shall keep said VRE free from any and all liens and claims, and Lessee shall do or permit no act or thing whereby Lessor's title or rights may be encumbered or impaired.
- 14. Disputes. This agreement shall be binding on the parties, their heirs and assigns and is governed by the laws of Texas. Any dispute shall be settled by binding arbitration using arbitrators residing within 150 miles of Bryan, Texas. In the event of a dispute the successful party shall be entitled to recover as part of the damages any reasonable legal costs and expenses for bringing such action.

Lessor:

VaporTek USA

By: _____

Title: _____

Date: _____

Lessee:

By: _____

Title: _____

Date: _____

**Attachment A
VaporTek USA
Vapor Recovery Engine
Model No. VAK-300
Equipment Specification**

Engine

Manufacturer	Ford	
Type	Industrial	
Displacement	4.9	Liter
Cylinders	6	
Maximum Continuous Speed	2,800	RPM
Recommended Operating Speed	1,200-1,800	RPM

Fuel Control

Fuels	LPG or Natural Gas	
Carburetor type	IMPCO 125	
Carburetor controls	Computerized Microprocessor	
Fuel System Analyzer	Carbon monoxide	
LPG Consumption Rate	2.0	gal/hour
Natural Gas Consumption Rate	200	cfh

Blower

Manufacturer	Roots/Dresser	
Type	Rotary	
Model	RAI-36	
Capacity	50-150	scfm
Vacuum	10-14	In. Hg

Accessories

LPG tank	10	gallon
----------	----	--------

Flame Arrester

Model No.	T-802-IL-CAC
Manufacturer	Enardo

Chassis

Maximum Towing Speed	55	mph
Maximum GVW	3,500	pounds
Actual dead weight	1,200	pounds

Attachment B
Routine Maintenance Schedule
VaporTek Vapor Recovery Engine
Model No. VAK-300

Engine

Change engine coolant
Change oil - 10-W-40
Change filter - Ford PH-8
Normal engine speed

Annually
Every two weeks
Every two weeks
1200 - 1600 RPM

Blower

Lubricate bearings

Every two weeks

VaporTek USA

2700 EAST BYPASS, SUITE 4800
COLLEGE STATION TX 77840
(409)764-7640 (800)444-7640
Fax (409)693-6729

January 6, 1998

Carl Tragesser
HBC Engineering
Houston, TX

Fax: 713/722-0700

(Voice: 713/722-0788)

Dear Mr. Tragesser:

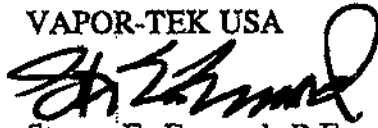
This confirms our telephone conversation this morning in connection with the location of sampling ports and temperature sensors on our vacuum extraction engine Model VAK-300. Since printing the brochure, we have added a number of ports and sensors in response to client's varying needs. In addition, some of our rental units have been adapted with special equipment that would not be illustrated in our brochure.

All of our units have been modified to the extent shown on the attached diagram. Each unit would appear to have ample sampling ports and sensors to comply with EPA requirements. If you require additional sensors or sampling ports, we will be happy to add them.

Please call me if you have any questions or need any additional information.

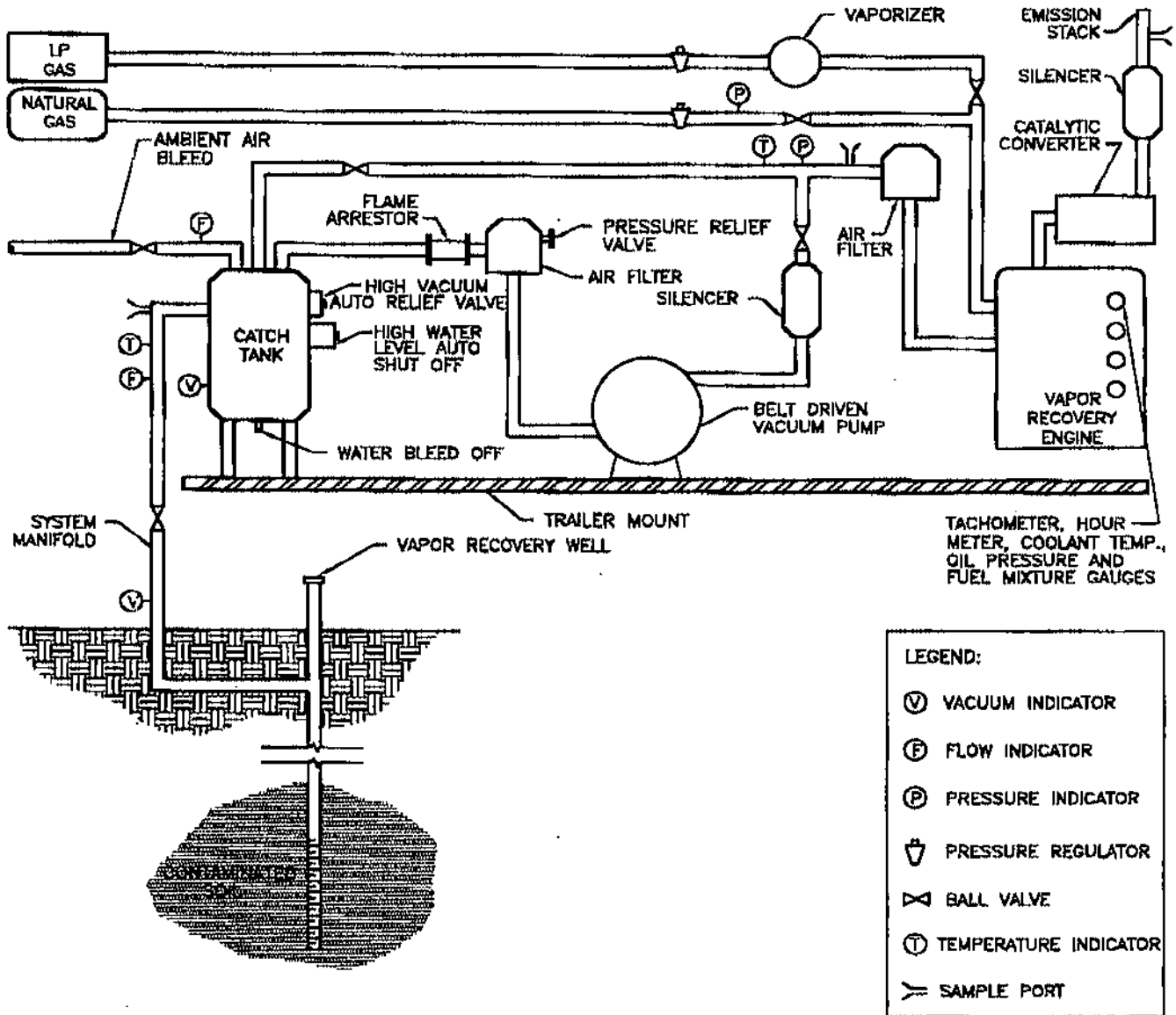
Very truly yours,

VAPOR-TEK USA



Steven E. Esmond, P.E.
President

Encl.



Schematic of the VaporTek System

**ONION ENTERPRISES**

269 CROSS RD. Alamo, CA 94507 510-855-0905 FAX 510-831-4960

Dec. 16, 1997

Fred Fitter

HBC

Via Fax # 214-630-7070

Phone # 214-630-1010

page 1 of 4

Dear Fred:

Thank you for your interest in Onion Enterprises Internal Combustion Engine.
The following is a description of our IC 120.

Performance Parameters:

- **Destruction efficiency:** Typical rates have been 99% with a maximum daily discharge usually under one pound per day TPHg and 0.05 pound per day of benzene.
- **On-site up-time:** Performance at several sites has shown continuous operation, with approximately 95% up-time.
- **Permits:** Our system has been permitted by numerous regulatory agencies throughout the Western United States.

Please call me at 510-855-0905 if you have any questions. Thank you again for the opportunity to work with you.

Sincerely,


Barry Zvibleman

Internal Combustion Engines System
Sales, Leasing, and Rentals
Manufactured by Orion Enterprises

The internal combustion engine is essentially an industrial engine which extracts hydrocarbon-bearing vapor from the subsurface and uses this vapor to power the engine and blower. These systems are the preferred vapor-treatment technology for projects where there are high concentrations of volatile organic compounds (VOCs) or where soils yield low flow rates. Specifically, projects where:

- Initial VOC concentrations are high enough that treatment by either catalytic oxidation or activated carbon is prohibitively expensive (or unsafe in some cases with carbon) or where:
- vapor flow rates are in the 100-150 cfm range, making the higher capital, installation and O&M costs of thermal oxidation prohibitive; or where
- natural gas, as supplemental fuel, and electrical power are unavailable due to the job site's remote location.

The I.C. engines are completely self-contained, trailer-mounted systems. A Ford industrial, 6 cylinder, 300 cubic inch, liquid cooled internal combustion engine is the heart of these systems. Other major components include:

- Microprocessor based control system for automatically controlling the flow rate of supplemental fuel. A fuel control computer controls the air to fuel ratio;
- Rotary lobe extraction blower to extract vapor directly from wells;
- On board environmental sampling pump with connections allowing easy collection of influent, effluent or other site sample vapor. A 3 way selector switch facilitates operation. This pump system has Teflon fittings and a purge-clean-air setting;
- Manual drain condensate removal system for removing trapped moisture in the vapor extraction piping;
- Full system instrumentation;
- Two propane fuel cylinders with a total capacity of 20 gallons, individual level indicators, and an auxiliary connection for a larger stationary tank.

Other standard features include:

- Associated control valves and piping;
- A heavy-duty trailer with leveling jacks and removable tongue for system security;
- Carburetor: two stage vaporizer regulator
- 3 way catalytic converter to insure compliance with EPA and BAAQMD standards.
- Dilution air and total air particulate filter
- Removable 15 foot stack
- Fire extinguisher

- Wiring for easy remote monitoring unit connections
- 2 amp, 110 volt AC service to operate lights or small electrical instrumentation or remote monitoring equipment

Instrumentation and Controls

Monitors: The instrumentation panel on these I.C. engines includes monitors for:

- extracted vapor flow and vacuum
- water temperature
- oil pressure
- rpm 1500 to 2,700
- hours of operation
- DC volts
- exhaust temperature

Safety Controls: Gauges monitor high coolant temperature, low oil pressure, and propane disconnect to execute system shutdown during alarm conditions. Additional safety features include: A 10 pound ABC fire extinguisher, safety heat shields on accessible sections of the exhaust stack, guard over the rotating shaft, removable door to access engine maintenance areas, and a locking control panel door. A master shutdown switch is provided and all electrical control and operating equipment is low voltage.

Operation Information and Specifications

Our I.C. engines are configured with a rotary lobe blower which is belt driven by the engine and can be adjusted to site requirements.

Maximum Flow Rate in acfm	30-100 scfm
Maximum Vacuum (in. Hg) @ 120 cfm	100" WC
Maximum Vacuum (in. Hg) @ 140 cfm	60" WC
Destruction Capacity @ pounds per day	up to 500
Influent Concentration Range without dilution	up to 50,000 ppm VOC
Optimum Influent Concentration Range	200 - 20,000 ppm VOC
Discharge Air Temperature	750 degree F.
Discharge Air Velocity	16,000 ft/min.
Stack Diameter	2 inches
Dimensions	90x64x54 inches
Weight	1,500 pounds
Natural Gas Requirement (pressure)	20 wc
Natural Gas Requirement (flow)	10 scfm
Maximum Noise Level	72-75dB @ 15 ft.

The initial flow rate depends on actual site conditions and oxygen levels.

Operation and Maintenance

Operation and maintenance shall be done by client. Maintenance records meeting specs have to be presented to E at end of rental or a \$2000 referb of engine will be added.

Maintenance

Weekly:	Oil change, oil filter change, complete system inspection.
Biannually:	Engine tune-up, coolant replacement, complete system check.
Spare Parts:	Off the shelf replacement parts are available nationally.

Customer Support:

An operation and maintenance manual includes P&ID, flow diagram, operation and maintenance instruction and component part information are supplied with each engine. unique site specific equipment modifications are handled during manufacture.

Mobilization

Mobilization into your site will FOB Northern CA

Rental Pricing

The EI Standard IC 120 System \$2,000.00 per month.

Terms and Conditions

Environmental Instruments' standard policy for used equipment is 50 % upon deliver, 50% net 30.

Accepted By:

Date

Operation, Monitoring, and Performance Cost Proposal

LPST

11174

Facility ID

29044

Responsible Party

Federal Express Corporation

Facility Name and Address

5811 Tech Center, Austin, TX

Mark Appropriate Activity

10-1 Operation, Maintenance and Performance of Remediation System

Print

A. Personnel

	Sub.	Total
Fixed Annual Office Costs		\$0
Quarterly Monitoring		
# of Wells		
Avg. Depth		
First Quarter	40	\$840
Second Quarter	40	\$840
Third Quarter	40	\$840
Fourth Quarter	40	\$840
Subtotal		\$3,360
OMP		
Units		
\$/Unit		
Subtotal		
First System (up to 3 wells)	1	\$76
Emissions Control	1	\$25
Additional Systems	0	\$0
# of Wells > 3/system	1	\$13
Field Prep./Data Form.	1	\$70
Add Prep./Form.	1	\$140
Subtotal OMP		\$375
Number of Visits x Sub OMP	23	\$375
Subtotal of Subcontracted Personnel =		\$0
Subcontractor Markup %		\$0
Cost Proposal Preparation		\$115
A. Total Personnel		\$4,590

C. Analytical

	Units	\$/Unit	Sub.	Total
Groundwater Monitoring				
TPH/TEX	220	\$523		\$115,060
TPH/TEX/ATBE		\$0		\$0
PAH (810)		\$0		\$0
PAH (8270)		\$0		\$0
Shipping		\$0		\$0
System Performance				
TPH (w)	2	\$63		\$126
BTEX (w,a)		\$0		\$0
BTEX/ATBE (w)		\$0		\$0
Total Lead (w)		\$0		\$0
TPH (a)	2	\$63		\$126
Shipping		\$0		\$0
Subtotal of Subcontracted Personnel =		\$0		\$0
Subcontractor Markup %		\$0		\$0
C. Total Lab Analyses				\$115,284

B. Equipment

	Units	\$/Unit	Sub.	Total
System/Component Rent/Lease		\$0		\$0
Disposable Baters	4	\$5		\$20
Small Items	4	\$20		\$80
Carbon Canister (inc. disposal)		\$0		\$0
Electrical Service		\$0		\$0
Natural Gas Service	5	\$600		\$3,000
Water/Wastewater Service		\$0		\$0
Telecommunications		\$0		\$0
Storage Tank		\$0		\$0
Telecommunications		\$0		\$0
Maintenance	12	\$50		\$600
DUM	26	\$50		\$1,300
IC Engine	6	\$2,000		\$12,000
Subtotal of Subcontracted Equipment =		\$0		\$0
Subcontractor Markup %		\$0		\$0
B. Total Equipment				\$17,830

D. Waste Management

	Units	\$/Unit	Sub.	Total
Vacuum Truck	1	\$50	100%	\$50
Fluid Disposal	250	\$0.26	100%	\$65
Sub. for All Disp.		\$0		\$0
Subtotal of Subcontracted Personnel =		\$0		\$0
Subcontractor Markup %		10%		\$6.50
D. Total Waste Management				\$111.50

E. Travel

	Units	\$/Unit	Sub.	Total
Equipment Truck	33	\$140		\$4,620
One way mileage to site	180	\$0.22		\$39.60
Mileage (>100 c.t.)	0.285	\$0.31		\$0.09
Travel Time	50	\$75		\$3,750
Per diem	4	\$100		\$400
Airfare		\$0		\$0
Subtotal of Subcontracted Personnel =		\$0		\$0
Subcontractor Markup %		10%		\$46.59
E. Total Travel				\$9,115.19

F. Other Expenses

	Units	\$/Unit	Sub.	Total
Oil & Parts	1	\$250		\$250
Filter Disposal	1	\$250		\$250
Subtotal of Subcontracted Personnel =		\$0		\$0
Subcontractor Markup %		10%		\$25
F. Total Other Expenses				\$525

G. Total Operation, Maintenance, and Performance Cost

A+B+C+D+E+F=

\$53,278

Thomas R. Martens (CAPM Name, Printed) (713)722-0700 (Phone #)

Jamal Mansour (Signature of Representative) (713)722-0788 (FAX #)

HBC Engineering, Inc. (Company) 387 (CAPM#)

January 6, 1997 (Date)

May 30, 1998 (Exp. Date)

V. Carl Tregasser, III (RCAS Rep. Name, Printed) (713)722-0700 (Phone #)

Jamal Mansour (Signature of Representative) (713)722-0788 (FAX #)

HBC Engineering, Inc. (Company) 1124 (CAPM#)

1-6-98 (Date)

January 10, 1999 (Exp. Date)

I acknowledge that the TRCC may reimburse corrective action costs that are at or below the maximum reimbursable amount published in 30 TAC, Chapter 334, Subchapter M. The maximum reimbursable cost will be the amount approved for the activity unless the Executive Director determines that sound justification for a cost surplus exists. I understand that this certification is not intended to limit what a Registered Corrective Action Specialist, Corrective Action Project Manager, or Contractor may charge. I further understand that the amount of the reimbursement for the above activity will be determined after all receipts are submitted and subjected to technical and reimbursable cost review. I certify that this TRCC form has not been altered.

Federal Express Corporation (Name of Responsible Party) (001)397-4397 (Phone #)

Jamal Mansour (Signature of Representative) (713)722-2642 (FAX #)

Jamal Mansour (Name Printed) 901 922-2642 (Phone #)

Federal Express Corporation (Company) 1-6-98 (Date)

TRCC-0657b 10/22/97

RECEIVED
JAN 12 1998
INRCC / PSI
RPR

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

LPST CORRECTIVE ACTION RESPONSE FORM

LPST-ID: 111747

11/14/97 Proposal For: OPERATION & MAINTENANCE OF REMEDIATION SYSTEM

GENERAL INFORMATION

LPST-ID : 111747 Priority: 4.1
Responsible Party : Federal Express Tel: 901/397-4397
Facility # & Name : 0029044 Federal Express
Facility Address : 5811 Techni Center
Facility City : Austin County: Travis
CAPM & Name : CAPM01124 VINCENT C. TRAGESSER III
RCAS & Name : RCAS00387 HBC ENGINEERING, INC.

TNRCC TECHNICAL RESPONSE

Proposed activity is not approved for these administrative reasons:

We concur with the proposed SVE system and Operation, Monitoring, and Performance (OMP) Plan; however, costs for these activities could not be evaluated because current cost proposal forms have not been used. Please refer to the TNRCC guidance document entitled "Preapproval for Corrective Action Activities" (RG-111, October 1997) and the new Reimbursable Cost Guidelines which were adopted in October, 1997.

ACTIVITY COST SUMMARY

Proposed Cost: 35,829.00 Maximum Pre-Approved: 0.00

Signature: *Vicki Montgomery* Date: 12/02/97 Telephone: 512/239-2200
Vicki Montgomery
Coordinator

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

LPST CORRECTIVE ACTION RESPONSE FORM

LPST-ID: 111747

11/14/97 Proposal For: OPERATION & MAINTENANCE OF REMEDIATION SYSTEM

Pursuant to 30 TAC Section 334.82 (b), you are required to notify all parties affected by the contamination. If you determine that contamination from the release has migrated off-site, or if you are required by the TNRCC to conduct further assessment or other corrective actions off-site, then you are required to notify the affected landowner(s) within 30 days of documenting the impact. Please note that landowners may include state and local owners of right-of-way properties. For the purpose of this requirement, notice shall be through any means described in 30 TAC Section 334.82 (a). Please provide documentation that the affected landowner(s) has/have been notified within 30 days of notification. Please note that failure to notify affected parties as required herein is grounds for formal enforcement proceedings.

Please note that preapproval of this activity DOES NOT guarantee reimbursement. Eligibility is determined at the time of reimbursement application review. If the release is eligible, the preapproved amount is the maximum allowable for the proposed activities. The actual amount of reimbursement will be determined after the completed reimbursement application and all related receipts and invoices are submitted, and the completed activity is subject to technical and reimbursable cost review. In all instances, the completed work must be technically justifiable and should serve to advance the site in the corrective action process. The amount of preapproved work performed should be based on completion of the activity's objectives. Additionally, please also note that preapproved amounts include all eligible markup.

Claims for reimbursement should only be submitted after the completion of an annual cycle for remediation system operation and maintenance, and quarterly groundwater monitoring unless a more frequent filing period is previously approved by the PST Reimbursement Section. The Reimbursement Section can be reached at 512/239-2001.

cc: Chris Smith, TNRCC Region 11 Field Office
1921 Cedar Bend, Suite 150, Austin, Texas 78758-5336
Phone: 512/339-2929 Fax: 512/339-3744

TNRCC FAX TRANSMITTAL

DATE: 12/2/97 NO. OF PAGES (including this sheet): 7

TO: Name Mr. Jamal Mansour
 Organization Federal Express
 Fax Number (901) 922-2042

FROM: TEXAS NATURAL RESOURCE CONSERVATION COMMISSION
 Name Vicki Montgomery
Coordinator
 Telephone 512/239-2200
 Fax Number 512/239-2215
 Mail MC-137, PO Box 13087, Austin, TX 78711-3087

NOTES: Response to Corrective Action Proposal(s) for
 LPST #: 111747, Facility ID: 0029044.
 If you have any problems receiving this fax, please
 call 512/239-2200.

Please note that new Corrective Action Preapproval Forms have been required since September 1, 1995. The forms are available at no cost by downloading from the TNRCC Bulletin Board Services (BBS) (512/239-0700), or over the Internet at <http://www.tnrcc.state.tx.us>. You may also order the forms on diskette from the TNRCC, MC-195, P.O. Box 13088, Austin, TX 78711-3088 (please specify the Corrective Action Preapproval Forms on diskette). A pamphlet with reproducible forms is available at no cost by calling TNRCC Publications at 512/239-0028.

Please note that all LPST corrective action proposals and reports need to be prepared by an environmental contracting/consulting firm registered as a Corrective Action Specialist (CAS) and need to have the signatures and registration numbers of both the CAS and registered Corrective Action Project Manager (CAPM) included pursuant to Title 30, Texas Administrative Code (TAC), Subchapter J. Any proposal that has been prepared by a consulting firm not registered as a CAS by the Texas Natural Resource Conservation Commission (TNRCC) or which does not include the signature and registration number of the Project Manager may be rejected. Please reserve the use of the telefax machines for submitting proposals and data for LPST cases that rank as new priority 1's and for emergency abatement activities.

TRANSMISSION REPORT

THIS DOCUMENT WAS CONFIRMED
 (REDUCED SAMPLE ABOVE - SEE DETAILS BELOW)

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*** SEND ***

No.	REMOTE STATION	START TIME	DURATION	#PAGES	MODE	RESULTS
1	901 922 2042	12- 2-97 5:58PM	3'14"	7/ 7	EC	COMPLETED 9600

TOTAL 0:03'14" 7

NOTE:
 No. : OPERATION NUMBER 48 : 4800BPS SELECTED EC : ERROR CORRECT G2 : G2 COMMUNICATION
 PD : POLLED BY REMOTE SF : STORE & FORWARD RI : RELAY INITIATE RS : RELAY STATION
 MB : SEND TO MAILBOX PG : POLLING A REMOTE MP : MULTI-POLLING RM : RECEIVE TO MEMORY

TNRCC FAX TRANSMITTAL

DATE: 12/2/97 NO. OF PAGES (including this sheet):

7

TO: Name Mr. Jamal Mansour
Organization Federal Express
Fax Number (901) 922-2042

FROM: TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

Name Vicki Montgomery
Coordinator
Telephone 512/239-2200
Fax Number 512/239-2216
Mail MC-137, PO Box 13087, Austin, Tx 78711-3087

NOTES: Response to Corrective Action Proposal(s) for
LPST #: 111747 , Facility ID: 0029044.
If you have any problems receiving this fax, please
call 512/239-2200 .

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TEXAS NATURAL RESOURCE CONSERVATION COMMISSION
LPST CORRECTIVE ACTION RESPONSE FORM

LPST-ID: 111747
11/04/97 Proposal For: OTHER - ASSESSMENT

GENERAL INFORMATION

LPST-ID : 111747 Priority: 4.1
Responsible Party : Federal Express Tel: 901/397-4397
Facility # & Name : 0029044 Federal Express
Facility Address : 5811 Techni Center
Facility City : Austin County: Travis
CAPM & Name : CAPM01124 VINCENT C. TRAGESSER III
RCAS & Name : RCAS00387 HBC ENGINEERING, INC.

TNRCC TECHNICAL RESPONSE

Proposed activity is not approved for these technical reasons:

This proposal to install one additional downgradient well is not approved at this time. The work plan indicates that an additional well is needed in order to define the plume to Category I levels; however, based on the depth to groundwater and the lack of potential receptors plume delineation to this extent does not appear to be warranted. It may be necessary to evaluate risk due to inhalation of vapors from soil and groundwater following the removal of phase-separated hydrocarbons (PSH). A proposal for the installation of additional wells may be considered in the future if information supporting the need for additional plume delineation is submitted.

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION
LPST CORRECTIVE ACTION RESPONSE FORM

LPST-ID: 111747
11/04/97 Proposal For: OTHER - ASSESSMENT

TNRCC TECHNICAL RESPONSE

ACTIVITY COST SUMMARY

Proposed Cost:	5,083.00	Maximum Pre-Approved:	0.00
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Signature: *Vicki Montgomery* Date: 12/02/97 Telephone: 512/239-2200
Vicki Montgomery
Coordinator

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

LPST CORRECTIVE ACTION RESPONSE FORM

LPST-ID: 111747
11/04/97 Proposal For: SVE

GENERAL INFORMATION

LPST-ID : 111747 Priority: 4.1
Responsible Party : Federal Express Tel: 901/397-4397
Facility # & Name : 0029044 Federal Express
Facility Address : 5811 Techni Center
Facility City : Austin County: Travis
CAPM & Name : CAPM01124 VINCENT C. TRAGESSER III
RCAS & Name : RCAS00387 HBC ENGINEERING, INC.

TNRCC TECHNICAL RESPONSE

Proposed activity is not approved for these administrative reasons:

We concur with the proposed SVE system and Operation, Monitoring, and Performance (OMP) Plan; however, costs for these activities could not be evaluated because current cost proposal forms have not been used. Please refer to the TNRCC guidance document entitled "Preapproval for Corrective Action Activities" (RG-111, October 1997) and the new Reimbursable Cost Guidelines which were adopted in October, 1997.

Please note the following comments concerning the SVE Corrective Action Plan (CAP):

- 1) The SVE CAP Worksheet indicates that the soils to be treated are generally dry; however, boring logs indicate that the soils/rock were typically moist or slightly moist. Please clarify this issue.
- 2) We concur with the stated goal of recovering PSH until a thickness of .1 foot is reached; however, the need for additional PSH recovery beyond this point may need to be evaluated in the future.
- 3) The location and type of all monitoring and control equipment listed in Exhibit II-16 of the EPA guidance document entitled "How to Evaluate Alternative Cleanup Technologies for Underground Storage Tank Sites: A guide for Corrective Action Plan Reviewers" should either be described in the text of the CAP (i.e., flow meters will be located at each wellhead, manifold to blower, and blower discharge, etc.) or shown on the design drawings.

Please note that this CAP is considered complete for the purposes of meeting the December 23, 1997 CAP deadline.

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION
LPST CORRECTIVE ACTION RESPONSE FORM

LPST-ID: 111747
11/04/97 Proposal For: SVE

TNRCC TECHNICAL RESPONSE

ACTIVITY COST SUMMARY

Proposed Cost:	23,438.00	Maximum Pre-Approved:	0.00
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Signature: *Vicki Montgomery* Date: 12/02/97 Telephone: 512/239-2200
Vicki Montgomery
Coordinator

TNRCC FAX TRANSMITTAL

DATE: 2/11/98

NO. OF PAGES (including this sheet):

4

TO: Name Mr. Jamal Mansour
Organization Federal Express
Fax Number (901) 922-2042

FROM: TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

Name Victoria K. Montgomery
Coordinator
Telephone 512/239-2200
Fax Number 512/239-2216
Mail MC-137, PO Box 13087, Austin, Tx 78711-3087

NOTES: Response to Corrective Action Proposal(s) for
LPST #: 111747 , Facility ID: 0029044.
If you have any problems receiving this fax, please
call 512/239-2200 .

Please note that new Corrective Action Preapproval Forms have been required since September 1, 1995. The forms are available at no cost by downloading from the TNRCC Bulletin Board Services (BBS) (512/239-0700), or over the Internet at <http://www.tnrcc.state.tx.us>. You may also order the forms on diskette from the TNRCC, MC-195, P.O. Box 13088, Austin, TX 78711-3088 (please specify the Corrective Action Preapproval Forms on diskette). A pamphlet with reproducible forms is available at no cost by calling TNRCC Publications at 512/239-0028.

Please note that all LPST corrective action proposals and reports need to be prepared by an environmental contracting/consulting firm registered as a Corrective Action Specialist (CAS) and need to have the the signatures and registration numbers of both the CAS and registered Corrective Action Project Manager (CAPM) included pursuant to Title 30, Texas Administrative Code (TAC), Subchapter J. Any proposal that has been prepared by a consulting firm not registered as a CAS by the Texas Natural Resource Conservation Commission (TNRCC) or which does not include the signature and registration number of the Project Manager may be rejected. Please reserve the use of the telefax machines for submitting proposals and data for LPST cases that rank as new priority 1's and for emergency abatement activities.

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

LPST CORRECTIVE ACTION RESPONSE FORM

LPST-ID: 111747

1/06/98 Proposal For: OPERATION & MAINTENANCE OF REMEDIATION SYSTEM

GENERAL INFORMATION

LPST-ID : 111747 Priority: 4.1
Responsible Party : Federal Express Tel: 901/397-4397
Facility # & Name : 0029044 Federal Express
Facility Address : 5811 Techni Center
Facility City : Austin County: Travis
CAPM & Name : CAPM01124 VINCENT C. TRAGESSE III
RCAS & Name : RCAS00387 HBC ENGINEERING, INC.

TNRCC TECHNICAL RESPONSE

Proposed activity is approved with the following modifications:

This proposal for 6 months (33 visits) of operation and maintenance of the Soil Vapor Extraction (SVE) system is approved. Please note that 6 months of groundwater monitoring activities have also been approved (rather than the proposed 1 year). Upon completion of the 6 months of O&M, please submit another proposal for O&M (which includes groundwater monitoring activities) or a proposal for groundwater monitoring alone, whichever is appropriate. Please note the following comments concerning this proposal:

1) The proposal includes the costs for 8 wells to be included in the SVE system. The previously submitted Corrective Action Plan (CAP) indicates that only 3 wells (MW-1,2, and 6) will be included in the system; therefore, the preapproved amount shown below does not include costs for the additional 5 wells. If 8 wells will be included in the SVE system, please submit an addendum to the CAP.

2) Because of the recent increase in concern regarding levels of MTBE in groundwater, we are requesting that all water samples be analyzed for MTBE in addition to BTEX and TPH. The preapproved amount shown below includes the costs for analyzing 22 water samples for BTEX, TPH, and MTBE.

3) Please note that travel costs should be calculated based on the mileage from the closest RCAS/CAPM office to the site. In this case, costs were based on travel within Austin as both the site and the closest RCAS/CAPM office are located in Austin.

4) We have reviewed the response to our 12/2/97 Corrective Action Response form concerning installation of the SVE system and O&M costs. Please note that while the TNRCC concurred with the proposed SVE system, costs for installation of the system were not approved. Please submit a cost proposal for installation of the SVE system prior to installation.

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

LPST CORRECTIVE ACTION RESPONSE FORM

LPST-ID: 111747

1/06/98 Proposal For: OPERATION & MAINTENANCE OF REMEDIATION SYSTEM

Pursuant to 30 TAC Section 334.82 (b), you are required to notify all parties affected by the contamination. If you determine that contamination from the release has migrated off-site, or if you are required by the TNRCC to conduct further assessment or other corrective actions off-site, then you are required to notify the affected landowner(s) within 30 days of documenting the impact. Please note that landowners may include state and local owners of right-of-way properties. For the purpose of this requirement, notice shall be through any means described in 30 TAC Section 334.82 (a). Please provide documentation that the affected landowner(s) has/have been notified within 30 days of notification. **Please note that failure to notify affected parties as required herein is grounds for formal enforcement proceedings.**

Please note that preapproval of this activity DOES NOT guarantee reimbursement. Eligibility is determined at the time of reimbursement application review. If the release is eligible, the preapproved amount is the maximum allowable for the proposed activities. The actual amount of reimbursement will be determined after the completed reimbursement application and all related receipts and invoices are submitted, and the completed activity is subject to technical and reimbursable cost review. In all instances, the completed work must be technically justifiable and should serve to advance the site in the corrective action process. The amount of preapproved work performed should be based on completion of the activity's objectives. Additionally, please also note that preapproved amounts include all eligible markup.

Claims for reimbursement should only be submitted after the completion of an annual cycle for remediation system operation and maintenance, and quarterly groundwater monitoring unless a more frequent filing period is previously approved by the PST Reimbursement Section. The Reimbursement Section can be reached at 512/239-2001.

cc: Chris Smith, TNRCC Region 11 Field Office
1921 Cedar Bend, Suite 150, Austin, Texas 78758-5336
Phone: 512/339-2929 Fax: 512/339-3744

TNRCC FAX TRANSMITTAL

DATE: 2/11/98 NO. OF PAGES (including this sheet): 4

TO: Name Mr. Jamal Mansour
 Organization Federal Express
 Fax Number (901) 922-2042

FROM: TEXAS NATURAL RESOURCE CONSERVATION COMMISSION
 Name Victoria K. Montgomery
Coordinator
 Telephone 512/239-2200
 Fax Number 512/239-2216
 Mail MC-137, P.O. Box 13088, Austin, TX 78711-3087

NOTES: Response to Corrective Action Proposal(s) for
 LPST #: 111747, Facility ID: 0029044.
 If you have any problems receiving this fax, please
 call 512/239-2200.

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NOTE:

No. : OPERATION NUMBER 48 : 4800BPS SELECTED EC : ERROR CORRECT G2 : G2 COMMUNICATION
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TEXAS NATURAL RESOURCE CONSERVATION COMMISSION
LPST CORRECTIVE ACTION RESPONSE FORM

LPST-ID: 111747

1/06/98 Proposal For: OPERATION & MAINTENANCE OF REMEDIATION SYSTEM

TNRCC TECHNICAL RESPONSE

ACTIVITY COST SUMMARY

Proposed Cost:	53,776.00	Maximum Pre-Approved:	34,936.00
----------------	-----------	-----------------------	-----------

QRB

Signature: Victoria K. Montgomery Date: 2/11/98 Telephone: 512/239-2200
Victoria K. Montgomery
Coordinator

Activity 10: Operation, Monitoring, & Performance

TNRCC #: na
 LPST #: 111747
 Facility #: 29044
 Facility Name: Federal Express
 Facility address: 5811 Techni Center Drive, Austin
 Date: 11-Feb-98
 Prepared by: VKM



Depth of wells	# wells	System	# of Wells
1 st quarter	40	1 st system	Yes
2 nd quarter	11	Emissions Ctrl.	Yes
3 rd quarter	11	Add'l systems	0
4 th quarter	0	# of wells >3/sys.	0
		Number of visits	33
		Number of month	6

A. Personnel

Item	# of Wells	Avg. Depth	Total
Fixed Annual Office Costs			\$1,995
Quarterly Monitoring			
First Quarter	11	40	\$620
Second Quarter	11	40	\$620
Third Quarter	0	40	\$0
Fourth Quarter	0	40	\$0
OMP			
First System (up to 3 wells)	1 x	\$75 =	\$75
Emissions Control	1 x	\$25 =	\$25
Additional Systems	0 x	\$38 =	\$0
# of Wells >3/system	0 x	\$13 =	\$0
Field Prep./Data Form.	1 x	\$70 =	\$70
Add Prep./Form.	0 x	\$12 =	\$0
Subtotal OMP			\$170
Number of Visits x Sub OMP	33 x	\$170 =	\$5,610
Subtotal of Subcontracted Personnel =			\$0
Subcontractor Markup %		10%	\$0
Cost Proposal Preparation			\$115
A. Total Personnel			\$8,960

C. Analytical

Item	Units	\$/Unit	Total
Groundwater Monitoring			
TPH/BTEX	0 x	\$112 =	\$0
TPH/BTEX/MTBE	22 x	\$134 =	\$2,948
PAH (610)	0 x	\$158 =	\$0
PAH (8270)	0 x	\$249 =	\$0
Nitrates - w	0 x	\$24 =	\$0
Phosphates - w	0 x	\$24 =	\$0
Sulfates - w	0 x	\$24 =	\$0
Shipping	22 x	\$5 =	\$110
System Performance			
TPH (w)	2 x	\$49 =	\$98
BTEX (w,a)	0 x	\$63 =	\$0
BTEX/MTBE (w)	0 x	\$85 =	\$0
Total Lead (w)	0 x	\$31 =	\$0
TPH - w a	2 x	\$48 =	\$96
Other	0 x	\$0 =	\$0
Shipping	4 x	\$5 =	\$20
Subtotal of Subcontracted Analytical =			\$0
Subcontractor Markup %		10%	\$0
C. Total Lab Analyses			\$3,271

B. Equipment

Item	Units	\$/Unit	Total
System/Component Rental/Lease Cost	0 x	\$0 =	\$0
Disposable bailers	22 x	\$8 =	\$176
Small Items for Groundwater Monitorin	2 x	\$20 =	\$40
Carbon Canisters	0 x	\$750 =	\$0
Electrical Service	0 x	\$0 =	\$0
Natural Gas Service	6 x	\$600 =	\$3,600
Water/Wastewater Service	0 x	\$0 =	\$0
Telecommunications	0 x	\$50 =	\$0
Storage Tank	0 x	\$0 =	\$0
Maintenance	6 x	\$50 =	\$300
IC Engine	6 x	\$2,000 =	\$12,000
Oil and filter	1 x	\$250 =	\$250
Filter disposal	1 x	\$250 =	\$250
xxx	0 x	\$0 =	\$0
xxxx	0 x	\$0 =	\$0
xxxx	0 x	\$0 =	\$0
xxxx	0 x	\$0 =	\$0
xxxx	0 x	\$0 =	\$0
xxxx	0 x	\$0 =	\$0
xxxx	0 x	\$0 =	\$0
xxxx	0 x	\$0 =	\$0
xxxx	0 x	\$0 =	\$0
Subtotal of Subcontracted Equipment =			\$0
Subcontractor Markup %		15%	\$0
B. Total Equipment			\$16,616

D. Waste Management

Item	Units	\$/Unit	Total
Vacuum Truck	3 x	\$75 =	\$225
Fluid Disposal	550 x	\$0.40 =	\$220
Sub. H or Alt. Disp.	0 x	\$0.00 =	\$0
Subtotal of Subcontracted Waste=			\$444
Subcontractor Markup %		10%	\$44
D. Total Waste Management			\$489

E. Travel

Item	Units	\$/Unit	Total
Equipment Truck	20 x	\$140 =	\$2,800
One way mileage to site		40	
Mileage (>100 r.t.)	0 x	\$0.31 =	\$0
Travel Time	56 x	\$50 =	\$2,800
Per diem	0 x	\$80 =	\$0
Airfare	0 x	\$0 =	\$0
Subtotal of Subcontracted Travel =			\$0
Subcontractor Markup %		15%	\$0
E. Total Travel			\$5,600

F. Other Expenses

Item	Units	\$/Unit	Total
	0 x	\$0 =	\$0
	0 x	\$0 =	\$0
Subtotal of Subcontracted Other=			\$0
Subcontractor Markup %		15%	\$0
F. Total Other Expenses			\$0

	Proposed		Approved		Approved - Proposed Difference
	Amt Sub'd	Total	Subcontracted	Total	
Personnel	\$0	\$12,025	\$0	\$8,960	-\$3,065
Equipment	\$0	\$17,932	\$0	\$16,616	-\$1,316
Analytical	\$0	\$2,958	\$0	\$3,271	\$313
Waste	\$265	\$292	\$444	\$489	\$197
Travel	\$0	\$8,820	\$0	\$5,600	-\$3,220
Other	\$0	\$500	\$0	\$0	-\$500
Total	\$265	\$42,527	\$444	\$34,936	-\$7,591

Notes:

- Please refer to Appendix A, Part 1 for a breakdown of personnel costs.
- An OMP Plan for existing systems should be submitted for any site where a remediation system was in operation requirements were adopted by the TNRCC.
- Please refer to Appendix A, Part 5 for a listing of equipment costs. Mark-up for subcontracted costs vary. Ref
- This line will be used if a remediation system or a component(s) of the remediation will be reimbursed in this
- Please refer to Appendix A, Part 2 for additional laboratory analyses and costs. Mark-up is allowed only on su
- Please refer to Appendix A, Part 7 for a breakdown of waste management costs.
- Please refer to Appendix A, Part 4 for a breakdown of travel policy and costs. The TNRCC will pay for one T Sampling events. The TNRCC will reimburse this individual at the T3 rate when O&M is performed and at th



Activity 10: Operation, Monitoring, & Performance

TNRC #: na	111747	Depth of wells	# wells	System	# of Wells
LPST #: 28044		1 st quarter	40	1 st system	Yes
Facility #: Federal Express		2 nd quarter	11	Emmissions Ctrl.	Yes
Facility Name: 5811 Technl Center Drive, Austin		3 rd quarter	11	Add'l systems	0
Date: 11-Feb-88		4 th quarter	0	# of wells >3/sys.	0
Prepared by: VKM			0	Number of visits	33
				Number of months	6

Part C: Analytical Costs - See Note 3

Section 1: Groundwater Testing				
ITEM	ACTIVITY	UNITS	\$/UNIT	TOTAL
TPP/BTEX		0	\$111.50	\$0.00
TPP/BTEX w/ MTBE		22	\$134.00	\$2,948.00
PAH (810)		0	\$158.00	\$0.00
PAH (827b)		0	\$249.00	\$0.00
Nitrates - w		0	\$24.00	\$0.00
Phosphates - w		0	\$24.00	\$0.00
Sulfates - w		0	\$24.00	\$0.00
Shipping		22	\$5.00	\$110.00
Total Section 1				\$3,058.00
Section 2: System Performance Analytical Testing				
ITEM	ACTIVITY	UNITS	\$/UNIT	TOTAL
TPH (Water)		2	\$49.00	\$98.00
BTEX (Water, Alk)		0	\$62.50	\$0.00
BTEX w/ MTBE (Water)		0	\$85.00	\$0.00
TOTAL LEAD (Water)		0	\$31.00	\$0.00
TPH - w a		2	\$47.50	\$95.00
Other		0	\$0.00	\$0.00
Shipping		4	\$5.00	\$20.00
Total Section 2				\$213.00
% of Subtotal subject to markup		0.00%	Subtotal Analytical	\$3,271.00
Total Subcontracted Analytical		\$0.00	Markup 10%	\$0.00
Total Analytical				\$3,271.00

Comments

Part D: Waste Management Costs - See Note 5

ITEM	ACTIVITY	UNITS	\$/UNIT	TOTAL
Vacuum Truck	\$75.00/Hour	3	\$75.00	\$225.00
Fluid Disposal	\$0.40/Gallon	550	\$0.40	\$220.00
Subchapter H Discharge or Alternate Disposal	As Needed	0	\$0.00	\$0.00
% of Subtotal subject to markup		89.81%	Subtotal	\$445.00
Total Subcontracted Waste management		\$444.16	Markup 10%	\$44.42
Total Waste				\$489.42

Comments
yes
no

Part E: Travel Costs - See Note 8

ITEM	ACTIVITY	UNITS	UNIT COST	TOTAL
Equipment Truck	includes first 50 miles one way (100 r.t.)	20	\$140.00	\$2,800.00
Mileage (>100 r.t., max 400/trip)	33 trips) at 0 m/trip	0	\$0.31	\$0.00
Travel Time Tech. - r.t. / 50mph		58	\$50.00	\$2,800.00
Airfare		0	\$0.00	\$0.00
Per Diem	0 a/g/h, 0 tech.	0	\$80.00	\$0.00
% of Subtotal subject to markup		0.00%	Subtotal	\$5,600.00
Total Subcontracted Travel		\$0.00	Markup 15%	\$0.00
Total Travel				\$5,600.00

Comments
\$140.00/Day
\$0.31
\$50.00/Hour
By Need
\$80.00/Day if > 12 hr day

Part F: Other Expenses

ITEM	UNITS	UNIT COST	TOTAL	
	0	\$0.00	\$0.00	
	0	\$0.00	\$0.00	
	0	\$0.00	\$0.00	
% of Subtotal subject to markup		0.00%	Subtotal	\$0.00
Total Subcontracted Other		\$0.00	Markup 15%	\$0.00
Total Other				\$0.00

Comments

	Proposed		Approved		Approved - Proposed Difference
	Amount Subcontracted	Total	Subcontracted	Total	
Personnel	\$0	\$12,025	\$0	\$8,980	-\$3,065
Equipment	\$0	\$17,932	\$0	\$16,616	-\$1,316
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Total	\$265	\$42,527	\$444	\$34,936	-\$7,591

- Notes:
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 - Please refer to Appendix A, Part 5 for a listing of equipment costs. Mark-up for subcontracted costs vary. Refer to Appendix A: Part 9.
 - This line will be used if a remediation system or a component(s) of the remediation will be reimbursed in this Activity. See Activity 09: Remediation System Installation.
 - Please refer to Appendix A, Part 2 for additional laboratory analyses and costs. Mark-up is allowed only on subcontracted items.
 - Please refer to Appendix A, Part 7 for a breakdown of waste management costs.
 - Please refer to Appendix A, Part 4 for a breakdown of travel policy and costs. The TNRC will pay for one Technician to travel to the site and perform O&M and Groundwater Sampling events. The TNRC will reimburse this individual at the T3 rate when O&M is performed and at the T1 rate when sampling is performed. Travel will be paid at the T3 rate.

Texas Water Commission
PRODUCT STORAGE TANK
MONTHLY PRODUCT RECOVERY REPORT

111747
✓

Complete All Applicable Blanks.

Date: 11/5/97

GENERAL INFORMATION

LPST ID No.: 111747 Assigned TWC Coordinator: Vicki Montgomery

Facility ID No.: 29044

Responsible Party: Federal Express Corporation

Facility Name: Federal Express Corporation

Facility Address: 5811 Techni Center

Facility City: Austin County: Travis

PHASE-SEPARATED PRODUCT RECOVERY

Volume of fluids (product & water) recovered during ~~past month~~ period: 1,450 gallons

Volume of phase-separated product recovered during ~~past month~~ period: 1,450 gallons

Total volume of fluids recovered to date: 4,699 ?

Total volume of product recovered to date: 4,699 0

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EPC
INRCC/PST
RPH

Method of product recovery: continuously (automated) pulsed (automated) hand bailing

sorbents other, describe: Submersible pumps in MW-1 and MW-2, and a sorbent skimmer sock has been placed in MW-6...

Pumping rate (for automated systems only): Approximately 0.4 gallons per hour.

Phase-separated product recovery schedule: daily bi-weekly weekly other, describe:

Controlled by float switches.

Maximum phase-separated product thickness remaining:

Indicate monitoring wells impacted with phase-separated product: MW-1, MW-2 and MW-6

Are the product thicknesses diminishing over time? YES or NO (check one) If no, is a new release suspected? YES or NO describe:

Has the product been removed to the maximum extent possible or to the extent where no hazardous situations will develop? YES or NO

WASTE DISPOSITION

Indicate the status of all wastes generated: All fluids produced by the two recovery pumps are stored on-site pending removal by Re-Claim Enviromental, Inc.

REPORT PREPARATION

Prepared by: V. Carl Tragesser

Company: HBC Engineering, Inc.

Date prepared: 11/5/97

Telephone No.: 512-442-1122

Fax No.: 512-442-1181

Signature: 

Name of Responsible Party contact: Jamal Mansour

Telephone No.: (901) 397-4397

Fax No.: (901) 922-2042

Date: November 5, 1997

Signature: 

Monthly Product Recovery Reports are due no later than the 10th day of the following month, unless otherwise directed by the TWC case coordinator.

TNRCC FAX TRANSMITTAL

DATE: 8/11/97

NO. OF PAGES (including this sheet):

4

TO: Name Mr. Jamal Mansour
Organization Federal Express
Fax Number (901) 922-2042

FROM: TEXAS NATURAL RESOURCE CONSERVATION COMMISSION
Name Vicki Montgomery
Coordinator
Telephone 512/239-2200
Fax Number 512/239-2216
Mail MC-137, PO Box 13087, Austin, Tx 78711-3087

NOTES: Response to Corrective Action Proposal(s) for
LPST #: 111747 , Facility ID: 0029044.
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TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

LPST CORRECTIVE ACTION RESPONSE FORM

LPST-ID: 111747

7/09/97 Proposal For: REMEDIAL ACTION PLAN PREPARATION

GENERAL INFORMATION

LPST-ID : 111747 Priority: 4.1
Responsible Party : Federal Express Tel: 901/397-4397
Facility # & Name : 0029044 Federal Express
Facility Address : 5811 Techni Center
Facility City : Austin County: Travis
CAPM & Name : CAPM01124 VINCENT C. TRAGESSE III
RCAS & Name : RCAS00387 HBC ENGINEERING, INC.

TNRCC TECHNICAL RESPONSE

Proposed activity is approved as proposed, but for a reduced amount.

This proposal to prepare a Corrective Action Plan (CAP) for soil vapor extraction (SVE) is approved.

Be aware that certain corrective action expenses involving the installation or construction of on-site equipment, structures or systems used in the extraction or management of wastes are not reimbursable unless a professional engineer currently registered with the Texas State Board of Registration for Professional Engineers has sealed the plans and supervised the construction as per 30 TAC 334.308.

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION
LPST CORRECTIVE ACTION RESPONSE FORM

LPST-ID: 111747
7/09/97 Proposal For: REMEDIAL ACTION PLAN PREPARATION

TNRCC TECHNICAL RESPONSE

ACTIVITY COST SUMMARY

Proposed Cost:	8,000.00	Maximum Pre-Approved:	6,610.00
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Signature

Vicki Montgomery **VT**
Vicki Montgomery
Coordinator

Date: 8/11/97 Telephone: 512/239-2200

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

LPST CORRECTIVE ACTION RESPONSE FORM

LPST-ID: 111747

7/09/97 Proposal For: REMEDIAL ACTION PLAN PREPARATION

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cc: Chris Smith, TNRCC Region 11 Field Office
1921 Cedar Bend, Suite 150, Austin, Texas 78758
Phone: 512/339-2929 Fax: 512/339-3744

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 Organization Federal Express
 Fax Number (901) 222-2042

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 Name Vicki Montgomery
Coordinator
 Telephone 512/239-2200
 Fax Number 512/239-2216
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 MB : SEND TO MAILBOX PG : POLLING A REMOTE MP : MULTI-POLLING RM : RECEIVE TO MEMORY

PST copy

111747

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION
REGISTRATION FORM FOR STANDARD EXEMPTIONS
FORM PI-7

Please mail to: TNRCC, Office of Air Quality, New Source Review Program, P.O. Box 13087, Austin, TX 78711-3087

I. Company Name Federal Express Corporation
(Corporation, Company, Government Agency, Firm, etc.)
Mailing Address 3975 Airways Blvd., Module E, Memphis, Tennessee 38116
Individual Authorized to Act for Applicant: Name HBC Engineering, Inc., Environmental Consultant
Address 4747 Irving Blvd, Ste 206, Dallas, TX Telephone (214)630-1010 FAX# (214)630-7070

II. LOCATION OF EXEMPT FACILITY (Latitude and Longitude must be to the nearest second):
Name of Plant or Site Federal Express
Street Address 5811 Techni Center
Nearest City Austin County Travis Latitude 30° 16' 38" N Longitude 97° 40' 20" W
SITE REQUIREMENTS: A. Submit a plot plan to scale of the property showing the location of plant boundaries, plant equipment, and surrounding area.
B. Furnish an area map with a scale showing the facility location relative to highways and towns.

III. TYPE OF FACILITY: 35862
A. Applicable Standard Exemption Number(s) from TNRCC List 68 533
B. Name of Facility and Company's Facility Number Federal Express / 0029044
C. TNRCC Account Identification Number None
D. Previous Special Exemption or Permit Number None
E. Operating Schedule: Hours/day 6 Days/week 1 Weeks/year 1
F. Proposed Start of Construction 6/24/97 (Date) Operation 6/24/97 (Date)
G. Permanent [] Portable [x]
H. Length of time at this site, if portable 6 hours (SVE pilot test)

IV. PROCESS INFORMATION
Description of Process: Prepare and attach a written description of the exempt process and applicable checklists (when available). The description must be in sufficient detail to indicate that the facility will conform to the specified exemption.

V. EMISSIONS DATA
Furnish a description of the basis for emission rates including fugitives. (Calculations, emission factors, measurement, NSPS, etc.)

Emission Point Number	Name of Source	Name of Air Contaminant	Emission Rate of Each Air Contaminant			
			lb/hr		tons/yr	
			Gaseous	Particulate	Gaseous	Particulate
1	SVE Test	TPH	0.54		2.37	

RECEIVED
JUN 23 1997
PERMITS PROGRAM

VI. A copy of the application is being sent to the Regional Office of the TNRCC: [x]Yes []No

VII. I. Fredric P. Fitter, P.E. Sr. Environmental Engineer
(Name) (Title)
state that I have knowledge of the facts herein set forth and that the same are true and correct to the best of my knowledge and belief. I further state that to the best of my knowledge and belief, the project will satisfy the conditions and limitations of the indicated exemption. The facility will operate in compliance with all Regulations of the Texas Natural Resource Conservation Commission and with Federal Environmental Protection Agency Regulations governing air pollution.
DATE June 23, 1997 SIGNATURE Fredric P. Fitter PF
HBC Engineering, Inc.

Texas Natural Resource Conservation Commission
PRODUCT STORAGE TANK
MONTHLY PRODUCT RECOVERY REPORT

11747

Complete All Applicable Blanks.

VKM

Date: 4-10-97

GENERAL INFORMATION

LPST ID No.: 111747 Assigned TNRCC Coordinator: Vicki Montgomery
Facility ID No.: 0029044
Responsible Party: Federal Express Corporation
Facility Name: Federal Express
Facility Address: 5811 Technicenter Drive
Facility City: Austin County: Travis

RECEIVED

JUN 17 1997

TNRCC/PSI
RPR

PHASE-SEPARATED PRODUCT RECOVERY

Reporting Period: From 3 / 1 / 97 to 3 / 29 / 97
Volume of fluids (product & water) recovered during past month: 300 gallons
Volume of phase-separated product recovered during past month: 120 gallons
Total volume of fluids recovered to date: 2,049 gallons
Total volume of product recovered to date: 1,534 gallons
Method of product recovery: continuously (automated) pulsed (automated) hand bailing
 sorbents other, describe: Submersible pneumatic recovery pumps are located in monitoring wells
MW-1 and MW-2, and a sorbent skimmer sock has been placed in MW-6
Pumping rate (for automated systems only): approximately 0.4 gallons per hour
Phase-separated product recovery schedule: daily bi-weekly weekly other, describe:
Product is removed from the sorbent skimmer sock on a weekly basis.
Maximum phase-separated product thickness remaining: 2 feet in MW-6
Indicate monitoring wells impacted with phase-separated product: MW-1, MW-2, and MW-6
Are the product thicknesses diminishing over time? YES or NO (check one) If no, is a new release suspected? YES or NO describe:
Has the product been removed to the maximum extent possible or to the extent where no hazardous situations will develop? YES or NO

WASTE DISPOSITION

Indicate the status of all wastes generated: All fluids produced by the two recovery pumps are stored on-site pending removal by Re-Claim Environmental Inc.

REPORT PREPARATION

Prepared by: Christopher J. Kopec, CAPM 00227

Company: HBC Engineering, Inc. 3913 Todd Lane, Suite 312 Austin, TX 78744

Date prepared: April 10, 1997

Telephone No.: (512) 442-1122

Fax No.: (512) 442-1181

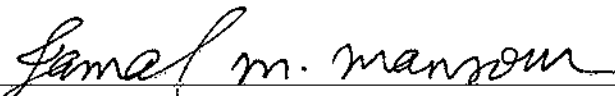
Signature: 

Name of Responsible Party contact: Jamal Mansour

Telephone No.: (901) 397-4397

Fax No.: (901) 922-2042

Date: 6-12-97

Signature: 

Monthly Phase-separated Product Recovery Reports are due no later than the 10th day of the following month, unless otherwise directed by the TNRCC case coordinator.

Texas Natural Resource Conservation Commission
PRODUCT STORAGE TANK
MONTHLY PRODUCT RECOVERY REPORT

Complete All Applicable Blanks.

Date: 5-12-97

GENERAL INFORMATION

LPST ID No.: 111747 Assigned TNRCC Coordinator: Vicki Montgomery
Facility ID No.: 0029044
Responsible Party: Federal Express Corporation
Facility Name: Federal Express
Facility Address: 5811 Technicenter Drive
Facility City: Austin County: Travis

RECEIVED

JUN 17 1997

TNRCC/PSI
RPT

PHASE-SEPARATED PRODUCT RECOVERY

Reporting Period: From 4 / 1 / 97 to 4 / 30 / 97
Volume of fluids (product & water) recovered during past month: 325 gallons
Volume of phase-separated product recovered during past month: 115 gallons
Total volume of fluids recovered to date: 2,374 gallons
Total volume of product recovered to date: 1,649 gallons
Method of product recovery: continuously (automated) pulsed (automated) hand bailing
 sorbents other, describe: Submersible pneumatic recovery pumps are located in monitoring wells
MW-1 and MW-2, and a sorbent skimmer sock has been placed in MW-6
Pumping rate (for automated systems only): approximately 0.4 gallons per hour
Phase-separated product recovery schedule: daily bi-weekly weekly other, describe:
Product is removed from the sorbent skimmer sock on a weekly basis.
Maximum phase-separated product thickness remaining: 2 feet in MW-6
Indicate monitoring wells impacted with phase-separated product: MW-1, MW-2, and MW-6
Are the product thicknesses diminishing over time? YES or NO (check one) If no, is a new release suspected? YES or NO describe:
Has the product been removed to the maximum extent possible or to the extent where no hazardous situations will develop? YES or NO

WASTE DISPOSITION

Indicate the status of all wastes generated: All fluids produced by the two recovery pumps are stored on-site pending disposal by Re-Claim Environmental Inc.

REPORT PREPARATION


Prepared by: Christopher J. Kopec, CAPM 00227

Company: HBC Engineering, Inc. 3913 Todd Lane, Suite 312 Austin, TX 78744

Date prepared: May 12, 1997

Telephone No.: (512) 442-1122

Fax No.: (512) 442-1181

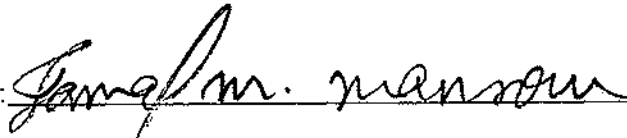
Signature: 

Name of Responsible Party contact: Jamal Mansour

Telephone No.: (901) 397-4397

Fax No.: (901) 922-2042

Date: 6-12-97

Signature: 

Monthly Phase-separated Product Recovery Reports are due no later than the 10th day of the following month, unless otherwise directed by the TNRCC case coordinator.

Texas Natural Resource Conservation Commission
PRODUCT STORAGE TANK
MONTHLY PRODUCT RECOVERY REPORT

Complete All Applicable Blanks.

Date: 6-10-97

GENERAL INFORMATION

LPST ID No.: 111747	Assigned TNRCC Coordinator: Vicki Montgomery
Facility ID No.: 0029044	
Responsible Party: Federal Express Corporation	RECEIVED
Facility Name: Federal Express	JUN 17 1997
Facility Address: 5811 Technicenter Drive	TNRCC / PSI
Facility City: Austin	County: Travis RPR

PHASE-SEPARATED PRODUCT RECOVERY

Reporting Period: From 5 / 1 / 97 to 5 / 31 / 97

Volume of fluids (product & water) recovered during past month: 300 gallons

Volume of phase-separated product recovered during past month: 100 gallons

Total volume of fluids recovered to date: 2,674 gallons

Total volume of product recovered to date: 1,749 gallons

Method of product recovery: continuously (automated) pulsed (automated) hand bailing
 sorbents other, describe: Submersible pneumatic recovery pumps are located in monitoring wells

MW-1 and MW-2, and a sorbent skimmer sock has been placed in MW-6

Pumping rate (for automated systems only): approximately 0.4 gallons per hour

Phase-separated product recovery schedule: daily bi-weekly weekly other, describe: Product is removed from the sorbent skimmer sock on a weekly basis.

Maximum phase-separated product thickness remaining: approx. one foot in MW-6

Indicate monitoring wells impacted with phase-separated product: MW-1, MW-2, and MW-6

Are the product thicknesses diminishing over time? YES or NO (check one) If no, is a new release suspected? YES or NO describe:

Has the product been removed to the maximum extent possible or to the extent where no hazardous situations will develop? YES or NO

WASTE DISPOSITION

Indicate the status of all wastes generated: All fluids produced by the two recovery pumps are stored on-site pending disposal by Re-Claim Environmental Inc.

REPORT PREPARATION

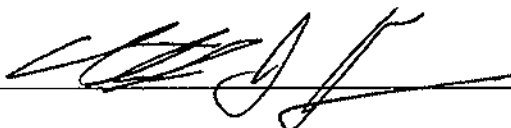
Prepared by: Christopher J. Kopec, CAPM 00227

Company: HBC Engineering, Inc. 3913 Todd Lane, Suite 312 Austin, TX 78744

Date prepared: June 10, 1997

Telephone No.: (512) 442-1122

Fax No.: (512) 442-1181

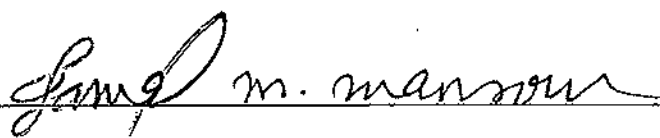
Signature: 

Name of Responsible Party contact: Jamal Mansour

Telephone No.: (901) 397-4397

Fax No.: (901) 922-2042

Date: 6-12-97

Signature: 

Monthly Phase-separated Product Recovery Reports are due no later than the 10th day of the following month, unless otherwise directed by the TNRCC case coordinator.

TNRCC FAX TRANSMITTAL

111747

DATE: 6/12/97 NO. OF PAGES (including this sheet):

6

TO: Name Mr. Jamal Mansour
Organization Federal Express
Fax Number (901) 922-2042

FROM: TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

Name Vicki Montgomery
Coordinator
Telephone 512/239-2200
Fax Number 512/239-2216
Mail MC-137, PO Box 13087, Austin, Tx 78711-3087

NOTES: Response to Corrective Action Proposal(s) for
LPST #: 111747 , Facility ID: 0029044.
If you have any problems receiving this fax, please
call 512/239-2200 .

Please note that new Corrective Action Preapproval Forms have been required since September 1, 1995. The forms are available at no cost by downloading from the TNRCC Bulletin Board Services (BBS) (512/239-0700), or over the Internet at <http://www.tnrcc.state.tx.us>. You may also order the forms on diskette from the TNRCC, MC-195, P.O. Box 13088, Austin, TX 78711-3088 (please specify the Corrective Action Preapproval Forms on diskette). A pamphlet with reproducible forms is available at no cost by calling TNRCC Publications at 512/239-0028.

Please note that all LPST corrective action proposals and reports need to be prepared by an environmental contracting/consulting firm registered as a Corrective Action Specialist (CAS) and need to have the the signatures and registration numbers of both the CAS and registered Corrective Action Project Manager (CAPM) included pursuant to Title 30, Texas Administrative Code (TAC), Subchapter J. Any proposal that has been prepared by a consulting firm not registered as a CAS by the Texas Natural Resource Conservation Commission (TNRCC) or which does not include the signature and registration number of the Project Manager may be rejected. Please reserve the use of the telefax machines for submitting proposals and data for LPST cases that rank as new priority 1's and for emergency abatement activities.

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

LPST CORRECTIVE ACTION RESPONSE FORM

LPST-ID: 111747

5/12/97 Proposal For: RAP FEASIBILITY TESTING

GENERAL INFORMATION

LPST-ID : 111747 Priority: 4.1
Responsible Party : Federal Express Tel: 901/397-4397
Facility # & Name : 0029044 Federal Express
Facility Address : 5811 Techni Center
Facility City : Austin County: Travis
CAPM & Name : CAPM00227 CHRISTOPHER J. KOPEC
RCAS & Name : RCAS00387 HBC ENGINEERING, INC.

TNRCC TECHNICAL RESPONSE

Proposed activity is approved as proposed.

This proposal to conduct a 24-hour SVE pilot test to be used in the preparation of an interim CAP for product recovery is approved; however, if a reduced scope of work is completed, the maximum reimbursable cost will be adjusted accordingly. All work must be technically justifiable to be eligible for reimbursement. The workplan for this activity indicated that a 6-hour test would be conducted while the cost proposal included costs for conducting a 24-hour test. Please ensure that the workplan and cost proposal are in agreement before submitting future proposals.

Please note the following comments concerning the updated Risk-Based Assessment (RBA) Report received in this Office on 5/14/97. Missing information should be submitted to this Office within 30 days:

- 1) As requested in the 1/16/97 fax from this Office, Attachment 1 should show all subsurface utilities (the natural gas line located 20' east has not been shown). In addition, all sampling points (including monitor wells) should be shown on Attachment 1.
- 2) The lab report and chain of custody documentation for the soil parameters sample has not been included in Attachment 17.
- 3) Additional soil PAH analyses may be required in the vicinity of MW-6. Although a PAH sample was recently analyzed, the TPH on that sample was 370 ppm. Later assessment activities yielded TPH levels up to 4,000 ppm.

In order to expedite the completion of this activity, please forward this response to your Corrective Action Specialist.

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION
LPST CORRECTIVE ACTION RESPONSE FORM

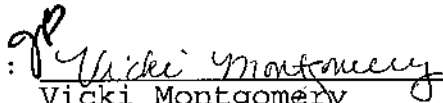
LPST-ID: 111747
5/12/97 Proposal For: RAP FEASIBILITY TESTING

TNRCC TECHNICAL RESPONSE

ACTIVITY COST SUMMARY

Proposed Cost:	6,394.00	Maximum Pre-Approved:	6,394.00
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Signature:


Vicki Montgomery
Coordinator

Date: 6/12/97 Telephone: 512/239-2200

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION
LPST CORRECTIVE ACTION RESPONSE FORM

LPST-ID: 111747
5/12/97 Proposal For: REMEDIAL ACTION PLAN PREPARATION

GENERAL INFORMATION

LPST-ID : 111747 Priority: 4.1
Responsible Party : Federal Express Tel: 901/397-4397
Facility # & Name : 0029044 Federal Express
Facility Address : 5811 Techni Center
Facility City : Austin County: Travis
CAPM & Name : CAPM00227 CHRISTOPHER J. KOPEC
RCAS & Name : RCAS00387 HBC ENGINEERING, INC.

TNRCC TECHNICAL RESPONSE

Proposed activity is not approved for these technical reasons:

In accordance with the TNRCC regulatory guidance document entitled Corrective Action Plans for LPST Sites (RG-41), the following items must be included with the work plan/cost proposal for the preparation of a CAP: the results of any pilot and/or aquifer pump tests; a discussion of why the selected remedial technology was chosen over other technologies; a brief conceptual discussion of the proposed CAP; and, the Remedial Technology Screening (RTS) form (TNRCC-0695). Please refer to guidance document RG-41 to assist you in completing the CAP preparation proposal.

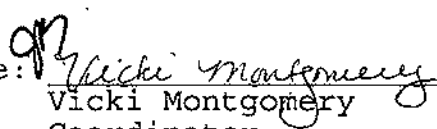
TEXAS NATURAL RESOURCE CONSERVATION COMMISSION
LPST CORRECTIVE ACTION RESPONSE FORM

LPST-ID: 111747
5/12/97 Proposal For: REMEDIAL ACTION PLAN PREPARATION

TNRCC TECHNICAL RESPONSE

ACTIVITY COST SUMMARY

Proposed Cost:	3,375.00	Maximum Pre-Approved:	0.00
----------------	----------	-----------------------	------

Signature: 

Vicki Montgomery
Coordinator

Date: 6/12/97 Telephone: 512/239-2200

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

LPST CORRECTIVE ACTION RESPONSE FORM

LPST-ID: 111747

5/12/97 Proposal For: REMEDIAL ACTION PLAN PREPARATION

Pursuant to 30 TAC Section 334.82 (b), you are required to notify all parties affected by the contamination. If you determine that contamination from the release has migrated off-site, or if you are required by the TNRCC to conduct further assessment or other corrective actions off-site, then you are required to notify the affected landowner(s) within 30 days of documenting the impact. Please note that landowners may include state and local owners of right-of-way properties. For the purpose of this requirement, notice shall be through any means described in 30 TAC Section 334.82 (a). Please provide documentation that the affected landowner(s) has/have been notified within 30 days of notification. **Please note that failure to notify affected parties as required herein is grounds for formal enforcement proceedings.**

Please note that preapproval of this activity DOES NOT guarantee reimbursement. Eligibility is determined at the time of reimbursement application review. If the release is eligible, the preapproved amount is the maximum allowable for the proposed activities. The actual amount of reimbursement will be determined after the completed reimbursement application and all related receipts and invoices are submitted, and the completed activity is subject to technical and reimbursable cost review. In all instances, the completed work must be technically justifiable and should serve to advance the site in the corrective action process. The amount of preapproved work performed should be based on completion of the activity's objectives. Additionally, please also note that preapproved amounts may not include eligible markup.

Claims for reimbursement should only be submitted after the completion of an annual cycle for remediation system operation and maintenance, and quarterly groundwater monitoring unless a more frequent filing period is previously approved by the PST Reimbursement Section. The Reimbursement Section can be reached at 512/239-2001.

cc: Chris Smith, TNRCC Region 11 Field Office
1921 Cedar Bend, Suite 150, Austin, Texas 78758
Phone: 512/339-2929 Fax: 512/339-3744

*** ACTIVITY REPORT ***

TRANSMISSION OK

TX/RX NO.	2060
CONNECTION TEL	9p9019222042
CONNECTION ID	
START TIME	06/12 13:41
USAGE TIME	02'57
PAGES	6
RESULT	OK

*** ACTIVITY REPORT ***

TRANSMISSION OK

TX/RX NO.	4051
CONNECTION TEL	9p7137220788
CONNECTION ID	HBC ENGINEERING
START TIME	05/20 10:46
USAGE TIME	01'32
PAGES	3
RESULT	OK



TEXAS NATURAL RESOURCE
 CONSERVATION COMMISSION
 PETROLEUM STORAGE TANK DIVISION

MAILING ADDRESS: P.O. Box 13087, Austin, TX 78711-3087
 PHYSICAL ADDRESS: 12100 Park 35 Circle, Bldg. E, Austin, Texas 78753
 Telephone Number:(512) 239-2001 • Fax Number:(512) 239-2020

DATE: 05/19/97

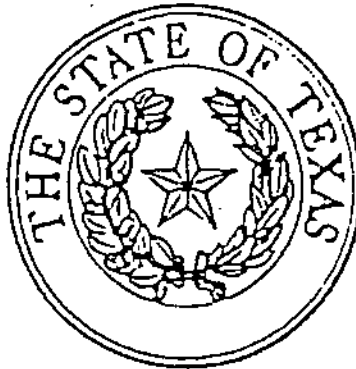
TO: Name: Carl Tragesser
 Company: HBC Engineering
 Telephone #: 713-722-0700 Fax #: 713-722-0788

FROM: Texas Natural Resource Conservation Commission;
 PETROLEUM STORAGE TANK DIVISION
 REIMBURSEMENT SECTION MC-126

*** ACTIVITY REPORT ***

TRANSMISSION OK

TX/RX NO.	4042
CONNECTION TEL	9p7137220788
CONNECTION ID	HBC ENGINEERING
START TIME	05/19 10:51
USAGE TIME	01'07
PAGES	2
RESULT	OK



TEXAS NATURAL RESOURCE
 CONSERVATION COMMISSION
 PETROLEUM STORAGE TANK DIVISION

MAILING ADDRESS: P.O. Box 13087, Austin, TX 78711-3087
 PHYSICAL ADDRESS: 12100 Park 35 Circle, Bldg. E, Austin, Texas 78753
 Telephone Number:(512) 239-2001 • Fax Number:(512) 239-2020

DATE: 05/19/97

TO: Name: Carl Tragesser
 Company: HBC Engineering
 Telephone #: 713-722-0700 Fax #: 713-722-0788

FROM: Texas Natural Resource Conservation Commission;
 PETROLEUM STORAGE TANK DIVISION
 REIMBURSEMENT SECTION MC-139

TELEPHONE MEMO TO THE FILE

Please complete with typewriter or black pen.

Call to: Vicki MontgomeryCall from: Chris Koper HBCDate of call: 11/1/96File no.: 11747Phone no.: (512) 442-1122Subject: Emergency abatement

Information for file: They found 4' of product in the groundwater in the downgradient well + 1' of product in the well installed in the tankpit. Chris thinks it's moving pretty quickly through the sand + they want to start/continue recovering product. He plans to put in some pumps + get a frac tank, etc. I told him emergency abatement is fine for (48) hours but it can't go on indefinitely - what's the long-term plan? He said this system (pumps, etc.) could easily be incorporated into a permanent system. They also plan to do some trenching + install some piping at this time as part of their emergency procedures. I told him they probably wouldn't be able to do this as part of their emergency measures but they I would check + let him know.

I discussed the issue with one of the section's remediation people + he said using pumps + a fractank is fine + can be done without preapproval because it is product recovery; however, the other activities (such as trenching)

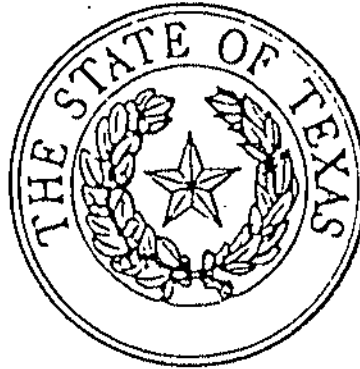
Signed _____

Are getting more into putting in a remediation system + should be preapproved. He would also like to see more assessment of the site completed before a corrective action plan is submitted so an effective remediation system can be installed.

I gave this information to Chris + explained that while this was a catastrophic loss of product it wasn't really what we classify as an "emergency" - these are situations where a building might ~~be~~ blow up. He should continue w/ product ~~sent~~ recovery, but it was up to the RP to decide if he wanted to proceed w/ trenching, etc. at this time for liability or business-related ~~reasons~~ ^{reasons}. If they did decide to go on w/ these activities it could jeopardize their reimbursement because they would be installing a system w/out preapproval, but it was really their call to decide if they need to proceed immediately.

Vicki Montgomery

L POT # 111747



TEXAS NATURAL RESOURCE
CONSERVATION COMMISSION
PETROLEUM STORAGE TANK DIVISION

MAILING ADDRESS: P.O. Box 13087, Austin, TX 78711-3087

PHYSICAL ADDRESS: 12100 Park 35 Circle, Bldg. E, Austin, Texas 78753

Telephone Number:(512) 239-2001 • Fax Number:(512) 239-2020

DATE: 05/19/97

TO: Name: Carl Tragesser
Company: HBC Engineering
Telephone #: 713-722-0700 Fax #: 713-722-0788

FROM: Texas Natural Resource Conservation Commission;
PETROLEUM STORAGE TANK DIVISION
REIMBURSEMENT SECTION MC-139

Name: Terah O. Isiahiliza
Telephone #: 512-239-2031

MESSAGE: Please read the phone
Conversation between Vicky Mwitgomey
and Chris Kopic, concerning PSH
removal, (Amount withheld \$17319.25)
(see highlighted)

TOTAL NUMBER OF PAGES INCLUDING COVER SHEET:

3

TELEPHONE MEMO TO THE FILE

Please complete with typewriter or black pen.

Call to: Vicki Montgomery

Call from: Chris Kopac HBC

Date of call: 11/1/96

File no.: 11-747

Phone no.: (512) 442-1122

Subject: Emergency abatement

Information for file: They found 4' of product in the groundwater in the downgradient well + 1' of product in the well installed in the tankpit. Chris thinks it's moving pretty quickly through the sand + they want to start/continue recovering product. He plans to put in some pumps + get a frac tank, etc. I told him emergency abatement is fine for 48 hours but it can't go on indefinitely - what's the long-term plan? He said this system (pumps, etc.) could easily be incorporated into a permanent system. They also plan to do some trenching + install some piping at this time as part of their emergency procedures. I told him they probably wouldn't be able to do this as part of their emergency measures but that I would check + let him know.

I discussed the issue with one of the section's remediation people + he said using pumps + a fractank is fine + can be done without preapproval because it is product recovery; however, the other activities (such as trenching)

Signed _____

Are getting more into putting in a remediation system + should be preapproved. He would also like to see more assessment of the site completed before a corrective action plan is submitted so an effective remediation system can be installed.

I gave this information to Chris + explained that while this was a catastrophic loss of product it wasn't really what we classify as an "emergency" - these are situations where a building might be blow up. He should continue w/ product some recovery, but it was up to the BP to decide if he wanted to proceed w/ trenching, etc. at this time for liability or business - related ~~reasons~~. If they did decide to go on w/ those activities it could jeopardize their reimbursement because they would be installing a system w/out preapproval but it was really their call to decide if they need to proceed immediately.

Vicki Montgomery

FAX TRANSMITTAL



DATE: 3-20-97

TIME: _____

TO: Team Isidore

FAX NO. 512-239-2020

COMPANY: _____

PHONE NO. _____

FROM: Carl Traggesser

OFFICE: _____

Total Pages Including Cover: 5

REMARKS: MPRR report as requested.

Call w/ questions
Thanks

LPST # 111747

Carl

The information contained in this facsimile message is legally privileged and confidential information intended only for the use of the individual or entity named above. If the reader of this message is not the intended recipient, or the employee or agent responsible to deliver it to the intended recipient, you are hereby notified that any dissemination, distribution or copying of this communication is strictly prohibited. If you have received this communication in error, please immediately notify us by telephone and return the original message to us at the address below via the US Postal service. Thank you.

HOUSTON

2313 W. Sam Houston Pkwy. N. #107
Houston, Texas 77043
Phone: (713) 722-0700
Fax: (713) 722-0788

DALLAS

4747 Irving Blvd., Suite 206
Dallas, Texas 75247
Phone: (214) 630-1010
Fax: (214) 630-7070

AUSTIN

3913 Todd Lane, Suite 312
Austin, Texas 78744
Phone: (512) 442-1122
Fax: (512) 442-1181

**TEXAS NATURAL RESOURCE CONSERVATION COMMISSION
PETROLEUM STORAGE TANK DIVISION
CORRESPONDENCE IDENTIFICATION SHEET**

Date: March 18, 1997
 Site Name: Federal Express
 Site Address: 5811 Technicenter Drive
Austin, Texas

LPST ID No.: 111747
 Facility ID No.: 0029044

This checklist must accompany all correspondence submitted to the RPR Section and should be affixed to the front of your submittal as a cover page. Please check the appropriate box for the type of correspondence which you have submitted to the RPR Section. Check all boxes that apply if you are submitting more than one type of correspondence. If you cannot find an appropriate category, please complete the "other" section.

PROPOSALS

- | | | |
|--|---|---|
| <input type="checkbox"/> Initial Abatement (1) | <input type="checkbox"/> Tank Removal (2) | <input type="checkbox"/> Excavation (3) |
| <input type="checkbox"/> Waste Treatment (4) | <input type="checkbox"/> Site Assessment (5) | <input type="checkbox"/> Aquifer Testing (6) |
| <input type="checkbox"/> VES/Sparge Testing (7) | <input type="checkbox"/> Qtrly. GW Monitoring (8) | <input type="checkbox"/> CAP Prep. (9) |
| <input type="checkbox"/> GW Extrac./Treatment (10) | <input type="checkbox"/> Soil Vapor Extrac. (11) | <input type="checkbox"/> Operation & Main. (12) |
| <input type="checkbox"/> Site Closure (13) | <input type="checkbox"/> Plan A Risk Ass. (14) | <input type="checkbox"/> Plan B Risk Ass. (15) |
| <input type="checkbox"/> Semi-annual GW Mon. (16)* | <input type="checkbox"/> Annual GW Mon. (18) | <input type="checkbox"/> Product Recovery (19) |
| <input type="checkbox"/> Other proposal _____ | | |

REPORTING FORMS

- | | |
|---|--|
| <input type="checkbox"/> Assessment Report Form (TNRCC-0562) | <input type="checkbox"/> LPST Case Questionnaire |
| <input checked="" type="checkbox"/> Product Recovery Report Form (TNRCC-0016) | <input type="checkbox"/> Release Report Form (TNRCC-0621) |
| <input type="checkbox"/> Site Closure Request Form (TNRCC-0028) | <input type="checkbox"/> Monitoring Event Summary and Status Report (TNRCC-0013) |
| <input type="checkbox"/> Final Site Closure Report Form (TNRCC-0038) | <input type="checkbox"/> Priority 4 LPST Case Closure Request Form (TNRCC-0461) |
| <input type="checkbox"/> Other form _____ | |

REPORTS

- | | | |
|---|---|--|
| <input type="checkbox"/> Tank Closure/Removal | <input type="checkbox"/> Plan A Risk Assessment | <input type="checkbox"/> Annual Groundwater Monitoring |
| <input type="checkbox"/> O&M/Performance Mon. | <input type="checkbox"/> Plan B Risk Assessment | <input type="checkbox"/> CAP Installation/Modification |
| <input type="checkbox"/> Property Divestiture/Phase I ESA | <input type="checkbox"/> Corrective Action Plan (CAP) | <input type="checkbox"/> Aquifer/Pilot Test Results |

MISCELLANEOUS

- | | |
|--|---|
| <input type="checkbox"/> Off-site access assistance | <input type="checkbox"/> Deadline Extension Request |
| <input type="checkbox"/> Tank tightness test results | <input type="checkbox"/> Request for State-Lead |
| <input type="checkbox"/> Request for LPST Waste Code | <input type="checkbox"/> Class V ReInjection Request |
| <input type="checkbox"/> Notice to Owner/Operator for CAS Services | <input type="checkbox"/> Petroleum-Substance Waste Manifest |
| <input type="checkbox"/> Notice of Continuation of Groundwater Monitoring | <input type="checkbox"/> Underground Storage Tank Registration Form |
| <input type="checkbox"/> Notice of Continuation of Operation and Maintenance | <input type="checkbox"/> Aboveground Storage Tank Registration Form |
| <input type="checkbox"/> Other (anything that does not fit into one of the categories above) _____ | |

* The proposal for semi-annual monitoring and annual report (Proposal Activity 17) has been discontinued. For semi-annual monitoring, use Proposal Activity 16.

I attest that all work has been conducted in accordance with accepted industry standards/practices and adhered to TNRCC guidance and rules. I certify that I am aware that misrepresentation of any of the above claims is a violation of 30 TAC 33.4453(b)(1)(E) and that this violation may result in the disciplinary actions set forth in 30 TAC 334.453 and or 334.463 and 334.465.

If a proposal is attached for preapproval, has the proposed work, in part or in whole, already been performed or in progress? Yes No

If yes, what work? _____

HBC Engineering 00387 5/30/97

(Registered Corrective Action Specialist) (RCAS Reg. No.) (Expiration date)

Surgio D. Cyant 3-18-97
(Signature) (Date)

(512) 442-1122 (512) 442-1181
(Telephone #) (FAX #)

Christopher J. Kopec 00227 12/17/97

(Project Manager) (CAPM Reg. No.) (Expiration date)

[Signature] 3-19-97
(Signature) (Date)

(512) 442-1122 (512) 442-1181
(Telephone #) (FAX #)

By signature below, I certify that documents checked above are included.

Jamal Mansour

(Name of Responsible Party Contact)

Federal Express Corporation

(Company)

Jamal M. Mansour 3-19-97
(Signature) (Date)

(901) 397-4397 (901) 922-2042
(Telephone #) (FAX #)

Texas Natural Resource Conservation Commission
PRODUCT STORAGE TANK
MONTHLY PRODUCT RECOVERY REPORT

Complete All Applicable Blanks.

Date: 3-3-97

GENERAL INFORMATION

LPST ID No.: 111747

Assigned TNRCC Coordinator: Vicki Montgomery

Facility ID No.: 0029044

Responsible Party: Federal Express Corporation

Facility Name: Federal Express

Facility Address: 5811 Technicenter Drive

Facility City: Austin

County: Travis

PHASE-SEPARATED PRODUCT RECOVERY

Reporting Period: From 2 / 1 / 97 to 2 / 28 / 97

Volume of fluids (product & water) recovered during past month: 375 gallons

Volume of phase-separated product recovered during past month: 190 gallons

Total volume of fluids recovered to date: 1,749 gallons

Total volume of product recovered to date: 1,414 gallons

Method of product recovery: continuously (automated) pulsed (automated) hand bailing
 sorbents other, describe: Submersible pneumatic recovery pumps are located in monitoring wells

MW-1 and MW-2, and a sorbent skimmer sock has been placed in MW-6

Pumping rate (for automated systems only): approximately 0.5 gallons per hour

Phase-separated product recovery schedule: daily bi-weekly weekly other, describe:

Product is removed from the sorbent skimmer sock on a weekly basis.

Maximum phase-separated product thickness remaining: 2.4 feet in MW-6

Indicate monitoring wells impacted with phase-separated product: MW-1, MW-2, and MW-6

Are the product thicknesses diminishing over time? YES or NO (check one) If no, is a new release suspected? YES or NO describe:

Has the product been removed to the maximum extent possible or to the extent where no hazardous situations will develop? YES or NO

Complete All Applicable Blanks.

LPST ID No.: 111747

Date: 2-3-97

WASTE DISPOSITION

Indicate the status of all wastes generated: All fluids produced by the two recovery pumps have been removed from the site for disposal by the Mobley Company and by Re-Claim Environmental Inc.

REPORT PREPARATION

Prepared by: Christopher J. Kopec, CAPM 00227

Company: HBC Engineering, Inc. 3913 Todd Lane, Suite 312 Austin, TX 78744

Date prepared: March 17, 1997

Telephone No.: (512) 442-1122

Fax No.: (512) 442-1181

Signature: 

Name of Responsible Party contact: Jamal Mansour

Telephone No.: (901) 397-4397

Fax No.: (901) 922-2042

Date: 3-19-97

Signature: 

Monthly Phase-separated Product Recovery Reports are due no later than the 10th day of the following month, unless otherwise directed by the TNRCC case coordinator.

**TEXAS NATURAL RESOURCE CONSERVATION COMMISSION
 PETROLEUM STORAGE TANK DIVISION
 CORRESPONDENCE IDENTIFICATION SHEET**

111747
 FARJ

VKM
 Date: 3-6-97
 Site Name: FEDER - AUS
 Site Address: 5811 TECHNICAL CENTER
AUSTIN, TX

LPST ID No.: 111747
 Facility ID No.: 29044

This checklist must accompany all correspondence submitted to the RPR Section and should be affixed to the front of your submittal as a cover page. Please check the appropriate box for the type of correspondence which you have submitted to the RPR Section. Check all boxes that apply if you are submitting more than one type of correspondence. If you cannot find an appropriate category, please complete the "other" section.

RECEIVED

PROPOSALS		
<input type="checkbox"/> Initial Abatement (1)	<input type="checkbox"/> Tank Removal (2)	<input type="checkbox"/> TNRCC/LPST Excavation (3)
<input type="checkbox"/> Waste Treatment (4)	<input type="checkbox"/> Site Assessment (5)	<input type="checkbox"/> Aquifer Testing (6)
<input type="checkbox"/> VES/Sparge Testing (7)	<input type="checkbox"/> Qtrly. GW Monitoring (8)	<input type="checkbox"/> CAP Prep. (9)
<input type="checkbox"/> GW Extrac./Treatment (10)	<input type="checkbox"/> Soil Vapor Extrac. (11)	<input type="checkbox"/> Operation & Main. (12)
<input type="checkbox"/> Site Closure (13)	<input type="checkbox"/> Plan A Risk Ass. (14)	<input type="checkbox"/> Plan B Risk Ass. (15)
<input type="checkbox"/> Semi-annual GW Mon. (16)*	<input type="checkbox"/> Annual GW Mon. (18)	<input type="checkbox"/> Product Recovery (19)
<input type="checkbox"/> Other proposal _____		

REPORTING FORMS	
<input type="checkbox"/> Assessment Report Form (TNRCC-0562)	<input type="checkbox"/> LPST Case Questionnaire
<input type="checkbox"/> Product Recovery Report Form (TNRCC-0016)	<input type="checkbox"/> Release Report Form (TNRCC-0621)
<input type="checkbox"/> Site Closure Request Form (TNRCC-0028)	<input type="checkbox"/> Monitoring Event Summary and Status Report (TNRCC-0013)
<input type="checkbox"/> Final Site Closure Report Form (TNRCC-0038)	<input type="checkbox"/> Priority 4 LPST Case Closure Request Form (TNRCC-0461)
<input checked="" type="checkbox"/> Other form <u>FIELD ACTIVITY REPORT</u>	

REPORTS		
<input type="checkbox"/> Tank Closure/Removal	<input type="checkbox"/> Plan A Risk Assessment	<input type="checkbox"/> Annual Groundwater Monitoring
<input type="checkbox"/> O&M/Performance Mon.	<input type="checkbox"/> Plan B Risk Assessment	<input type="checkbox"/> CAP Installation/Modification
<input type="checkbox"/> Property Divestiture/Phase I ESA	<input type="checkbox"/> Corrective Action Plan (CAP)	<input type="checkbox"/> Aquifer/Pilot Test Results

MISCELLANEOUS	
<input type="checkbox"/> Off-site access assistance	<input type="checkbox"/> Deadline Extension Request
<input type="checkbox"/> Tank tightness test results	<input type="checkbox"/> Request for State-Lead
<input type="checkbox"/> Request for LPST Waste Code	<input type="checkbox"/> Class V ReInjection Request
<input type="checkbox"/> Notice to Owner/Operator for CAS Services	<input type="checkbox"/> Petroleum-Substance Waste Manifest
<input type="checkbox"/> Notice of Continuation of Groundwater Monitoring	<input type="checkbox"/> Underground Storage Tank Registration Form
<input type="checkbox"/> Notice of Continuation of Operation and Maintenance	<input type="checkbox"/> Aboveground Storage Tank Registration Form
<input type="checkbox"/> Other (anything that does not fit into one of the categories above) _____	

* The proposal for semi-annual monitoring and annual report (Proposal Activity 17) has been discontinued. For semi-annual monitoring, use Proposal Activity 16.

I attest that all work has been conducted in accordance with accepted industry standards/practices and adhered to TNRCC guidance and rules. I certify that I am aware that misrepresentation of any of the above claims is a violation of 30 TAC 33.4453(b)(1)(E) and that this violation may result in the disciplinary actions set forth in 30 TAC 334.453 and or 334.463 and 334.465.

If a proposal is attached for preapproval, has the proposed work, in part or in whole, already been performed or in progress? Yes No

If yes, what work?

HBC Engineering, Inc.

(Registered Corrective Action Specialist)

(RCAS Reg. No.)

(Expiration date)

Carl Trappesen
(Signature)

3-6-97
(Date)

(713) 722-0700
(Telephone #)

(713) 722-0788
(FAX #)

CARL TRAPPESEN

(Project Manager)

1124
(CAPM Reg. No.)

1-10-98
(Expiration date)

Carl Trappesen
(Signature)

3-6-97
(Date)

(713) 722-0700
(Telephone #)

(713) 722-0788
(FAX #)

By signature below, I certify that documents checked above are included.

JAMAL M. MANSOUR

(Name of Responsible Party Contact)

Federal Express
(Company)

Jamal m. manrou
(Signature)

3/7/97
(Date)

901-397-4397
(Telephone #)

901-922-2042
(FAX #)

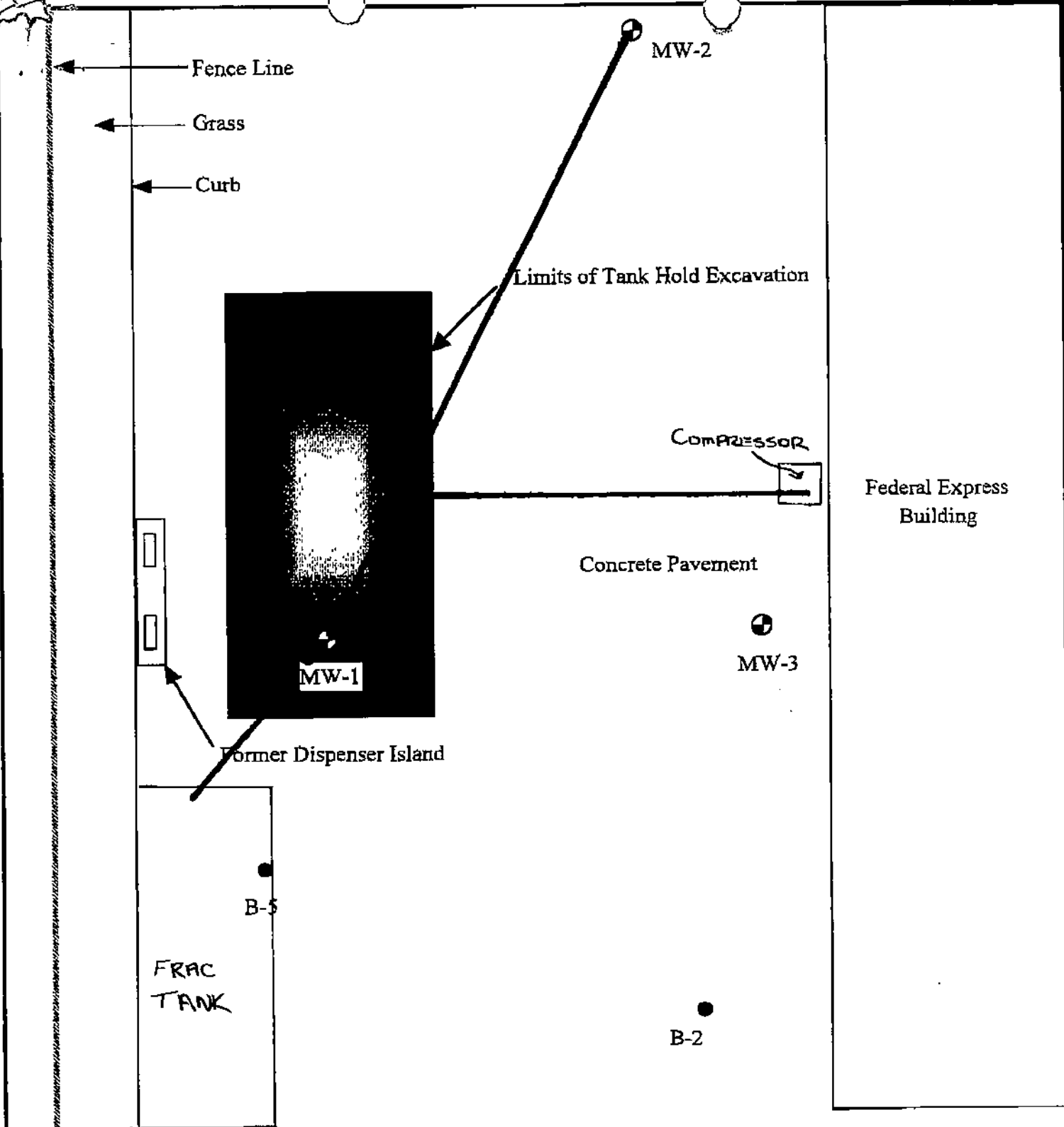


FIGURE 1

Site Plan/Boring Location Diagram
Federal Express
Austin, Texas

HBC Project No. 61-2260.96



0 5 10 Ft
Approximate Scale 1" = 10'

LEGEND

- ⊕ - Monitoring Well Location
- - Soil Boring Location

Texas Water Commission
PRODUCT STORAGE TANK
FIELD ACTIVITY REPORT

Complete All Applicable Blanks. -

Date: March 6, 1997

GENERAL INFORMATION

PST ID No.: 111747 Assigned TWC Coordinator: Vicki Montgomery

Facility ID No.: 0029044

RECEIVED

Responsible Party: Federal Express Corporation

MAR 12 1997

Facility Name: Fedex-AUS

INRCC/PSI
RPR

Facility Address: 5811 Techni Center Drive

Facility City: Austin County: Travis

Activity: Assessment RAP Implementation RAP Addendum Abatement (check appropriate box)

ASSESSMENT

How many borings and/or monitor wells have been installed? _____

Has the extent of assessment directed/authorized by the TWC been completed? YES or NO (check one) If no, explain: _____

Are any assessment activities ongoing? YES or NO (check one) If yes, directed by whom: _____

Describe activities: _____

ASSESSMENT (continued)

Are there any proposed or necessary assessment activities? YES or NO (check one) If yes, explain:

If any additional monitor wells or soil borings are necessary, please indicate the proposed locations on a site map.

RAP IMPLEMENTATION

Date Remedial Action Plan was submitted to TWC: _____

Was the RAP approved by the TWC? YES or NO (check one) If yes, by whom: _____

If yes, date of approval: _____

Date RAP installation was completed: _____

Type of remedial system installed: _____

Provide a brief description of the completed remedial actions: _____

RAP IMPLEMENTATION (continued)

Indicate the operating parameters of the remedial system (pumping rates, air flow rates, etc.): _____

Was the remedial system installed in the time frame originally outlined in the RAP? YES or NO (check one) If no, explain: _____

Was the cost of the remedial system installation equal to or less than the projected cost itemized in the RAP? YES or NO (check one) If no, explain: _____

Proposed installation cost of the remedial system: _____

Actual installation cost of the remedial system: _____

REMEDIAL ACTION PLAN ADDENDUM

Reason for the RAP addendum:

Was the RAP addendum requested by the TWC? YES or NO (check one) If yes, indicate by whom and when:

Discuss the proposed changes:

Projected cost of addendum:

ABATEMENT MEASURES

Provide a brief description of the situation requiring abatement measures:

Free Product was discovered during the site assessment activities in two onsite monitor wells. Since the initial assessment activities, free product has been discovered in one offsite monitor well. A passive skimmer has been installed in the offsite well until approval is granted from AISD to install piping across their property.

Have all potential threats to human health and safety been abated? YES or NO (check one) If no, describe: Product Recovery is ongoing.

ABATEMENT MEASURES (continued)

Method of abatement: A mechanical system which includes a pneumatic pumps, pump controller, air compressor, associated air lines, conduit and electrical wiring were installed in November 1996. A compressor shed was constructed to house the compressor and to guard against theft. Ms. Vicki Montgomery was notified of the installation of the product removal system. Note: The system is set to remove only minimal amounts of water at this time.

Provide a brief description of equipment installed or utilized: See above

Are there any proposed additional abatement measures? YES or NO (check one) If yes, describe:

A passive skimmer was installed in an offsite well pending completion of the additional site assessment activities and approval from AISD for the installation of piping on their property.

WASTE DISPOSITION

Discuss the method of treatment and/or disposal for all wastes generated:

Complete All Applicable Blanks.

LPST ID No.: 111747

Date: March 6, 1997

REPORT PREPARATION

Prepared by: V. Carl Tragesser, III

Company: HBC Engineering, Inc.

Date prepared: March 6, 1997

Telephone No.: (713) 722-0700

Fax No.: (713) 722-0788

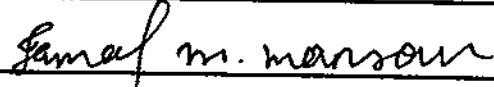
Signature: 

Name of Responsible Party contact: Mr. Jamal Mansour

Telephone No.: (901) 397-4397

Fax No.: (901) 922-2042

Date: 3/7/97

Signature: 

Provide The Following Attachments For The Corresponding Completed Sections:

ASSESSMENT

A hydrocarbon distribution map/groundwater gradient map with analytical results of all installed wells. Include any proposed boring/monitoring well locations
Copies of soil boring logs/well construction diagrams for the newly installed soil borings/monitoring wells
Cost breakdown sheet(s) for any proposed activities

RAP IMPLEMENTATION

Photographic documentation of the installed remediation system
As-built construction details of the entire remediation system
Cost breakdown sheet(s) of the installed remediation system

RAP ADDENDUM

Supporting field test data for RAP addendum if applicable
Cost breakdown sheet(s) for any proposed activities

ABATEMENT MEASURES

List of analytical results
Copies of signed laboratory reports and chain-of custody documentation
Site diagram with sample locations indicated
Cost breakdown sheet(s) for any proposed activities
Waste disposal, treatment or recycling documentation

U.S. NATURAL RESOURCE CONSERVATION COMM.
TELEPHONE MEMO TO THE FILE

111747

Please complete with typewriter or black pen.

Call to: Chris Kopic (HBC Engineering) Call from: Vicki Montgomery
Date of call: 3/10/97 ~2 pm File no.: 3rd Ex 111747
Phone no.: () 442-1122 Subject: additional well

Information for file: Chris left a message that they had drilled a well about 110' downgradient of MWE. It looks good so far. They will probably be drilling another well on the school property today + will probably need one more to define the psh plume. They do not have preapproval for the last well yet.

I told Chris I will be out tomorrow + the next day so he won't be able to contact me from the field, but I am giving my approval for the additional well if it turns out that they need it for delineation of the psh plume.

Signed Vicki Montgomery



TELEPHONE MEMO TO THE FILE

Please complete with typewriter or black pen.

Call to: Chris Kopez (HBC Engineering) Call from: Wicki Montgomery (returning his call)
 Date of call: 2/24/97 File no.: 111747
 Phone no.: (—) 442-1122 Subject: City of Austin call

Information for file: Chris just wanted to let me know that a woman from the City of Austin's Environmental Department (Lee Lawson) called him about the Federal Express site. She wanted to know why it was taking so long. Chris believes they are moving along at a pretty good pace that MRECC has helped to facilitate this. Lee wanted to know the name of the MRECC coordinator so Chris told her. He told her they need to define the problem before throwing a lot of effort into a cleanup that might not be effective.
He updated me a little bit on progress at the site - They have been making adjustments to their system to maximize product recovery. They have also installed a skimmer in one of the wells. They recently received approval from AISD to install 3 wells on the school's property - they are just waiting for the weather to cooperate at this point.

Signed Wicki Montgomery

FAX TRANSMITTAL



DATE: 2-26-97 TIME: _____
 TO: Kent Heath FAX NO. 512-239-2020
 COMPANY: _____ PHONE NO. _____
 FROM: Carl Traggesser OFFICE: _____

Total Pages Including Cover: 2

REMARKS: Thanks for your help.
Carl

The information contained in this facsimile message is legally privileged and confidential information intended only for the use of the individual or entity named above. If the reader of this message is not the intended recipient, or the employee or agent responsible to deliver it to the intended recipient, you are hereby notified that any dissemination, distribution or copying of this communication is strictly prohibited. If you have received this communication in error, please immediately notify us by telephone and return the original message to us at the address below via the US Postal service. Thank you.

HOUSTON	DALLAS	AUSTIN
2313 W. Sam Houston Pkwy. N. #107 Houston, Texas 77043 Phone: (713) 722-0700 Fax: (713) 722-0788	4747 Irving Blvd., Suite 206 Dallas, Texas 75247 Phone: (214) 630-1010 Fax: (214) 630-7070	3913 Todd Lane, Suite 312 Austin, Texas 78744 Phone: (512) 442-1122 Fax: (512) 442-1181

Affidavit of Costs Paid in Full

PSTR Fund Reimbursement Application number: _____

B

LPST site number: _____

111747

Tank Registration number: _____

Invoice number(s): A 96-1798

Address: 5811 TECHNICAL CENTER DR

City: AUSTIN

County: TRAVIS

Texas

I, CARL TRAGESSER, am the person who performed the corrective action work at the above listed Leaking Petroleum Storage Tank (LPST) site.

I have been paid in full for the work performed at this site and for which application for reimbursement has been made under the above referenced PSTR Fund Reimbursement application. Attached is a list of the invoices numbers, dates, and the amounts which were paid.

I am authorized to make these statements regardless of whether the person named above who performed this work is an individual, firm, partnership, corporation, or other business entity.

These statements are true and I make them voluntarily.

Company Name: HBC Engineering, Inc.
(print)

Authorized Person: CARL TRAGESSER
(print)

[Signature]
(signature)

Attachment

State of Texas

County of Harris

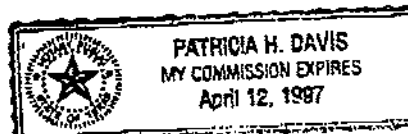
BEFORE ME, the undersigned authority, on this day personally appeared CARL TRAGESSER, known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that he/she executed the same for the purposes and consideration therein expressed.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, this 26th day of February, 1997.

Patricia H. Davis
NOTARY PUBLIC, STATE OF TEXAS
PATRICIA H. DAVIS

Print Name

My Commission expires: 4-12-97





TELEPHONE MEMO TO THE FILE

Please complete with typewriter or black pen.

Call to: Chris Lopez (HBC Engineering)Call from: Wicki MontgomeryDate of call: 2/17/97 (10:30 a.m.)File no.: 111747 - Fed ExpressPhone no.: (512) 442-1122Subject: Additional monitor well

Information for file: Returning his call from this morning. They've
installed five of the seven wells they were preapproved
to do. Monitor wells N, S, and E appear to be basically
clean. Put 2 wells west (downgradient) on the
school property + they are contaminated. Will probably
need at least 3 more wells to delineate the plume -
1 further west of the 2 on school property +
1 SW and 1 NW of the tank/already existing school wells.
They have preapproval for 2 of the additional wells, but
what about the third one? Can they do a change
order if necessary? Told Chris it sounds reasonable to
me, but he might want to plan on just the two +
then call me from the field if he thinks he needs
the third well. We can discuss the necessity of an
additional well at that time.

Signed Wicki Montgomery

TNRCC FAX TRANSMITTAL

DATE: 1/16/97

NO. OF PAGES (including this sheet):

6

TO: Name Mr. Jamal Mansour
Organization Federal Express
Fax Number (901) 922-2042

FROM: TEXAS NATURAL RESOURCE CONSERVATION COMMISSION
Name Vicki Montgomery
Coordinator
Telephone 512/239-2200
Fax Number 512/239-2216
Mail P.O. Box 13087, Austin, Tx 78750-3087

NOTES: Response to Corrective Action Proposal(s) for
LPST #: 111747 , Facility ID: 0029044.
If you have any problems receiving this fax, please
call 512/239-2200 .

Please note that new Corrective Action Preapproval Forms have been required since September 1, 1995. The forms are available at no cost by downloading from the TNRCC Bulletin Board Services (BBS) (512/239-0700), or over the Internet at <http://www.tnrcc.state.tx.us>. You may also order the forms on diskette for \$6.50 from the TNRCC, P.O. Box 13088, Austin, TX 78711-3088 (please specify the Corrective Action Preapproval Forms on diskette). A pamphlet with reproducible forms is available at no cost by calling TNRCC Publications at 512/239-0028.

Please note that all LPST corrective action proposals and reports need to be prepared by an environmental contracting/consulting firm registered as a Corrective Action Specialist (CAS) and need to have the the signatures and registration numbers of both the CAS and registered Corrective Action Project Manager (CAPM) included pursuant to Title 30, Texas Administrative Code (TAC), Subchapter J. Any proposal that has been prepared by a consulting firm not registered as a CAS by the Texas Natural Resource Conservation Commission (TNRCC) or which does not include the signature and registration number of the Project Manager may be rejected. **Please reserve the use of the telefax machines for submitting proposals and data for LPST cases that rank as new priority 1's and for emergency abatement activities.**

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION LPST CORRECTIVE ACTION RESPONSE FORM

LPST-ID: 111747
12/12/96 Proposal For: PSH REMOVAL

GENERAL INFORMATION

LPST-ID : 111747 Priority: 4.1
Responsible Party : Federal Express Tel: 901/397-4397
Facility # & Name : 0029044 Federal Express
Facility Address : 5811 Techni Center
Facility City : Austin County: Travis
CAPM & Name : CAPM00227 CHRISTOPHER J. KOPEC
RCAS & Name : RCAS00387 HBC ENGINEERING, INC.

TNRCC TECHNICAL RESPONSE

Proposed activity is approved with the following modifications:

This proposal for 6 months of product recovery is approved. Please submit a Monthly Product Recovery Report (MPPR) Form at the end of the six month period.

ACTIVITY COST SUMMARY

Proposed Cost: 6,928.00 Maximum Pre-Approved: 2,933.00

Signature: *gm* Vicki Montgomery Date: 1/16/97 Telephone: 512/239-2200
Vicki Montgomery
Coordinator

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

LPST CORRECTIVE ACTION RESPONSE FORM

LPST-ID: 111747
12/12/96 Proposal For: OTHER - ASSESSMENT

GENERAL INFORMATION

LPST-ID : 111747 Priority: 4.1
Responsible Party : Federal Express Tel: 901/397-4397
Facility # & Name : 0029044 Federal Express
Facility Address : 5811 Techni Center
Facility City : Austin County: Travis
CAPM & Name : CAPM00227 CHRISTOPHER J. KOPEC
RCAS & Name : RCAS00387 HBC ENGINEERING, INC.

TNRCC TECHNICAL RESPONSE

Proposed activity is approved with the following modifications:

This preapproval is for the installation of up to 7 borings/monitor wells to a depth of 40'; however, if a reduced scope of work is completed, the maximum reimbursable cost will be adjusted accordingly. All work must be technically justifiable to be eligible for reimbursement. Please note the following comments regarding this proposal:

1) Discretion should be used in selecting the quantity and location of borings/wells to be installed. These decisions should be based not only on currently existing data, but also on data that will be collected while in the field. This may require that the quantity or location of borings/wells be modified from what is shown on the map accompanying this proposal. Please note that the northern-most proposed boring/well may not be necessary and should not be installed unless it appears that the plume will not be sufficiently defined by the two wells south of that location.

2) The cost for collecting a soil parameters sample is not included in the preapproved amount shown below. This sample should be collected; however, the cost was included in the proposal for site assessment work received in this office on 10/24/96 and approved on 10/28/96.

3) A TDS sample should not be collected. TDS was measured on 11/11/96.

4) The workplan indicates that a slug test will be performed on 3 wells at the site; however, a cost proposal for this work has not been completed. Please submit a separate workplan and a RAP Feasibility Testing Proposal Form (TNRCC-0954A) if a slug test is needed.

5) On future proposals, please submit separate workplans and cost proposals for each activity. In this case, three separate workplans and cost proposals should have been submitted (for site assessment work, conducting a slug test, and product recovery).

Upon completion of the proposed assessment work, please submit an updated Risk Based Assessment (RBA) report. This should include only those worksheets and attachments that were updated based on the results of the additional assessment.

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

LPST CORRECTIVE ACTION RESPONSE FORM

LPST-ID: 111747
12/12/96 Proposal For: OTHER - ASSESSMENT

TNRCC TECHNICAL RESPONSE

The Table of Contents should denote the submittal number and revision dates in the upper right corner and should indicate only those worksheets and attachments that have been updated and are included in the report. Please note that Attachment 20 (i.e., a proposal and/or a site closure request) must be included as part of the updated report. The following deficiencies were noted in the RBA report received in this office on 12/17/96 and should be addressed in the updated RBA:

- 1) Worksheet 2 indicates that the school is west of the site; however, the school appears to be east of the site.
- 2) Worksheet 4 indicates that the groundwater gradient is east; however Worksheet 8 and Attachment 7 indicate that the gradient is South-southwest, while Attachment 20 indicates that the gradient is North-northeast. Best professional judgement should be used in determining the gradient. Once the direction has been determined, it should be used consistently until additional site data leads to a different conclusion. As mentioned in the Corrective Action Response Form (CARF) faxed on 10/28/96, tankpit wells are typically not indicative of the actual groundwater level at a site and may not be useful in determining a groundwater gradient.
- 3) Attachment 1 should show all subsurface utilities.
- 4) Attachment 6 should include all soil data.

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION
LPST CORRECTIVE ACTION RESPONSE FORM

LPST-ID: 111747
12/12/96 Proposal For: OTHER - ASSESSMENT

TNRCC TECHNICAL RESPONSE

ACTIVITY COST SUMMARY

Proposed Cost:	32,781.00	Maximum Pre-Approved:	29,462.00
----------------	-----------	-----------------------	-----------

Signature: *Vicki Montgomery* Date: 1/16/97 Telephone: 512/239-2200
Vicki Montgomery
Coordinator

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

LPST CORRECTIVE ACTION RESPONSE FORM

LPST-ID: 111747
12/12/96 Proposal For: OTHER - ASSESSMENT

Pursuant to 30 TAC Section 334.82 (b), you are required to notify all parties affected by the contamination. If you determine that contamination from the release has migrated off-site, or if you are required by the TNRCC to conduct further assessment or other corrective actions off-site, then you are required to notify the affected landowner(s) within 30 days of documenting the impact. Please note that landowners may include state and local owners of right-of-way properties. For the purpose of this requirement, notice shall be through any means described in 30 TAC Section 334.82 (a). Please provide documentation that the affected landowner(s) has/have been notified within 30 days of notification. **Please note that failure to notify affected parties as required herein is grounds for formal enforcement proceedings.**

Please note that preapproval of this activity DOES NOT guarantee reimbursement. Eligibility is determined at the time of reimbursement application review. If the release is eligible, the preapproved amount is the maximum allowable for the proposed activities. The actual amount of reimbursement will be determined after the completed reimbursement application and all related receipts and invoices are submitted, and the completed activity is subject to technical and reimbursable cost review. In all instances, the completed work must be technically justifiable and should serve to advance the site in the corrective action process. The amount of preapproved work performed should be based on completion of the activity's objectives. Additionally, please also note that preapproved amounts may not include eligible markup.

Claims for reimbursement should only be submitted after the completion of an annual cycle for remediation system operation and maintenance, and quarterly groundwater monitoring unless a more frequent filing period is previously approved by the PST Reimbursement Section. The Reimbursement Section can be reached at 512/239-2001.

cc: Chris Smith, TNRCC Region 11 Field Office
1921 Cedar Bend, Suite 150, Austin, Texas 78758
Phone: 512/339-2929 Fax: 512/339-3744



*** ACTIVITY REPORT ***

TRANSMISSION OK

TX/RX NO.	9455
CONNECTION TEL	9p9019222042
CONNECTION ID	
START TIME	01/16 16:55
USAGE TIME	03'10
PAGES	6
RESULT	OK

Date of review: 15-Jan-97 Time of review: 02:12 PM

Initials of reviewer: vkm

Add'l. invest. w/RBA update



A. Personnel

Personnel	=	\$5,718
Cost Proposal Preparation	=	\$200
Surveys	Site and/or Monitor Well	= \$300
	Water Well Search	= \$0
	Walking Receptor	= \$0
A. Total Personnel		\$6,216

B. Equipment

Rental	=	\$1,090
Disposable	=	\$1,350
B. Total Equipment		\$2,440

C. Drilling

Mob/Demob drilling rig	=	\$250
Mob/Demob direct push rig/lab	=	\$0
Matrix - Indicate Sand/Clay or Limestone (bedrock)		Sand/clay
	Days or # of wells	Avg. Depth
Direct Push	0	\$0
Borings	0 25	= \$0
2" wells	0 25	= \$0
4" wells	7 40	= \$13,185
C. Total Drilling		\$13,445

D. Waste Management

		\$/Unit	Units	Total
Soil Disposal	Base	\$250	=	\$250
	Drum Disposal	\$40/drum	18 drums =	\$720
Water Disposal	Vac truck	\$68/hr	4 hours =	\$272
	Water (25 gal./wel \$0.40/gal.		175 gallons =	\$70
D. Total Waste Management				\$1,312

E. Other Expenses

	Units	\$/Unit	Total
Site Safety Plan	0 x	\$100 =	\$0
xxx	1 x	\$0 =	\$0
xxx	1 x	\$0 =	\$0
E. Total Other Expenses			\$0

F. Lab Analyses

Type	# of Samples	\$/unit	Total
TPHBTEX (soil)	21 x	\$156 =	\$3,276
TPHBTEX/MTBE (water)	7 x	\$174 =	\$1,218
PAH (soil)	0 x	\$250 =	\$0
PAH (water)	1 x	\$225 =	\$225
Soil Parameters	0 x	\$250 =	\$0
Total Metals	0 x	\$250 =	\$0
Total Pb	0 x	\$35 =	\$0
VOC (soil)	0 x	\$216 =	\$0
VOC (water)	0 x	\$223 =	\$0
tds	0 x	\$15 =	\$0
	0 x	\$0 =	\$0
Mobile Lab	0 x	\$1,000 =	\$0
Shipping	29 x	\$5 =	\$145
F. Total Lab Analyses			\$4,864

G. Travel

			Total
Mileage @ \$0.48/mile	6 trip(s) at 80 miles per round trip	=	\$192
Travel time - field E/G/H	4 trip(s) at 60 miles per round trip	=	\$416
Travel time - technician	1 Tech I trip(s), 1 Tech II trip(s), 0 Tech III trip(s) at 80 miles	=	\$352
Approved airfare		=	\$0
Approved days per diem	Consultant 0 days	\$80/day/pers =	\$0
Approved days per diem	Driller 0 days	\$180/day =	\$0
Approved vehicle days	5 days	\$45/day =	\$225
		\$0 =	\$0
G. Total Travel			\$1,185

Summary	Proposed	Max Allow.	Difference
Personnel	\$9,655	\$6,216	(\$3,439)
Equipment	\$2,225	\$2,440	\$215
Drilling	\$16,450	\$13,445	(\$3,005)
Waste Mgmt.	\$1,016	\$1,312	\$296
Other	\$0	\$0	\$0
Lab	\$2,903	\$4,864	\$1,961
Travel	\$215	\$1,185	\$970
	\$32,464	\$29,462	(\$3,002)

Comments:

* Parentheses indicate proposed is > approved

This preapproval review reflects a not-to-exceed analysis, based on the maximum allowable for the proposed activity. No attempt was made to determine allowable markup on individual items.

Travel expenses will be for actual travel only and will be subject to the maximum shown above.

Per diem expenses will only be reimbursed upon submission of hotel/motel receipts. The approved amount is the lesser of the proposed amount or the calculated maximum allowable.

Travel will be reimbursed up to the amount calculated above, with supporting documentation. If you have a question on the approved amount please contact your case coordinator.

Synopsis of Project (Attachment

Print this page

Go to Next Page

Print Both Pages

Input

Output

Days DP or Depth Number of wells Total footage

Direct Push	0.00			Addtl. Invest w/RBA update	
Borings	25	0	0	LPST #:	111747
2" wells	25	0	0	Date	15-Jan-97
4" wells	40	7	280	Time	02:12 PM
Matrix	Sand/clay		280	Initials	vkm

Personnel

Title	Activity	Location	Hours	Rate/hour	Total
Principal	Review	Office	0.00	\$130	\$0
Prcl. Mgr.	Preliminary Planning	Office	0.00	\$80	\$0
	Boring/Well installation	Field	0.00	\$80	\$0
	RPT/Plan A Rev.	Office	7.67	\$80	\$613
Staff E/G/H	Preliminary Planning	Office	0.00	\$70	\$0
	Boring/Well installation	Field	33.83	\$70	\$2,368
	Rpt./PM	Office	0.00	\$70	\$0
Technician	Preliminary Planning	Office	0.00	\$50	\$0
	Boring/Well installation	Field	33.83	\$50	\$1,692
	Well dev./samp.	Office	10.50	\$50	\$525
Draftsman	Drafting	Office	8.00	\$45	\$360
Wordprocessor	WP	Office	4.50	\$35	\$158
			98.33		\$5,716

Site Survey		Yes	\$300	\$300
Water well search		No	\$200	\$0
LPST Search		No	\$50	\$0
Receptor survey		No	\$300	\$0
				\$300
Cost Proposal Prep.	Normal	Yes	\$200	\$200
	with SAR	No	\$250	\$0
	None	No	\$0	\$0
Total personnel				\$6,216

Equipment

Rental	Item	Rate	# of days	Total
	Steam Cleaner	\$135	4	\$540
	GVM	\$100	4	\$400
	Probe	\$50	1	\$50
	Barricades/Etc	\$25	4	\$100
Disposables	Drums	\$40	22	\$880
	Bailers	\$10	7	\$70
	Misc	\$100	4	\$400
				\$0
Total equipment				\$2,440

Drilling

	Miles	Footage	Rate	Total
Mobilization - drilling rig	0 miles >50 mi. one w		+250+2.5/mi>50 one way	\$250
Mobilization - direct push unit	0 miles >50 mi. one w		+250+2.5/mi>50 one way	\$0
Direct push rig	0 days		\$2000/day	\$0
Borings		0		\$0
2" Wells		0		\$0
4" Wells		280		\$13,195
Total Drilling				\$13,445

Lab Analyses

Type	# of analyses	\$/sample	Total
TPHBTX (soil)	21	\$168	\$3,276
TPHBTX/MTBE (water)	7	\$174	\$1,218
PAH (soil)	0	\$250	\$0
PAH (water)	1	\$225	\$225
Soil Parameters	0	\$250	\$0
Total Metals	0	\$250	\$0
Total Pb	0	\$35	\$0
VOC (soil)	0	\$218	\$0
VOC (water)	0	\$223	\$0
TDS	0	\$15	\$0
	0		\$0
	0		\$0
Mobile Lab	0	\$1,000	\$0
Shipping	29	\$5	\$145
Total			\$4,864

Other Expenses

Site Safety Plan	(only on first assessment)	\$100	0	\$0
xxx		\$0	1	\$0
xxx		\$0	1	\$0
Total				\$0

Waste Management

Soil Disposal	Base	\$250		\$250
	Drum Disposal	\$40/drum	19 drums	\$720
Water Disposal	Vec truck	\$58/hr	4 hours	\$272
	Water (25 gal./well)	\$0.40/gal.	175 gallons	\$70
Total				\$1,312

Travel

Mileage @ \$0.48/mile	5 trip(s) at 80 miles per round trip			\$192
Travel time - field E/G/H	4 trip(s) at 80 miles per round trip		\$65/hour	\$416
Travel time - technician	1 Tech I trip(s), 1 Tech II trip(s), 0 Tech III trip(s) at 80 miles per round trip		\$40/\$45/\$50/hour	\$352
Approved airfare				\$0
Approved days per diem	Consultant	0 days	\$80/day/person	\$0
Approved days per diem	Driller	0 days	\$180/day	\$0
Approved vehicle days		5 days	\$45/day	\$225
Total				\$1,185

Total for activity				\$29,462
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TELEPHONE MEMO TO THE FILE

Please complete with typewriter or black pen.

Call to: Vicki Montgomery

Call from: Chris Koper HBC

Date of call: 11/1/96

File no.: 111747

Phone no.: (512) 442-1122

Subject: Emergency abatement

Information for file: They found 4' of product in the groundwater in the downgradient well + 1' of product in the well installed in the tankpit. Chris thinks it's moving pretty quickly through the sand + they want to start/continue recovering product. He plans to put in some pumps + get a frac tank, etc. I told him emergency abatement is fine for 48 hours but it can't go on indefinitely - what's the long-term plan? He said this system (pumps, etc.) could easily be incorporated into a permanent system. They also plan to do some trenching + install some piping at this time as part of their emergency procedures. I told him they probably wouldn't be able to do this as part of their emergency measures but they would check + let him know.

I discussed the issue with one of the section's remediation people + he said using pumps + a fractank is fine + can be done without preapproval because it is product recovery; however, the other activities (such as trenching)

Signed _____

Are getting more into putting in a remediation system + should be preapproved. He would also like to see more assessment of the site completed before a corrective action plan is submitted so an effective remediation system can be installed.

I gave this information to Chris + explained that while this was a catastrophic loss of product it wasn't really what we classify as an "emergency" - these are situations where a building might ~~be~~ blow up. He should continue w/ product ~~some~~ recovery, but it was up to the RP to decide if he wanted to proceed w/ trenching, etc. at this time for liability or business-related ~~reasons~~ ^{reasons}. If they did decide to go on w/ those activities it could jeopardize their reimbursement because they would be installing a system w/out preapproval but it was really their call to decide if they need to proceed immediately.

Vicki Montgomery.



TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

TELEPHONE MEMO TO THE FILE

Please complete with typewriter or black pen.

Call to: Wicki Montgomery

Call from: Chris Kopeck (HBC)

Date of call: 10/31/96

File no.: 111747

Phone no.: (512) 442-1181

Subject: Have psh

Information for file: While installing well they encountered
free product. Probably about 1", but he didn't
have an interface probe to verify this. Expected to
encounter more psh considering the amount
they thought had been lost. Don't know if they have
psh in the other wells on site.

Signed Wicki Montgomery

TELEPHONE MEMO TO THE FILE

Please complete with typewriter or black pen.

442-1122

Call to: Wicki Montgomery

Call from: Chris Kopeck, HBC

Date of call: 10/29/96

File no.: 111747

Phone no.: ()

Subject: Change in scope of work

Information for file: Chris called to let me know they were drilling the wells and did not encounter groundwater until 31'. They had proposed wells to only 30' so he wanted to see if they could go to 40'. I said yes, go to 40'.

Called Chris back later today to let him know he will need to submit a change order if his additional costs will exceed 2% of the preapproved amount.

Signed Wicki Montgomery

TNRCC FAX TRANSMITTAL

DATE: 10/28/96

NO. OF PAGES (including this sheet):

4

TO: Name Mr. Jamal Mansour | Chris Kopeck
 Organization Federal Express | HBC
 Fax Number (901) 922-2042 | (512) 442-1181

FROM: TEXAS NATURAL RESOURCE CONSERVATION COMMISSION
 Name Vicki Montgomery
 Coordinator
 Telephone 512/239-2200
 Fax Number 512/239-2216
 Mail P.O. Box 13087, Austin, Tx 78750-3087

NOTES: Response to Corrective Action Proposal(s) for
 LPST #: 111747 , Facility ID: 0029044.
 If you have any problems receiving this fax, please
 call 512/239-2200 .

Please note that new Corrective Action Preapproval Forms have been required since September 1, 1995. The forms are available at no cost by downloading from the TNRCC Bulletin Board Services (BBS) (512/239-0700), or over the Internet at <http://www.tnrcc.state.tx.us>. You may also order the forms on diskette for \$6.50 from the TNRCC, P.O. Box 13088, Austin, TX 78711-3088 (please specify the Corrective Action Preapproval Forms on diskette). A pamphlet with reproducible forms is available at no cost by calling TNRCC Publications at 512/239-0028.

Please note that all LPST corrective action proposals and reports need to be prepared by an environmental contracting/consulting firm registered as a Corrective Action Specialist (CAS) and need to have the the signatures and registration numbers of both the CAS and registered Corrective Action Project Manager (CAPM) included pursuant to Title 30, Texas Administrative Code (TAC), Subchapter J. Any proposal that has been prepared by a consulting firm not registered as a CAS by the Texas Natural Resource Conservation Commission (TNRCC) or which does not include the signature and registration number of the Project Manager may be rejected. Please reserve the use of the telefax machines for submitting proposals and data for LPST cases that rank as new priority 1's and for emergency abatement activities.

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION
LPST CORRECTIVE ACTION RESPONSE FORM

LPST-ID: 111747
10/22/96 Proposal For: COMPREHENSIVE SITE ASSESSMENT (CSA)

GENERAL INFORMATION

LPST-ID : 111747 Priority: 4.0
Responsible Party : Federal Express Tel: 901/397-4397
Facility # & Name : 0029044 Federal Express
Facility Address : 5811 Techni Center
Facility City : Austin County: Travis
CAPM & Name : CAPM00227 CHRISTOPHER KOPEC
RCAS & Name : RCAS00387 HBC ENGINEERING, INC.

TNRCC TECHNICAL RESPONSE

Proposed activity is approved with the following modifications:

Discretion should be used in boring/well placement. Drilling locations and the number of borings/wells should be based not only on currently existing data, but also on data that will be collected while in the field. This may require that some of the borings/wells be placed in locations other than those shown on the map accompanying this proposal. Specifically, consideration should be given to monitor well locations and ensuring that they are not so close together that the data they provide is basically redundant.

Please note that wells completed in the tank pit are not used for determining the groundwater gradient, and because only two wells are proposed in native soil it may be difficult to determine the gradient at the site.

Please ensure that all soil samples required in the guidance document entitled Guidance for Risk-Based Assessments at LPST Sites in Texas (RG-175, p. 18) are collected.

If TPH is found to be above action levels, at least one sample should be analyzed for PAH. This should be from a sample with the most elevated TPH.

The following information was not provided with the Release Determination Report (TNRCC-0621) and should be provided at your earliest convenience:

- 1) Site diagram with location of the tank system(s), suspected or known point of release, and all sampling points.
- 2) List of analytical results and sample identification for all soil samples collected.
- 3) Description of sample collection and handling methods.
- 4) Copies of signed laboratory reports and chain-of-custody documentation.
- 5) Documentation of waste disposition.

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION
LPST CORRECTIVE ACTION RESPONSE FORM

LPST-ID: 111747
10/22/96 Proposal For: COMPREHENSIVE SITE ASSESSMENT (CSA)

TNRCC TECHNICAL RESPONSE

ACTIVITY COST SUMMARY			
Proposed Cost:	16,268.00	Maximum Pre-Approved:	16,268.00

Signature: *Vicki Montgomery* Date: 10/28/96 Telephone: 512/239-2200
Vicki Montgomery
Coordinator

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

LPST CORRECTIVE ACTION RESPONSE FORM

LPST-ID: 111747

10/22/96 Proposal For: COMPREHENSIVE SITE ASSESSMENT (CSA)

Pursuant to 30 TAC Section 334.82 (b), you are required to notify all parties affected by the contamination. If you determine that contamination from the release has migrated off-site, or if you are required by the TNRCC to conduct further assessment or other corrective actions off-site, then you are required to notify the affected landowner(s) within 30 days of documenting the impact. Please note that landowners may include state and local owners of right-of-way properties. For the purpose of this requirement, notice shall be through any means described in 30 TAC Section 334.82 (a). Please provide documentation that the affected landowner(s) has/have been notified within 30 days of notification. **Please note that failure to notify affected parties as required herein is grounds for formal enforcement proceedings.**

Please note that preapproval of this activity DOES NOT guarantee reimbursement. Eligibility is determined at the time of reimbursement application review. If the release is eligible, the preapproved amount is the maximum allowable for the proposed activities. The actual amount of reimbursement will be determined after the completed reimbursement application and all related receipts and invoices are submitted, and the completed activity is subject to technical and reimbursable cost review. In all instances, the completed work must be technically justifiable and should serve to advance the site in the corrective action process. The amount of preapproved work performed should be based on completion of the activity's objectives.

Claims for reimbursement should only be submitted after the completion of an annual cycle for remediation system operation and maintenance, and quarterly groundwater monitoring unless a more frequent filing period is previously approved by the PST Reimbursement Section. The Reimbursement Section can be reached at 512/239-2001.

cc: Chris Smith, TNRCC Region 11 Field Office
1921 Cedar Bend, Suite 150, Austin, Texas 78758
Phone: 512/339-2929 Fax: 512/339-3744

*** ACTIVITY REPORT ***

TRANSMISSION OK

TX/RX NO.	7702
CONNECTION TEL	9p9019222042
CONNECTION ID	
START TIME	10/28 17:03
USAGE TIME	02'09
PAGES	4
RESULT	OK

*** ACTIVITY REPORT ***

TRANSMISSION OK

TX/RX NO.	7703
CONNECTION TEL	9p4421181
CONNECTION ID	HBC ENGINEERING
START TIME	10/28 17:06
USAGE TIME	02'12
PAGES	4
RESULT	OK

Synopsis of Project (Attachment)

	Days DP or Depth	Number of wells	Total footage	Investigation w/RBA report
Direct Push	0.00			LPST #: 111585
Borings	30	3	60	Date: 28-Oct-96
2" wells	25	0	0	Time: 01:52 PM
4" wells	30	3	60	Initials: vkm
Matrix			180	

Personnel

Title	Activity	Location	Hours	Rate/hour	Total
Principal	Review	Office	1.00	\$130	\$130
Proj. Mgr.	Preliminary Planning	Office	2.00	\$80	\$160
	Boring/Well Installation	Field	0.00	\$80	\$0
	RPT/Plan A Rev.	Office	15.33	\$80	\$1,227
Staff E/G/H	Preliminary Planning	Office	2.00	\$70	\$140
	Boring/Well Installation	Field	19.17	\$70	\$1,342
	Rpt./PM	Office	8.00	\$70	\$560
Technician	Preliminary Planning	Office	2.00	\$50	\$100
	Boring/Well Installation	Field	19.17	\$50	\$958
Draftsman	Well dev./smp.	Office	4.50	\$50	\$225
	Drafting	Office	9.00	\$45	\$405
Wordprocessor	W/P	Office	8.50	\$35	\$298
				90.66	\$5,544
Site Survey		Yes		\$300	\$300
Water well search		Yes		\$200	\$200
LPST Search		Yes		\$50	\$50
Receptor survey		Yes		\$300	\$300
					\$850
Cost Proposal Prep.	Normal	Yes		\$200	\$200
	with SAR	No		\$250	\$0
	None	No		\$0	\$0
Total personnel					\$6,594

Equipment

Rental	Item	Rate	# of days	Total
	Steam Cleaner	\$135	2	\$270
	OVM	\$100	2	\$200
	Probe	\$50	1	\$50
	Barricades/Etc	\$25	2	\$50
Disposables	Drums	\$40	12	\$480
	Bailers	\$10	3	\$30
	Misc	\$100	2	\$200
Total equipment				\$1,280

Drilling

	Miles	Footage	Rate	Total
Mobilization - drilling rig	0	0 miles >50 ml. one wa	+250+2.5/mi>50 one way	\$250
Mobilization - direct push unit/ria	0	0 miles >50 ml. one wa	+250+2.5/mi>50 one way	\$0
Direct push rig	0	0 days	\$2000/day	\$0
Borings		60		\$2,270
2" Wells		0		\$0
4" Wells		90		\$4,035
Total Drilling				\$6,555

Lab Analyses

Type	# of analyses	\$/sample	Total
TPHBTEX (soil)	15	\$156	\$2,340
TPHBTEX/MTBE (water)	3	\$174	\$522
PAH (soil)	0	\$250	\$0
PAH (water)	0	\$225	\$0
Soil Parameters	1	\$250	\$250
Total Metals	0	\$250	\$0
Total Pb	0	\$35	\$0
VOC (soil)	0	\$216	\$0
VOC (water)	0	\$223	\$0
TDS	1	\$15	\$15
	0		\$0
	0		\$0
Mobile Lab	0	\$1,000	\$0
Shipping	20	\$5	\$100
Total			\$3,227

Other Expenses

Site Safety Plan	(only on first assessment)	\$100	0	\$0
Doc		\$0		\$0
Doc		\$0		\$0
Total				\$0

Waste Management

Soil Disposal	Base	\$250		\$250
	Drum Disposal	\$40/drum	10 drums	\$400
Water Disposal	Vac truck	\$68/hr	4 hours	\$272
	Water (25 gal./well)	\$0.40/gal	75 gallons	\$30
Total				\$952

Travel

Mileage @ \$0.48/mile	0 trip(s) at 0 miles per round trip		\$0	
Travel time - field E/G/H	2 trip(s) at 0 miles per round trip	\$65/hour	\$0	
Travel time - technician	0 Tech I trip(s), 2 Tech II trip(s), 1 Tech III trip(s) at 0 miles per round trip	\$40/\$45/\$50/hour	\$0	
Approved airfare			\$0	
Approved days per diem	Consultant	0 days	\$80/day/person	
Approved days per diem	Driller	0 days	\$180/day	
Approved vehicle days		2 days	\$45/day	
Total				\$90

Total for activity	\$18,696
---------------------------	-----------------

Date of review: 28-Oct-96 Time of review: 01:52 PM

Initials of reviewer: vkm

Investigation w/RBA report



A. Personnel

Personnel	=	\$5,544
Cost Proposal Preparation	=	\$200
Surveys	=	\$300
Site and/or Monitor Well	=	\$300
Water Well Search	=	\$250
Walking Receptor	=	\$300
A. Total Personnel		\$6,594

B. Equipment

Rental	=	\$570
Disposable	=	\$710
B. Total Equipment		\$1,280

C. Drilling

Mob/Demob drilling rig	=	\$250
Mob/Demob direct push rig/lab	=	\$0
Matrix - Indicate Sand/Clay or Limestone (bedrock)		Sand/clay
Days or # of wells		Avg. Depth
Direct Push	0	\$0
Borings	2 30	\$2,270
2" wells	0 25	\$0
4" wells	3 30	\$4,035
C. Total Drilling		\$6,555

D. Waste Management

		\$/Unit	Units	Total
Soil Disposal	Base	\$250	=	\$250
	Drum Disposal	\$40/drum	10 drums =	\$400
Water Disposal	Vac truck	\$68/hr	4 hours =	\$272
	Water (25 gal Ave \$0.40/gal.		75 gallons =	\$30
D. Total Waste Management				\$952

E. Other Expenses

	Units	\$/Unit	Total
Site Safety Plan	0 x	\$100 =	\$0
xxx	x	\$0 =	\$0
xxx	x	\$0 =	\$0
E. Total Other Expenses			\$0

F. Lab Analyses

Type	# of Samples	\$/unit	Total
TPH/TEX (soil)	15 x	\$156 =	\$2,340
TPH/TEX/MTBE (water)	3 x	\$174 =	\$522
PAH (soil)	0 x	\$250 =	\$0
PAH (water)	0 x	\$225 =	\$0
Soil Parameters	1 x	\$250 =	\$250
Total Metals	0 x	\$250 =	\$0
Total Pb	0 x	\$35 =	\$0
VOC (soil)	0 x	\$216 =	\$0
VOC (water)	0 x	\$223 =	\$0
tds	1 x	\$15 =	\$15
	0 x	\$0 =	\$0
	0 x	\$0 =	\$0
Mobile Lab	0 x	\$1,000 =	\$0
Shipping	20 x	\$5 =	\$100
F. Total Lab Analyses			\$3,227

G. Travel

			Total
Mileage @ \$0.48/mile	0 trip(s) at 0 miles per round trip	=	\$0
Travel time - field E/G/H	2 trip(s) at 0 miles per round trip	=	\$0
Travel time - technical	0 Tech I trip(s), 2 Tech II trip(s), 1 Tech III trip(s) at 0 miles	=	\$0
Approved airfare		=	\$0
Approved days per diem	Consultant 0 days	\$80/day/pers =	\$0
Approved days per diem	Driller 0 days	\$180/day =	\$0
Approved vehicle days	2 days	\$45/day =	\$90
		\$0 =	\$0
G. Total Travel			\$90

Summary	Proposed	Max Allow.	Difference
Personnel	\$6,680	\$6,594	(\$86)
Equipment	\$670	\$1,280	\$610
Drilling	\$5,580	\$6,555	\$975
Waste Mgmt.	\$978	\$952	(\$26)
Other	\$300	\$0	(\$300)
Lab	\$2,060	\$3,227	\$1,167
Travel	\$0	\$90	\$90
	\$16,268	\$18,698	\$2,430

* Parentheses indicate proposed is > approved

Comments:

This preapproval review reflects a not-to-exceed analysis, based on the maximum allowable for the proposed activity. No attempt was made to determine allowable markup on individual items.

Travel expenses will be for actual travel only and will be subject to the maximum shown above.

Per diem expenses will only be reimbursed upon submission of hotel/motel receipts. The approved amount is the lesser of the proposed amount or the calculated maximum allowable.

Travel will be reimbursed up to the amount calculated above, with supporting documentation. If you have a question on the approved amount please contact your case coordinator.

111747



October 24, 1996

VKM
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111747
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ce

Ms. Vicki Montgomery
Texas Natural Resource Conservation Commission
Petroleum Storage Tank Division
Responsible Party Remediation Section
P.O. Box 13087
M.C. 137
Austin, Texas 78711-3087

RECEIVED

OCT 24 1996

TNRCC / PST
RPR

Attn: Ms. Vicki Montgomery

Re: LPST #111747
Federal Express
5811 Technicenter Drive
Austin, Texas

Dear Ms. Montgomery:

As per our telephone conversation, I have attached the Workplan and Preapproval Request form for the above referenced site. We appreciate your assistance with this matter.

If you should have any questions or comments, please contact me at (512) 442-1122.

Sincerely,

HBC ENGINEERING, INC.

Christopher J. Kopec, P.G., CAPM
Project Hydrogeologist

**TEXAS NATURAL RESOURCE CONSERVATION COMMISSION
 PETROLEUM STORAGE TANK DIVISION
 CORRESPONDENCE IDENTIFICATION SHEET**

Date: October 18, 1996
 Site Name: Federal Express
 Site Address: 5811 Technicenter Drive
Austin, Texas

LPST ID No.: 111747
 Facility ID No.: 0029044

This checklist **must** accompany all correspondence submitted to the RPR Section and should be affixed to the front of your submittal as a cover page. Please check the appropriate box for the type of correspondence which you have submitted to the RPR Section. Check all boxes that apply if you are submitting more than one type of correspondence. If you cannot find an appropriate category, please complete the "other" section.

RECEIVED

PROPOSALS		
<input type="checkbox"/> Initial Abatement (1)	<input type="checkbox"/> Tank Removal (2)	<input type="checkbox"/> TNRCC/PSI Excavation (3)
<input type="checkbox"/> Waste Treatment (4)	<input checked="" type="checkbox"/> Site Assessment (5)	<input type="checkbox"/> Aquifer Testing (6)
<input type="checkbox"/> VES/Sparge Testing (7)	<input type="checkbox"/> Qtrly. GW Monitoring (8)	<input type="checkbox"/> CAP Prep. (9)
<input type="checkbox"/> GW Extrac./Treatment (10)	<input type="checkbox"/> Soil Vapor Extrac. (11)	<input type="checkbox"/> Operation & Main. (12)
<input type="checkbox"/> Site Closure (13)	<input checked="" type="checkbox"/> Plan A Risk Ass. (14)	<input type="checkbox"/> Plan B Risk Ass. (15)
<input type="checkbox"/> Semi-annual GW Mon. (16)*	<input type="checkbox"/> Annual GW Mon. (18)	<input type="checkbox"/> Product Recovery (19)
<input type="checkbox"/> Other proposal _____		

OCT 24 1996

REPORTING FORMS	
<input type="checkbox"/> Assessment Report Form (TNRCC-0562)	<input type="checkbox"/> LPST Case Questionnaire
<input type="checkbox"/> Product Recovery Report Form (TNRCC-0016)	<input type="checkbox"/> Release Report Form (TNRCC-0621)
<input type="checkbox"/> Site Closure Request Form (TNRCC-0028)	<input type="checkbox"/> Monitoring Event Summary and Status Report (TNRCC-0013)
<input type="checkbox"/> Final Site Closure Report Form (TNRCC-0038)	<input type="checkbox"/> Priority 4 LPST Case Closure Request Form (TNRCC-0461)
<input type="checkbox"/> Other form _____	

REPORTS		
<input type="checkbox"/> Tank Closure/Removal	<input type="checkbox"/> Plan A Risk Assessment	<input type="checkbox"/> Annual Groundwater Monitoring
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<input type="checkbox"/> Property Divestiture/Phase I ESA	<input type="checkbox"/> Corrective Action Plan (CAP)	<input type="checkbox"/> Aquifer/Pilot Test Results

MISCELLANEOUS	
<input type="checkbox"/> Off-site access assistance	<input type="checkbox"/> Deadline Extension Request
<input type="checkbox"/> Tank tightness test results	<input type="checkbox"/> Request for State-Lead
<input type="checkbox"/> Request for LPST Waste Code	<input type="checkbox"/> Class V Reinjection Request
<input type="checkbox"/> Notice to Owner/Operator for CAS Services	<input type="checkbox"/> Petroleum-Substance Waste Manifest
<input type="checkbox"/> Notice of Continuation of Groundwater Monitoring	<input type="checkbox"/> Underground Storage Tank Registration Form
<input type="checkbox"/> Notice of Continuation of Operation and Maintenance	<input type="checkbox"/> Aboveground Storage Tank Registration Form
<input type="checkbox"/> Other (anything that does not fit into one of the categories above) _____	

* The proposal for semi-annual monitoring and annual report (Proposal Activity 17) has been discontinued. For semi-annual monitoring, use Proposal Activity 16.

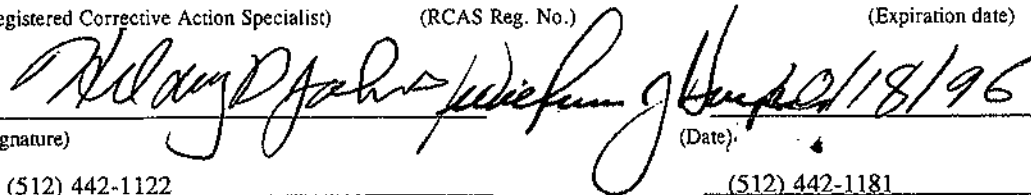
I attest that all work has been conducted in accordance with accepted industry standards/practices and adhered to TNRC guidance and rules. I certify that I am aware that misrepresentation of any of the above claims is a violation of 30 TAC 33.4453(b)(1)(E) and that this violation may result in the disciplinary actions set forth in 30 TAC 334.453 and or 334.463 and 334.465.

If a proposal is attached for preapproval, has the proposed work, in part or in whole, already been performed or in progress? Yes No

If yes, what work? _____

HBC Engineering _____ 00387 _____ 5/30/97


(Registered Corrective Action Specialist) (RCAS Reg. No.) (Expiration date)

 _____
(Signature) (Date)

(512) 442-1122 _____ (512) 442-1181 _____
(Telephone #) (FAX #)

Christopher J. Kopec _____ 00227 _____ 12/4/96

(Project Manager) (CAPM Reg. No.) (Expiration date)

 _____ 10/18/96 _____
(Signature) (Date)

(512) 442-1122 _____ (512) 442-1181 _____
(Telephone #) (FAX #)

By signature below, I certify that documents checked above are included.

Jamal Mansour _____ Federal Express Corporation _____

(Name of Responsible Party Contact) (Company)

 _____ 10/22/96 _____
(Signature) (Date)

(901) 397-4397 _____ (901) 922-2042 _____
(Telephone #) (FAX #)

WORKPLAN AND PREAPPROVAL REQUEST

LPST ID No.: 111747
Responsible Party: Federal Express Corporation
Facility Name: Federal Express
Facility Address: 5811 Technicenter Drive
Facility City: Austin
Facility ID No.: 0029044
TNRCC Region: 11
Case Priority: Unknown

RECEIVED

OCT 24 1996

Proposed Activity: 04-2 Comprehensive Site Assessment

TNRCC / PST
RPR

Goal of Proposed Activity

The goal of the proposed activity is to collect sufficient data to determine the site priority and to support a Plan A risk evaluation. The scope of the proposed activity will include identifying all potential receptors and exposure pathways; characterize the source area by delineating the vertical extent of affected media; evaluate maximum contaminant concentrations of all affected media; provide permanent groundwater monitoring wells if groundwater is impacted; initiate the removal non-aqueous phase liquids (NAPL) if encountered; and identify site conditions that may affect contaminant movement.

Description of Activities

A total of up to five soil borings will be installed utilizing a truck mounted drilling rig and hollow-stem auger techniques, under the supervision of a State of Texas licensed monitor well driller. One soil boring will be installed in the vicinity of the apparent source area to collect soil samples to evaluate the vertical extent of affected soil, and to complete a permanent 4-inch diameter monitoring well if groundwater is encountered. Two additional soil borings may be completed as permanent 4-inch diameter monitoring well to facilitate in the removal of NAPL, if encountered. The remaining two soil borings will be installed to evaluate the vertical and horizontal extent of affected media surrounding the source area. The groundwater samples collected from the groundwater monitoring wells will be analyzed for TPH, BTEX, and MTBE. One of the groundwater samples will also be analyzed for total dissolved solids. Soil samples collected from the five soil borings will be analyzed for TPH and BTEX.

The soil boring locations will be approved by the TNRCC prior to installation. The soil borings will be installed to a maximum depth of 30 feet below ground level. The locations of the proposed soil borings/groundwater monitoring wells are indicated on the enclosed site map.

In addition, a receptor survey, which will consist of a 500 foot walking survey and a records inventory of all water wells located within 0.5 miles of the site, will be conducted prior to the initiation of the borings.

WORKPLAN AND PREAPPROVAL REQUEST

Federal Express
LPST ID No. 111747
Page 2



Sampling Procedures

The release at this facility is from the former gasoline UST system. The soil boring installed in the suspected source area will have soil samples collected from a depth of 0 to 2 feet for inhalation, ingestion and dermal considerations, from the zone exhibiting the highest concentration of volatile organic compounds based on visual, olfactory or OVM evidence, or from the capillary fringe zone, and the third soil sample will be collected from the bottom of the soil boring. A maximum of three soil samples will be collected from each of the remaining four soil borings, one soil sample from the zone exhibiting the highest concentration of volatile organic compounds based on visual, olfactory or OVM evidence, one from the capillary fringe zone, and one from the bottom of the soil boring. One additional soil sample collected from above the saturated zone in one of the least impacted soil borings will be analyzed for geotechnical parameters at Core Laboratories. The soil samples will be submitted to Inchcape Testing Services analytical laboratory in Richardson, Texas for analysis.

During the installation of the soil borings, soil samples and the boreholes will be screened with an explosimeter to evaluate the soils for explosive vapor concentration levels. Seams and/or cracks in the surface cover pavement over the affected area will also be evaluated for the presence of explosive vapor concentration levels.

Reporting of Activities

An Assessment Report Form (TNRCC-0562) and the required attachments will be completed and submitted following the completion of the assessment activities.

Waste Management

Drill cuttings will be encapsulated in polyethylene sheeting and stored onsite pending waste characterization. Assuming a Class II Nonhazardous waste characterization, the drill cuttings will be transported to a TNRCC approved disposal facility. Purged groundwater will be temporarily stored on-site in a DOT approved steel drums, pending the results of laboratory analysis.

Preapproval Request Forms

A Site Assessment Preapproval Proposal form is attached for review.

Attachments

A site map with the proposed soil boring/monitoring well locations has been prepared and is attached for review.

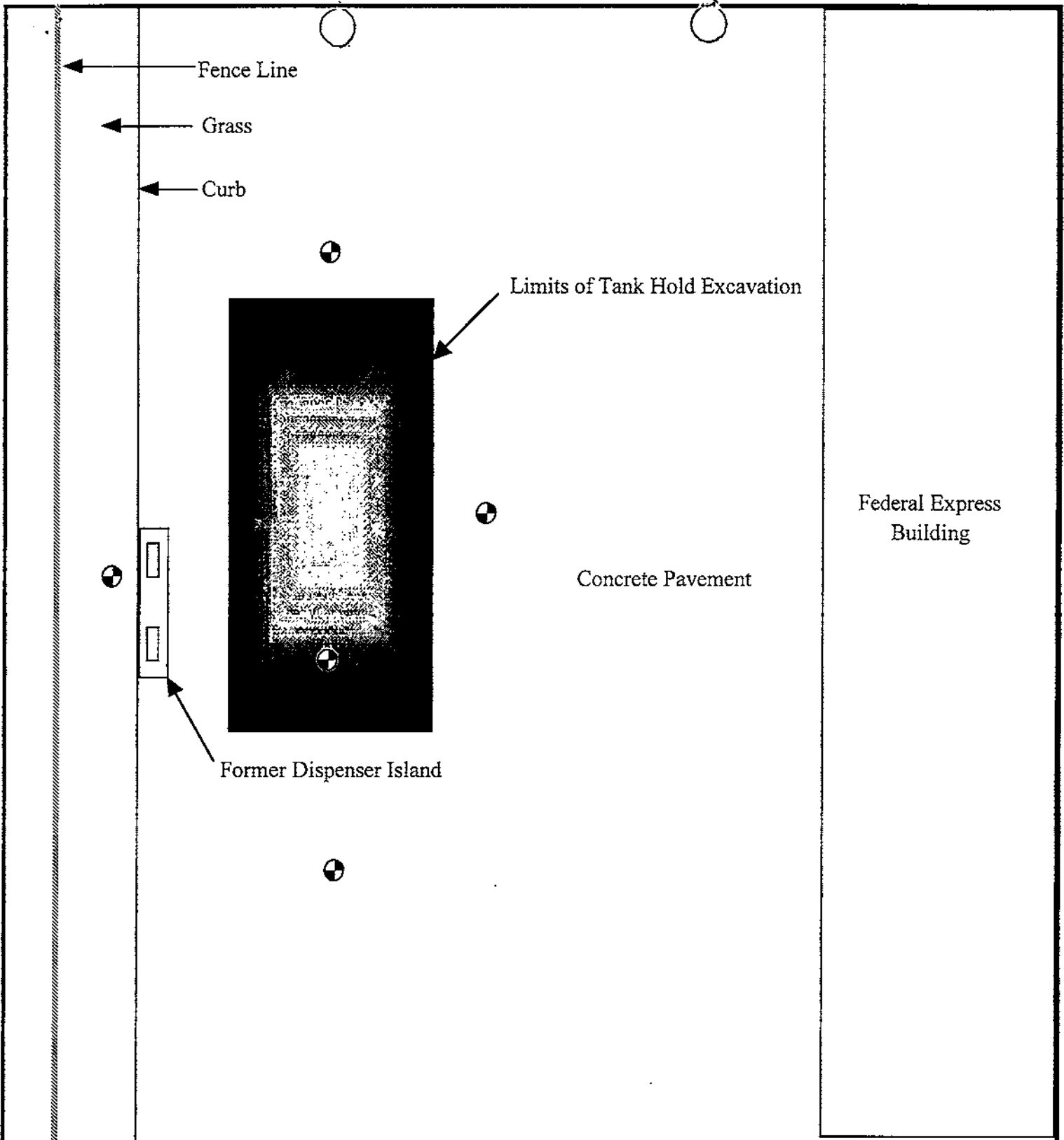


FIGURE 1

**Site Plan/Boring Location Diagram
Federal Express
Austin, Texas**

HBC Project No. 61-2260.96



0 5 10 Ft
Approximate Scale 1" = 10'

LEGEND

⊗ - Soil Boring/Monitoring Well Location

Site Assessment Preapproval Proposal

PST # 111685

Mark appropriate activity

04-1 Limited Site Assessment

04-3 Accelerated Site Characterization

04-2 Comprehensive Site Assessment

04-4 Other (expl.)

A. Personnel

Personnel	=	\$6,245
Cost Proposal Preparation	=	\$130
Surveys		
Site and/or Monitor Wells	=	\$
Water Well Search	=	\$175
Walking Receptor	=	\$130
A. Total Personnel		\$6,680

B. Equipment

Rental	=	\$640
Disposable	=	\$30
B. Total Equipment		\$670

C. Drilling

Mob/Demob	=	\$210			
Matrix-Indicate Sand/Clay or Limestone (bedrock)		Sand/cl			
	#	Avg. Depth	Casing Diameter	=	
Borings	2	30'	N/A	=	\$1,500
Wells-Dia. 1	3	30'	4"	=	\$3,870
Wells-Dia. 2				=	\$
C. Total Drilling Costs					\$5,580

D. Waste Management

	Units		\$/Unit	=	Total
Soil Disposal	1	x	600	=	\$600
Water Truck/Disp	3 hrs	x	120	=	\$360
Water Trt/Disch.	45'	x	0.40	=	\$18
D. Total Waste Management					\$978

E. Other Expenses

	Units		\$/Unit	=	Total
Survey	Lump	x	\$300	=	\$300
		x	\$	=	\$
E. Total Other Expenses					\$300

H. Total Site Assessment Proposed Cost = A + B + C + D + E + F + G =

\$16,268

F. Analyses

Type	# of Smpls.		\$/Unit	=	Total
BTEX soil	15	x	\$58	=	\$870
TPH soil	15	x	\$35	=	\$525
BTEX water	3	x	\$58	=	\$174
TPH water	3	x	\$35	=	\$105
MTBE water	3	x	\$23	=	\$69
PAH soil		x		=	\$
PAH water		x		=	\$
TDS	1	x	\$17	=	\$17
VOC soil		x		=	\$
VOC water		x		=	\$
Total Metals		x		=	\$
Soil Parameters	1	x	\$300	=	\$300
Shipping		x		=	\$
F. Total Lab Cost					\$2,060

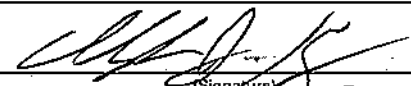
G. Travel

	Units		\$/Unit	=	Total
Mileage		x		=	\$
Travel time		x		=	\$
Per Diem		x		=	\$
Airfare		x		=	\$
Car rental		x		=	\$
		x		=	\$
		x		=	\$
G. Total Travel					\$

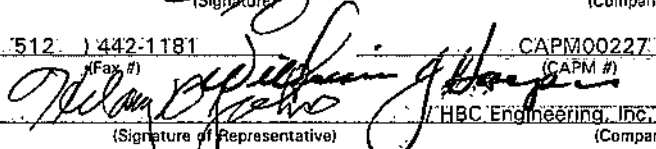
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OCT 24 1996

TNRCC / PST
RPR

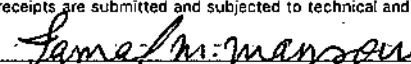
Christopher J. Kopec (CAPM Name, Printed)  (Signature) HBC Engineering, Inc. (Company) 10/18/96 (Date)

512 442-1122 (Phone #) 512 442-1181 (Fax #) CAPM00227 (CAPM #) 1/12-4-96 (Exp. Date)

Hillary D. Johns (RCAS Name, Printed)  (Signature of Representative) HBC Engineering, Inc. (Company) 10/18/96 (Date)

512 442-1122 (Phone #) 512 442-1181 (Fax #) RCAS 00387 (RCAS #) 7/5-30/97 (Exp. Date)

I acknowledge that the TNRCC may reimburse corrective action costs that are at or below the maximum reimbursable amount published in 30 TAC, Chapter 334, Subchapter M. The maximum reimbursable cost will be the amount approved for the activity unless the Executive Director determines that sound justification for a cost surplus exists. I understand that this certification is not intended to limit what a Registered Corrective Action Specialist, Corrective Action Project Manager, or Contractor may charge. I further understand that the amount of the reimbursement for the above activity will be determined after all receipts are submitted and subjected to technical and reimbursable cost review. I certify that this TNRCC form has not been altered.

Jamal Mansour (Name of Responsible Party)  (Signature of Representative) Federal Express Corporation (Company)

901 397-4397 (Phone #) 901 922-2042 (Fax #) 10/22/96 (Date)



FAX TRANSMITTAL

DRAINAGE UTILITY DEPARTMENT ENVIRONMENTAL CODE SERVICES DIVISION

Date: 10-25-96
Time: 4:00 pm
Pages: 8 (including this cover)

FROM: Name: Schuyler Schwarting
Office: Drainage Utility - Environmental Code Services
301 West 2nd, P.O. Box 1088, Austin, TX 78765
Telephone: 499-2715
FAX: (512) 499-2709

TO: Name: Janet Bachman Bauchman
FAX: 239-2216
Office: TNRCC RBE
Telephone: 239-2300

MESSAGE: Here is my copy of the work plan
for the release at Federal Express.

If this message is not complete or legible please notify the sender immediately.

ENVIRONMENTAL, GEOTECHNICAL AND CONSTRUCTION MATERIALS SERVICES



October 24, 1996

Mr. Schuyler Schwarting
City of Austin
Environmental & Conservation Services Department
P.O. Box 1088
Austin, Texas 78767

Attn: Mr. Schuyler Schwarting

Re: LPST #111747
Federal Express
5811 Technicenter Drive
Austin, Texas

Dear Mr. Schwarting:

Attached is a copy of the Workplan and Preapproval Request form submitted to Ms. Vicki Montgomery of the TNRCC PST RPR Section, Central Office. I have informed her of the urgency of this investigation. She said she will try to look at the Workplan by Monday. I have scheduled a drilling rig for Tuesday, October 29, 1996. If we can obtain preapproval from the TNRCC on Monday, we will initiate the investigation on Tuesday.

If you should have any questions, please contact me at (512) 442-1122.

Sincerely,

HBC ENGINEERING, INC.

A handwritten signature in black ink, appearing to read "CJ Kopcc", written over a horizontal line.

Christopher J. Kopcc, P.G., CAPM
Project Hydrogeologist

**TEXAS NATURAL RESOURCE CONSERVATION COMMISSION
PETROLEUM STORAGE TANK DIVISION
CORRESPONDENCE IDENTIFICATION SHEET**

Date: October 18, 1996
 Site Name: Federal Express
 Site Address: 5811 Technicenter Drive
Austin, Texas

LPST ID No.: 111747
 Facility ID No.: 0029044

This checklist must accompany all correspondence submitted to the RPR Section and should be affixed to the front of your submittal as a cover page. Please check the appropriate box for the type of correspondence which you have submitted to the RPR Section. Check all boxes that apply if you are submitting more than one type of correspondence. If you cannot find an appropriate category, please complete the "other" section.

PROPOSALS

- | | | |
|--|---|---|
| <input type="checkbox"/> Initial Abatement (1) | <input type="checkbox"/> Tank Removal (2) | <input type="checkbox"/> Excavation (3) |
| <input type="checkbox"/> Waste Treatment (4) | <input checked="" type="checkbox"/> Site Assessment (5) | <input type="checkbox"/> Aquifer Testing (6) |
| <input type="checkbox"/> VES/Sparge Testing (7) | <input type="checkbox"/> Qtrly. GW Monitoring (8) | <input type="checkbox"/> CAP Prep. (9) |
| <input type="checkbox"/> GW Extrac./Treatment (10) | <input type="checkbox"/> Soil Vapor Extrac. (11) | <input type="checkbox"/> Operation & Main. (12) |
| <input type="checkbox"/> Site Closure (13) | <input checked="" type="checkbox"/> Plan A Risk Ass. (14) | <input type="checkbox"/> Plan B Risk Ass. (15) |
| <input type="checkbox"/> Semi-annual GW Mon. (16)* | <input type="checkbox"/> Annual GW Mon. (18) | <input type="checkbox"/> Product Recovery (19) |
| <input type="checkbox"/> Other proposal _____ | | |

REPORTING FORMS

- | | |
|--|--|
| <input type="checkbox"/> Assessment Report Form (TNRCC-0562) | <input type="checkbox"/> LPST Case Questionnaire |
| <input type="checkbox"/> Product Recovery Report Form (TNRCC-0016) | <input type="checkbox"/> Release Report Form (TNRCC-0621) |
| <input type="checkbox"/> Site Closure Request Form (TNRCC-0028) | <input type="checkbox"/> Monitoring Event Summary and Status Report (TNRCC-0013) |
| <input type="checkbox"/> Final Site Closure Report Form (TNRCC-0038) | <input type="checkbox"/> Priority 4 LPST Case Closure Request Form (TNRCC-0461) |
| <input type="checkbox"/> Other form _____ | |

REPORTS

- | | | |
|---|---|--|
| <input type="checkbox"/> Tank Closure/Removal | <input type="checkbox"/> Plan A Risk Assessment | <input type="checkbox"/> Annual Groundwater Monitoring |
| <input type="checkbox"/> O&M/Performance Mon. | <input type="checkbox"/> Plan B Risk Assessment | <input type="checkbox"/> CAP Installation/Modification |
| <input type="checkbox"/> Property Divestiture/Phase I ESA | <input type="checkbox"/> Corrective Action Plan (CAP) | <input type="checkbox"/> Aquifer/Pilot Test Results |

MISCELLANEOUS

- | | |
|--|---|
| <input type="checkbox"/> Off-site access assistance | <input type="checkbox"/> Deadline Extension Request |
| <input type="checkbox"/> Tank tightness test results | <input type="checkbox"/> Request for State-Lead |
| <input type="checkbox"/> Request for LPST Waste Code | <input type="checkbox"/> Class V Reinjection Request |
| <input type="checkbox"/> Notice to Owner/Operator for CAS Services | <input type="checkbox"/> Petroleum-Substance Waste Manifest |
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| <input type="checkbox"/> Other (anything that does not fit into one of the categories above) _____ | |

* The proposal for semi-annual monitoring and annual report (Proposal Activity 17) has been discontinued. For semi-annual monitoring, use Proposal Activity 16.

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If a proposal is attached for preapproval, has the proposed work, in part or in whole, already been performed or in progress? Yes No

If yes, what work?

HBC Engineering

00387

5/30/97

(Registered Corrective Action Specialist)

(RCAS Reg. No.)

(Expiration date)

[Signature] 10/18/96

(Signature)

(Date)

(512) 442-1122

(512) 442-1181

(Telephone #)

(FAX #)

Christopher J. Kopec

00227

12/4/96

(Project Manager)

(CAPM Reg. No.)

(Expiration date)

[Signature] 10/18/96

(Signature)

(Date)

(512) 442-1122

(512) 442-1181

(Telephone #)

(FAX #)

By signature below, I certify that documents checked above are included.

Jamal Mansour

Federal Express Corporation

(Name of Responsible Party Contact)

(Company)

[Signature]

10/22/96

(Signature)

(Date)

(901) 397-4397

(901) 922-2042

(Telephone #)

(FAX #)

WORKPLAN AND PREAPPROVAL REQUEST

LPST ID No.: 111747
Responsible Party: Federal Express Corporation
Facility Name: Federal Express
Facility Address: 5811 Technicenter Drive
Facility City: Austin
Facility ID No.: 0029044
TNRCC Region: 11
Case Priority: Unknown

Proposed Activity: 04-2 Comprehensive Site Assessment

Goal of Proposed Activity

The goal of the proposed activity is to collect sufficient data to determine the site priority and to support a Plan A risk evaluation. The scope of the proposed activity will include identifying all potential receptors and exposure pathways; characterize the source area by delineating the vertical extent of affected media; evaluate maximum contaminant concentrations of all affected media; provide permanent groundwater monitoring wells if groundwater is impacted; initiate the removal non-aqueous phase liquids (NAPL) if encountered; and identify site conditions that may affect contaminant movement.

Description of Activities

A total of up to five soil borings will be installed utilizing a truck mounted drilling rig and hollow-stem auger techniques, under the supervision of a State of Texas licensed monitor well driller. One soil boring will be installed in the vicinity of the apparent source area to collect soil samples to evaluate the vertical extent of affected soil, and to complete a permanent 4-inch diameter monitoring well if groundwater is encountered. Two additional soil borings may be completed as permanent 4-inch diameter monitoring well to facilitate in the removal of NAPL, if encountered. The remaining two soil borings will be installed to evaluate the vertical and horizontal extent of affected media surrounding the source area. The groundwater samples collected from the groundwater monitoring wells will be analyzed for TPH, BTEX, and MTBE. One of the groundwater samples will also be analyzed for total dissolved solids. Soil samples collected from the five soil borings will be analyzed for TPH and BTEX.

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In addition, a receptor survey, which will consist of a 500 foot walking survey and a records inventory of all water wells located within 0.5 miles of the site, will be conducted prior to the initiation of the borings.

WORKPLAN AND PREAPPROVAL REQUEST

Federal Express

LPST ID No. 111747

Page 2

**Sampling Procedures**

The release at this facility is from the former gasoline UST system. The soil boring installed in the suspected source area will have soil samples collected from a depth of 0 to 2 feet for inhalation, ingestion and dermal considerations, from the zone exhibiting the highest concentration of volatile organic compounds based on visual, olfactory or OVM evidence, or from the capillary fringe zone, and the third soil sample will be collected from the bottom of the soil boring. A maximum of three soil samples will be collected from each of the remaining four soil borings, one soil sample from the zone exhibiting the highest concentration of volatile organic compounds based on visual, olfactory or OVM evidence, one from the capillary fringe zone, and one from the bottom of the soil boring. One additional soil sample collected from above the saturated zone in one of the least impacted soil borings will be analyzed for geotechnical parameters at Core Laboratories. The soil samples will be submitted to Incheape Testing Services analytical laboratory in Richardson, Texas for analysis.

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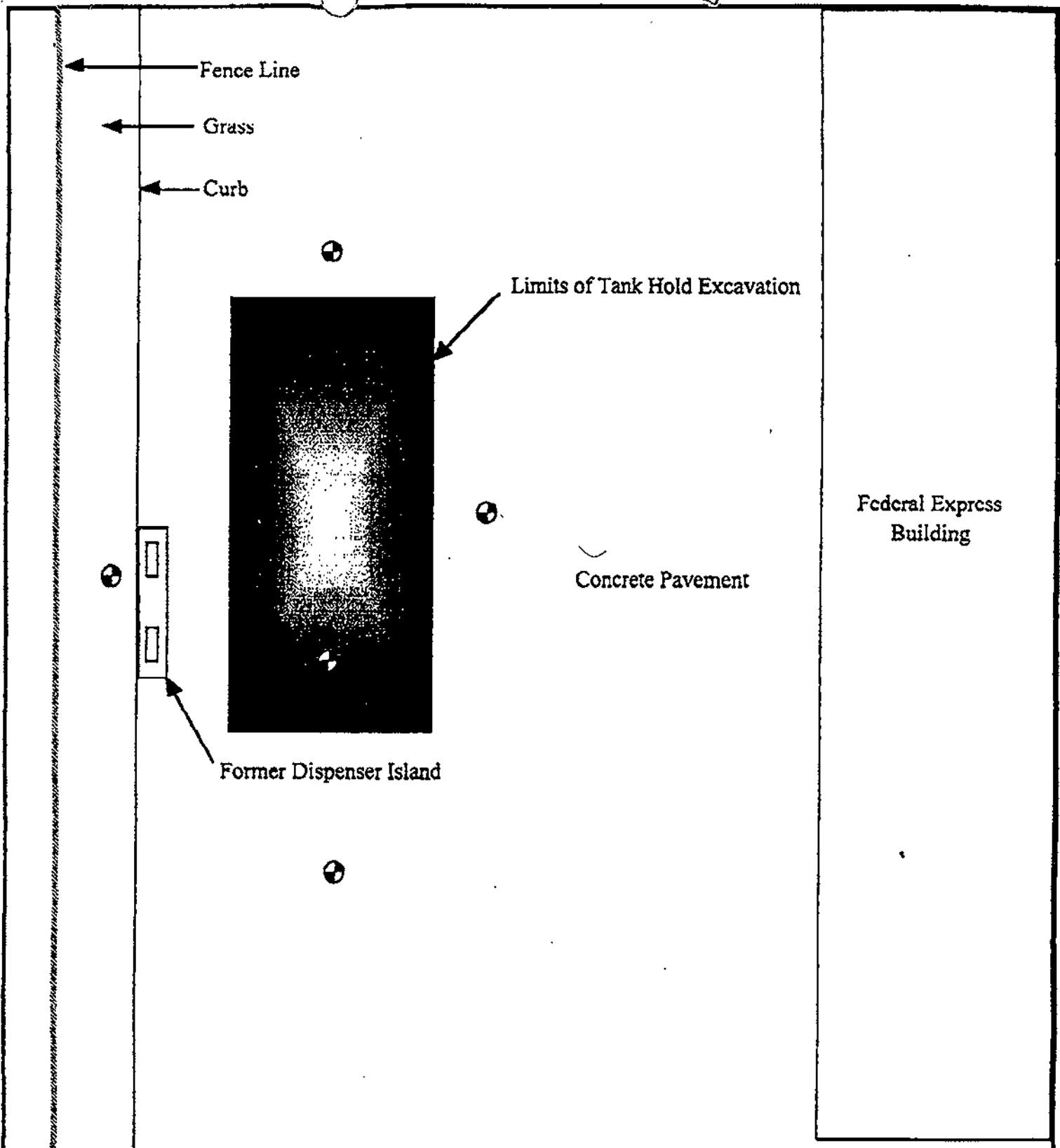


FIGURE 1

Site Plan/Boring Location Diagram
Federal Express
Austin, Texas

HBC Project No. 61-2260.96



0 5 10 Ft

Approximate Scale 1" = 10'

LEGEND

 - Soil Boring/Monitoring Well Location

Site Assessment Preapproval Proposal

LPST # 111685

Mark appropriate activity

- 04-1 Limited Site Assessment
- 04-2 Comprehensive Site Assessment
- 04-3 Accelerated Site Characterization
- 04-4 Other (expl. _____)

A. Personnel

Personnel	=	\$6,245
Cost Proposal Preparation	=	\$130
Surveys	=	\$_____
Site and/or Monitor Wells	=	\$_____
Water Well Search	=	\$175
Walking Receptor	=	\$130
A. Total Personnel		\$6,680

B. Equipment

Rental	=	\$640
Disposable	=	\$30
B. Total Equipment		\$670

C. Drilling

Mud/Derrub	=	\$210			
Matrix-Indicate Sand/Clay or Limestone (bedrock)	Sand/cl				
#	Avg. Depth	Casing Diameter			
Borings	2	30	N/A	=	\$1,500
Wells-Dia. 1	3	30	4"	=	\$3,870
Wells-Dia. 2				=	\$_____
C. Total Drilling Costs					\$5,580

D. Waste Management

	Units	\$/Unit	Total
Soil Disposal	1	600	\$600
Water Truck/Disp	3 hrs	120	\$360
Water Tr/Disch.	45	0.40	\$18
D. Total Waste Management			\$978

E. Other Expenses

	Units	\$/Unit	Total
Survey	Lump	\$300	\$300
		\$_____	\$_____
E. Total Other Expenses			\$300

F. Analyses

Type	# of Smpls.	\$/Unit	Total
BTEX soil	15	\$58	\$870
TPH soil	15	\$35	\$525
BTEX water	3	\$58	\$174
TPH water	3	\$35	\$105
MTBE water	3	\$23	\$69
PAH soil		\$_____	\$_____
PAH water		\$_____	\$_____
TDS		\$17	\$17
VOC soil		\$_____	\$_____
VOC water		\$_____	\$_____
Total Metals		\$_____	\$_____
Soil Parameters	1	\$300	\$300
Shipping		\$_____	\$_____
F. Total Lab Cost			\$2,060

G. Travel

	Units	\$/Unit	Total
Mileage		\$_____	\$_____
Travel time		\$_____	\$_____
Per Diem		\$_____	\$_____
Airfare		\$_____	\$_____
Car rental		\$_____	\$_____
		\$_____	\$_____
		\$_____	\$_____
G. Total Travel			\$_____

H. Total Site Assessment Proposed Cost = A + B + C + D + E + F + G =

\$16,288

Christopher J. Kopeck
(CAPM Name, Printed)

HBC Engineering, Inc
(Company)

10/18/96
(Date)

512 1442-1122
(Phone #)

512 1442-1181
(Fax #)

CAPM00227
(CAPM #)

112-4-96
(Exp. Date)

Hillary D. Johns
(RCAS Name, Printed)

HBC Engineering, Inc
(Company)

10/3/96
(Date)

512 1442-1122
(Phone #)

512 1442-1181
(Fax #)

RCAS 00387
(RCAS #)

7-30-97
(Exp. Date)

I acknowledge that the TNRC may reimburse corrective action costs that are at or below the maximum reimbursable amount published in 30 TAC, Chapter 334, Subchapter M. The maximum reimbursable cost will be the amount approved for the activity unless the Executive Director determines that sound justification for a cost surplus exists. I understand that this certification is not intended to limit what a Registered Corrective Action Specialist, Corrective Action Project Manager, or Contractor may charge. I further understand that the amount of the reimbursement for the above activity will be determined after all receipts are submitted and subjected to technical and reimbursable cost review. I certify that this TNRC form has not been altered.

Jamal Mansour
(Name of Responsible Party)

Federal Enterprise Corporation
(Company)

801 397-4397
(Phone #)

901-922-2042
(Fax #)

10/22/96
(Date)



FAX TRANSMITTAL FORM

CONFIDENTIAL NOTICE

The documents accompanying this telecopy transmission contain confidential information which is legally privileged. The information is intended only for the use of the recipient named below. If you have received this telecopy in error, please immediately notify us by telephone to arrange for the return of the telecopied documents to us, and you are hereby notified that any disclosure, copying, distribution, or the taking of any action in reliance on the contents of this telecopied information is strictly prohibited.

Please deliver this to: Vicki Montgomery

Company: TNRCC PST Division, Responsible Party Remediation Section

Fax No.: 239-2216

Phone No.:

Date.: 10-28-96

MESSAGE:

Attached is a copy of the lab results from the tank removal. Sample Floor #2 was collected from the southern end of the tankhold, beneath the area where a hole was observed in the UST. Please call if you have any questions.

Sincerely,

Christopher J. Kopec

FROM: NAME: Christopher J. Kopec

COMPANY: HBC ENGINEERING, INC., 3913 TODD LANE, SUITE 312, AUSTIN, TEXAS 78744

PHONE NO.: 512/442-1122

FAX NO.: 512/442-1181

PAGES SENT INCLUDING COVER 2

CERTIFICATE OF ANALYSIS SUMMARY 1-61980

Project ID: 21-3166-96

Project Manager: Carl Traggesser

Project Location: 5811 Techni Center
Austin, TX

HBC Engineering Inc.

Project Name: *Fedex-AUS*

Date Received in Lab : Oct 11, 1996 16:28 by AS

Date Report Faxed: Oct 16, 1996

XENCO contact : Scott Sample/Edward Yonemoto

Analysis Requested	Lab ID:	161980-001	161980-002	161980-003	161980-004	161980-005	161980-006	161980-007	161980-008	161980-009	
	Field ID: Depth:	N.Wall 12'	S.Wall 12'	E.Wall 12'	W.Wall/Pipe 12'	Bottom #1 14'	Bottom #2 14'	SP-1	SP-2	SP-3	
BTEX by EPA 8020	Date Analyzed - Analytical Results ppm (mg/L - mg/Kg)										
		Oct 14, 1996	Oct 14, 1996	Oct 14, 1996	Oct 14, 1996	Oct 14, 1996	Oct 14, 1996	Oct 14, 1996			
	Benzene	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	45.25	< 0.020			
	Toluene	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	162	< 0.020			
	Ethylbenzene	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	75.00	< 0.020			
	m,p-Xylenes	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	322	< 0.040			
	o-Xylenes	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	137	< 0.020			
Total BTEX	< 0.120	< 0.120	< 0.120	< 0.120	< 0.120	741	< 0.120				
Total Petroleum Hydrocarbons by EPA 418.1	Date Analyzed - Analytical Results ppm (mg/L - mg/Kg)										
		Oct 15, 1996	Oct 15, 1996	Oct 15, 1996	Oct 15, 1996	Oct 15, 1996	Oct 15, 1996	Oct 15, 1996	Oct 15, 1996	Oct 15, 1996	Oct 15, 1996
Total Petroleum Hydrocarbons	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	1480	164	< 10.0	< 10.0	< 10.0	

This report summary, and the entire report it represents, has been made for the exclusive and confidential use of HBC Engineering Inc.. The interpretations and results expressed through this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories, however, assumes no responsibility and makes no warranty to the end user of the data hereby presented.


Edward H. Yonemoto, Ph.D.
QA/QC Manager

002/002

HBC ENGINEERING

512 442 1181

13:28

10/28/96

Page 2/2

Page 2/2

TELEPHONE MEMO TO THE FILE

Please complete with typewriter or black pen.

Call to: Chris Lopez

Call from: Vicki Montgomery

Date of call: 10/28/96

File no.: 111747

Phone no.: (512) 442-1122

Subject: Misc. questions

Information for file:

- ① Why do they suspect such a large quantity of product has been released? Inventory records.
- ② Are there any soil sample results from tank removal? Yes, walls okay, but floor is hot. If walls are okay, why do they want to put borings/wells so close to the tank pit? ^{contamination} May have initially moved down, but they are concerned that the contamination would then move out laterally + they wouldn't have detected this lateral contamination because it was deeper than where the wall samples were collected.
- ③ Gradient? Suspected S-SE based on topography.
- ④ Direction of flow? West

Chris said no water in the tank pit. I asked him to fax tank removal analytical results.

Signed

Vicki Montgomery

TELEPHONE MEMO TO THE FILE

Please complete with typewriter or black pen.

Call to: Vicki Montgomery

Call from: Chris Kopeck, HBC
Engineering

Date of call: 10/23/96

File no.: 111747

Phone no.: (512) 442-1122

Subject: Expedite review of

proposal

Information for file: lost large quantity of product at the
site (~5-6,000 gal), psh in tankpit upon removal
of tanks. Soil is sandy + school is nearby. - Can
we put a rush on the review? Yes, I'll assign
the case to myself and work on it ASAP when
the proposal comes in.

Signed

Vicki Montgomery

RELEASE REPORT FORM

Permit

11747 *E*

Owners and operators must report releases by phone to the appropriate TNRCC Region Office within 24 hours of confirmation. The owner and operator should use this form to comply with the reporting requirements in Title 30, Texas Administrative Code §334.77(b). Submit the completed form within 20 days after release confirmation. EXCEPT IN EMERGENCIES, THE TNRCC WILL INITIATE ACTION ON THIS CASE ONLY WHEN THE COMPLETED FORM IS SUBMITTED. Submit copies of this form with attachments to both the appropriate TNRCC Regional Office and to the Central Office in Austin. DO NOT MODIFY THIS FORM IN ANY WAY. Complete all applicable blanks. Incomplete forms will be returned without review. All proposals for the next appropriate corrective action activity must be submitted by a CAS and PM in the format outlined in the guidance document entitled *Preapproval for Corrective Action Activities (RG-111)*.

SUMMARY

RECEIVED

Based on the information obtained during the release determination and by comparing the contaminant levels to the stated action levels, check one of these items as appropriate:

OCT 21 1996

- This was a suspected release. No contamination was detected.
- This site is an LPST site. Contaminant levels exceed action levels.
- This site is not an LPST site. Contaminant levels do not exceed action levels

TNRCC / PST
RPR

IF THIS SITE IS AN LPST SITE, COMPLETE THE REMAINDER OF THIS FORM (except Section B). If this site is not an LPST site, stop here and complete Section A and G (and Section B if applicable) of the attached form

Answer the following questions in this Summary Section if the CAS and PM sign the form in Section G. This section is to be completed by a CAS and PM only. If the form is completed by someone other than a CAS and PM, leave the rest of this Summary Section blank and go to Section A.

Is this case eligible for reimbursement of necessary corrective actions? YES NO If not, appropriate corrective action in accordance with applicable rules and guidance may continue without specific direction or approval from the PST Division, however, coordination with the PST Division is recommended. If the site is eligible for reimbursement, all corrective action activities, with the exception of NAPL recovery and emergency abatement activities, must be preapproved prior to initiation.

The next appropriate step for this site, if it is an LPST site, is (check one only):

- Case closure If checked, attach *Site Closure Request Form (TNRCC-0028)*. Please be sure the site meets all requirements for closure prior to submitting the *Site Closure Request Form*. Are there costs associated with case closure? YES NO If YES, and if the site is eligible for reimbursement, attach proposal with the *Site Closure Request Form*.
- Risk Based Assessment The risk-based assessment is needed only when the existing assessment data is not an adequate basis for site closure. Please critically evaluate the need for additional assessment before selecting this option. Refer to pamphlet RG-175 for guidance on conducting the risk-based assessment. Attach a detailed workplan and proposal if the site is eligible for reimbursement. A proposal must be submitted with this form if the RP is financially able to undertake necessary corrective actions.
- Corrective action other than risk based assessment Attach a detailed workplan and proposal if the site is eligible for reimbursement and the RP is financially able to undertake necessary corrective actions.

Is the responsible party financially able to complete the next appropriate step? YES NO If Yes, attach proposal as specified above. If No, contact the PST Division at 512/239-2200 to request information on the State-Lead option. Financial ability determination forms must be completed and submitted to document that the RP is financially unable to continue necessary corrective actions.

A. GENERAL INFORMATION

LPST ID No.: 111747 (If known) TNRCC Region: 11 Priority: 1.6
(see pages 12-14)

Facility ID No.: 0029044 Check here if tank registration is not required for this site (see 30 TAC §334.7)

Prior to this release incident, was this site an LPST site? YES or NO - If yes, provide LPST ID number: _____

Tank Owner: Federal Express Corporation

Tank Owner Mailing Address: 3975 Airways Blvd., Module E, First Floor

Tank Owner City: Memphis State: TN Zip: 38116

Tank Owner Contact Person: Jamal Mansour Phone: (901) 397-4397 Fax no.: (901) 922-2042

Tank Operator: (if different from tank owner): same

Tank Operator Mailing Address: _____

Tank Operator City: _____ State: _____ Zip: _____

Tank Operator Contact Person: _____ Phone: _____ Fax no.: _____

Land Owner: (if different from tank owner or operator): 815 Brazos, Inc.

Land Owner Mailing Address: 5929 Balcones Drive, Suite 100

Land Owner City: Austin State: TX Zip: 78731

Land Owner Contact Person: Kandy Bergen Phone: (512) 451-5555 Fax no.: (512) 454-3100

Which of these parties will oversee the corrective actions at this site? Tank Owner Tank Operator Land Owner

Other: Name: _____ Address: _____

City: _____ State: _____ Zip: _____ Contact Person: _____

Phone: _____ Fax: _____

A representative of the party overseeing the corrective action must sign this form in Section G. Please note that no matter which party conducts corrective action, the tank owner and the tank operator are jointly responsible for the necessary corrective actions.

Facility Name: Federal Express Corporation

Facility Physical Address: 5811 Techni Center Drive

Facility City: Austin County: Travis County Code (see p.15) 227

INDICATED TYPE OF RELEASE: (check one) Suspected Confirmed but below action levels (not an LPST site)

Confirmed and above action levels (LPST site) No evidence of contamination

Please refer to flowchart and Title 30 Texas Administrative Code, §334.71 - 334.77 for descriptions and procedures for suspected and confirmed releases.

Were copies of this form and appropriate attachments, including a proposal (if RP is financially able), sent to both the TNRCC Central Office and to the Region Office? YES NO (IF COPIES ARE NOT SENT TO BOTH OFFICES, THIS DOCUMENT WILL BE RETURNED WITHOUT REVIEW.)

A. GENERAL INFORMATION

Indicate number of tanks currently and formerly located at this site (attach pages as necessary):

	Type (UST/AST)	Product Type	Size (approx. gal)	
Current:	UST	Gasoline	10,000	(Temporarily out of service 10-7-96)
	_____	_____	_____	
	_____	_____	_____	
	_____	_____	_____	
	_____	_____	_____	
	_____	_____	_____	
	_____	_____	_____	
	_____	_____	_____	
Former:	_____	_____	_____	Date Removed from Service
	_____	_____	_____	_____
	_____	_____	_____	_____
	_____	_____	_____	_____
	_____	_____	_____	_____
	_____	_____	_____	_____

B. SUSPECTED RELEASE INFORMATION

Complete only this section and sections E through G as appropriate when the situation of a suspected release has occurred and it was documented that a release had not occurred.

Date suspected release discovered: _____ Reason release suspected: _____

Date suspected release reported to TNRCC: _____ Reported to: _____

Possible source(s) of release: (check all that apply) Tanks: USTs ASTs Piping Overfills/spills Unknown
 Other: _____

Type of substance(s) suspected released: (check all that apply) Gasoline Diesel Used Oil Aviation Gasoline
 Jet Fuel (type: _____) Alcohol-blended fuel (type and percentage of alcohol: _____)
 Other: (be specific) _____

Were UST/AST system tank and/or line tightness tests performed? YES or NO (check one) If Yes, attach test data and results.
 Did the tests indicate that all tanks and piping were tight? YES or NO (check one) If No, specify the portion of the tank system(s) that were found not to be tight: _____

Were any repairs conducted on the tank system(s)? YES or NO (check one) If Yes, describe type(s) and location of repairs: _____

Were tightness tests performed after repairs were conducted? YES or NO (check one) If Yes, attach test data and results.
 Did the tests indicate that the repaired items were tight? YES or NO (check one) If No, specify the portion of the tank system(s) that were found not to be tight: _____

Were soil confirmation samples collected? YES or NO (check one) If Yes, were all potential source areas investigated?
 YES or NO If samples were collected, attach descriptions of sample locations, collection methods, and laboratory results.

Were any groundwater confirmation samples collected? YES or NO (check one) If Yes, were all potential source areas investigated?
 YES or NO If samples were collected, attach descriptions of sample locations, collection methods, aquifer name, and laboratory results. (Groundwater sampling is not required at this point unless there is reasonable suspicion of impact.)

C. CONFIRMED RELEASE INFORMATION
Complete this section only if release was confirmed.

Date release confirmed: 10-07-96 Date release reported to TNRCC: 10-08-96 Reported to: Herschel Janus

Is this the first release from a UST or AST discovered at this site? YES or NO

Is there any other contamination or potential impacts to human health from any source other than the tank systems at this site?
 YES or NO If Yes, indicate type and location of contamination: _____

Reported to TNRCC by: Carl Tragesser Representing: HBC Engineering, Inc.

Method of release confirmation: (check all that apply)

- | | |
|---|--|
| <input type="checkbox"/> Samples collected during tank removal-from-service activities | <input type="checkbox"/> Impact to utility line |
| <input type="checkbox"/> Samples collected during other tank system construction activities | <input type="checkbox"/> Impact to surface water |
| <input type="checkbox"/> Samples collected during release determination investigation | <input type="checkbox"/> Impact to water well |
| <input checked="" type="checkbox"/> Other: <u>Loss of Product</u> | |

Method of release confirmation: (check all that apply)

- Soil samples Groundwater samples Surface water samples Documentation of presence of NAPL

Source(s) of release: (check all that apply) Tanks: USTs ASTs Piping Overfills/spills Unknown
 Other: _____

Substance(s) released: (check all that apply) Gasoline Diesel Used Oil Aviation Gasoline

Alcohol-blended fuel (type and percentage of alcohol: _____)

Jet Fuel (type: _____) Other: (be specific) _____

Amount of product released: 6,797 gallons CAS#: _____ (For hazardous substances)

Were any soil confirmation samples collected? YES or NO (check one) If Yes, attach description of sample locations, collection methods and laboratory results.

Type of native soil: (check one) Clay or silt Sand, gravel or rock

Were any groundwater confirmation samples collected? YES or NO (check one) If Yes, attach descriptions of sample locations, collection methods, aquifer name, and laboratory results.

Known Impact(s): (check all that apply) Soil GW Surface Water Subsurface Utilities - type: _____

Buildings Water wells Other sensitive receptors: _____

Was the land owner (if different from the tank owner) notified of the contamination? YES or NO (check one) If Yes, attach copy of the letter which provided the notification. If No, documentation that notification was provided must be submitted within 30 days from the date the impact is discovered.

Possibly Threatened: (check all that apply) Soil KGW Surface Water Subsurface Utilities - type: _____

Buildings Water wells Other sensitive receptors: _____

Was NAPL detected (greater than 0.01 feet)? YES or NO (check one) If Yes, describe how and where it was detected, the thickness detected, and the recovery actions taken: _____

G. REPORT PREPARATION

A Licensed On-Site Supervisor may complete and sign this form when the supervisor is acting in an approved capacity for tank removal-from-service or tank system repair activities.

Licensed On-Site Supervisor: Vincent Carl Tragesser, III ITP Reg. No.: 1780 Exp. Date: 07-16-97

Company: HBC Engineering, Inc.

Telephone No.: (713) 722-0700 FAX No.: (713) 722-0788

I attest that the results of the investigation and the information contained in this document are valid and representative of site conditions. All activities were conducted in accordance with accepted industry standards/practices and the work adhered to TNRCC guidance and rules and State of Texas laws. I attest that this document is complete and that the information contained in this document is accurate and representative of site conditions. I attest that I am aware that misrepresentation of any of the above claims may result in the disciplinary actions set forth in 30 TAC 334.429.

Signature: [Signature] Date: 10-08-96

OR

Project Manager: PM Reg. No.: Exp. Date:

Company:

Telephone No.: FAX No.:

I attest that the results of the investigation detailed in this document are valid and representative of site conditions. All activities were conducted in accordance with accepted industry standards/practices and the work adhered to TNRCC guidance and rules and State of Texas laws. I attest that this document is complete and that the information contained in this document is accurate and representative of site conditions. I attest that I am aware that misrepresentation of any of the above claims is a violation of 30 TAC 334.453(b)(1)(E) and that this violation may result in the disciplinary actions set forth in 30 TAC 334.453 and/or 334.463 and 334.465.

PM Signature: Date:

AND

CAS Representative: CAS Reg. No.: Exp. Date:

Company:

Telephone No.: FAX No.:

I attest that the results of the investigation detailed in this document are valid and representative of site conditions. All activities were conducted in accordance with accepted industry standards/practices and the work adhered to TNRCC guidance and rules and State of Texas laws. I attest that this document is complete and that the information contained in this document is accurate and representative of site conditions. I attest that I am aware that misrepresentation of any of the above claims is a violation of 30 TAC 334.453(b)(1)(E) and that this violation may result in the disciplinary actions set forth in 30 TAC 334.453 and/or 334.463 and 334.465.

Signature of CAS Representative: Date:

If the CAS or On-Site Supervisor does not complete and sign this form, provide the following information on the person who has prepared the form:

Name: Company:

Telephone No.: FAX No.:

Signature: Date:

Name of Tank Owner or Operator Contact: Jamal Mansour

Telephone No.: (901) 397-4397 FAX No.: (901) 922-2042

I attest that I have reviewed this report for accuracy and completeness. I understand that I am responsible for addressing this matter.

Signature: [Signature] Date: 10-09-96

D. ABATEMENT MEASURES

Were abatement measures initiated to stop the release or to recover the released substance? YES or NO (check one) If Yes, describe the abatement and/or recovery measures taken and the dates and duration of the activities:

Were UST/AST system tank and/or line tightness tests performed? YES or NO (check one) If Yes, attach test results.

Did the tests indicate that all tanks and piping were tight? YES or NO (check one) If No, specify the portion of the tank system(s) that were found not to be tight: Bottom of tank

Were any repairs conducted on the tank system(s)? YES or NO (check one) If Yes, describe type(s) and location of repairs:

Were tightness tests performed after repairs were conducted? YES or NO (check one) If yes, attach test results.

Did the tests indicate that the repaired items were tight? YES or NO (check one) If No, specify the portion of the tank system(s) that were found not to be tight:

E. FIRE/OTHER OFFICIALS

Were any other officials notified? YES or NO (check one) If Yes, indicate:

Name	Representing	Phone number	Date(s) Notified
<u>Schuyler Schwarting</u>	<u>City of Austin</u>	<u>(512) 499-2715</u>	<u>10-08-96</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Were any directives issued by the fire or other officials? YES or NO (check one) If Yes, describe directives and actions taken in response to the directive:

F. WASTE DISPOSITION

Indicate the status of all wastes and other materials generated:

Type of waste (soil, water, product)	Quantity	Current location	Method and location of disposal or treatment
<u>N/A</u>	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____



October 9, 1996

Ms. Kandy Bergen
815 Brazos, Inc.
5929 Balcones Drive, Suite 100
Austin, Texas 78731

Re: Underground Storage Tank
Federal Express Corporation
5811 Techni Center Drive
Austin, Texas

Dear Ms. Bergen:

In accordance with our telephone conversation this morning, HBC Engineering, Inc. is providing this letter on behalf of Federal Express Corporation to inform you that HBC Engineering, Inc. will perform the removal of one (1) 10,000 gallon capacity underground storage tank from the facility on October 10, 1996. The removal is being performed as a result of a confirmed release of gasoline from the UST at the facility.

On October 7, 1996, Federal Express confirmed a release of approximately 6,797 gallons of gasoline from the underground storage tank. Federal Express has notified the Texas Natural Resources Conservation Commission (TNRCC) Region 11 office in Austin and the City of Austin in accordance with TNRCC regulations.

Federal Express will notify you of any significant developments in the investigation. Should you have any questions please feel free to contact me at (713) 722-0700 or Jamal Mansour of Federal Express Corporation at (901) 397-4397.

Sincerely,

HBC ENGINEERING, INC.

A handwritten signature in black ink, appearing to read "V. Carl Tragesser, III".

V. Carl Tragesser, III
Project Manager

TELEPHONE MEMO TO THE FILE

Please complete with typewriter or black pen.

Call to: Hershel JanusCall from: Janet BauchmanDate of call: 10/11/96File no.: 111747Phone no.: () 339-2929

Subject: _____

Information for file: Federal Express - Discovery 4 oct 96Sent an incident report on Tues 10/8
as a 4.0 -Definitely have a hole - from
sticking -183 Technicenter Drive -School w/in 150 yds according
to Schuyler on Austin -Thinks @ 8,000 gal lost -
& gave o.k. to pull tanks → waiver
of 30 days - feels more urgent -
Wants to upgrade priorityCarl Trageser w/ (HPC) called it in
Removal USA environmental -928-2088 AustinJamail Manson is RP represents Fed Ex901/397-43971-800-1670-0280

Signed

J. Bauchman

111747

To the Responsible Party - please note that the *Release Report Form* (TNRCC-0621) must be completed and submitted within 20 days from the date of release discovery.

LPST CASE
INCIDENT REPORT
TNRCC Use Only

LPST ID No. 111747 Facility No.: 29044 Priority: 4.0 Region: Austin-11

Region Lead Central Office Lead Date: 10/8/96

This case was previously a Region lead case and is now being referred to the Central Office
Date of referral: _____

Responsible Party (RP) Name: Federal Express

Address: 3975 Airways Blvd., Module E, Floor 1

City: Memphis State: TN Zip: 38116

Contact Person: Mr. Jamal Mansour

Phone: 901/397-4397 Fax: _____

The RP is the: Tank Owner Tank Operator Land Owner
 Other: _____

Facility Name: Federal Express

Physical Address: 5811 Techni Center City: Austin County: Travis No. 227

Do the contaminant levels exceed the action levels? YES NO. If No, and the site does not meet any of the other required conditions for an LPST site (see page 3 of the *Release Report* form), this site is not an LPST site and an ID number should not be issued.

How was the release confirmed?

- Sample results from tank removal from service activities
- Sample results from other release determination activities
- Emergency environmental impact (vapor impact, water well impact, etc.)
Specify type of impact: _____
- Presence of non-aqueous phase liquids
- Other UST lost 8000 gallons within the last couple of days.

RECEIVED

OCT 21 1996

TNRCC / PST
RPR

Prior to this release incident, was this site an LPST site? YES NO

If Yes, provide LPST ID no.: _____

Comments: The consultant who called in the notification, Carl Tragessor, (HBC) indicated they had put 100 gallons of water into the UST and within 20 minutes, 2/3 of the water was lost. He feels this verifies the release.

Region Inspector: Herschel Janus

Date: 10/8/96

Approval (if required): Chris Smith

Date: 10/09/96

TNRCC-Complete this form when a telephone report of a confirmed release from a regulated storage tank is received. If the site is an LPST site (contamination exceeds action levels or meets another requirement), obtain an LPST ID number and e-mail the completed form to Helen Welch in the RPR Section and fax or mail the form to the Responsible Party (if the RP has not already been notified of the LPST ID number).

TENNESSEE NATURAL RESOURCE CONSERVATION COMMISSION
TELEPHONE MEMO TO THE FILE

20

Please complete with typewriter or black pen.

Call to: Carl Taragesser
Date of call: 10/8/96 10:00 a.m.
Phone no.: (713) 722-0700

Call from: Herschel Janus
File no.: HBC
Subject: _____

Information for file: _____

HBC

Fax - 0029044 Fed Express.
Fuel Drop Thursday
8K gallons.

No Fuel left. - Dry.

LPST
111747

US
Techni center Dr. 183
Fed. Ex.

- Checked on Fri
500 gallons
Monday. empty

Filled
Thursday
Noticed 10/8/96

Put 100 gallons in tank lost 2/3
20 min.

RECEIVED

OCT 21 1996

TNRCC/PST
RPR

Signed _____

Owner Amendments & Notes

PETROLEUM STORAGE TANK FACILITY REVIEW

Facility ID	Facility Name	Facility Type
29044	FEDERAL EXPRESS CORP	Unknown

Street Num	Street Name	Street Onsig	Facility Begin Date
5811	TECHNI CENTER	DR	88-may-1986

Rural Route Box	Address Addition	SW, Arq, etc	NW, etc	Tax ID

City	State	ZIP	County	Region
AUSTIN	TX	78721	227	11

Active UST's	Action AST's
1	0
Review Tanks	

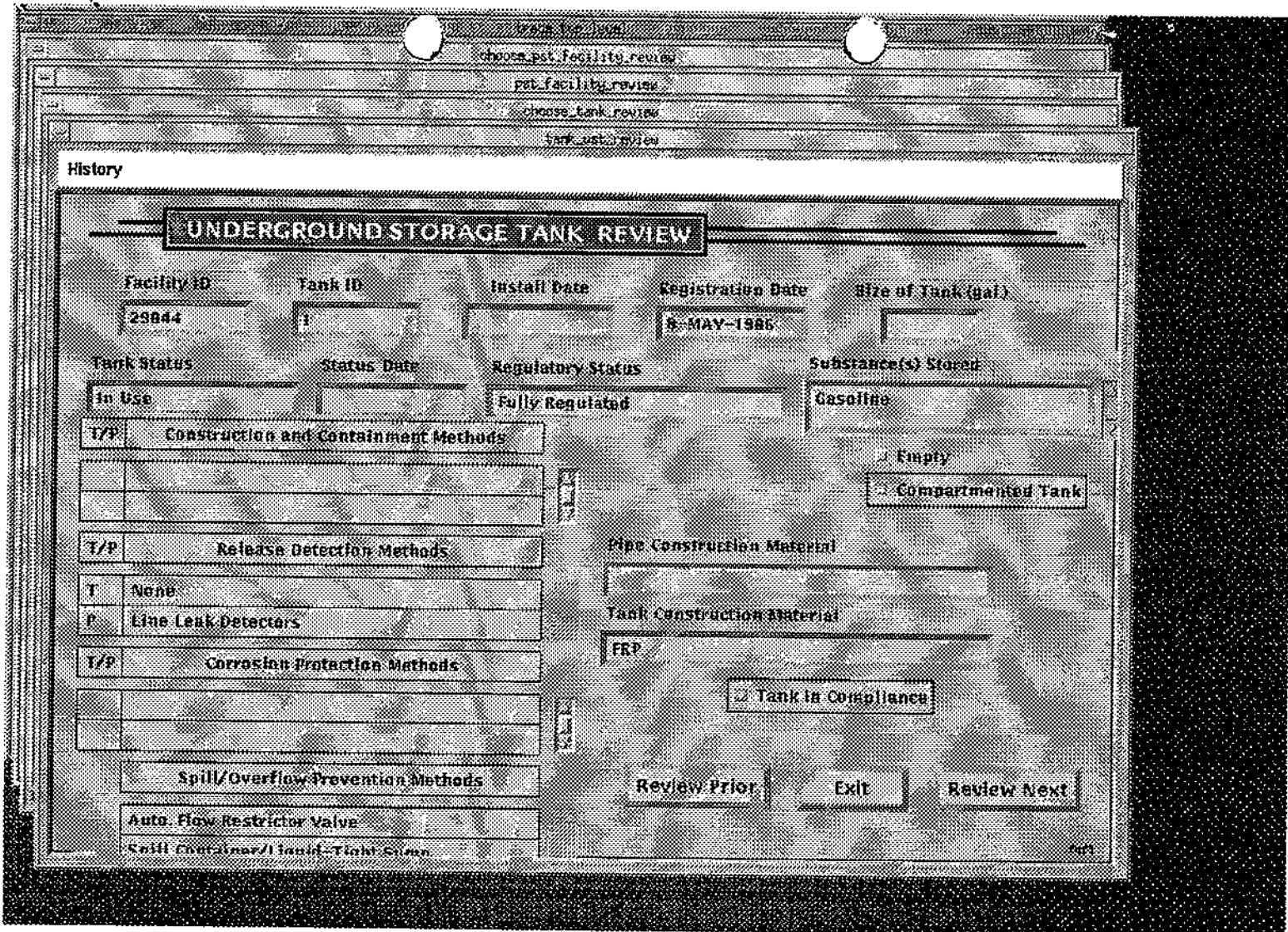
Owner Account ID	Owner Name
13721	FEDERAL EXPRESS CORP

Operator Title	Operator Telephone
SR. MGR	3129202440

Operator First Name/Middle Initial	Operator Last Name
	J-SMITH

- Ownership Pending
- Ownership In Dispute
- Ownership Unconfirmed
- Facility Records Off-Site
- No Notes

Date



10-95 Carl Traegeror
Gave LGST #

{ Inventory Records Available OK
Test Records Available

Jamal Mansour
Federal Express
3975 Airways Blvd., Module E, Floor 1
Memphis, Tenn 38116
(901) 397-4397

since
Bentley

Ken Rhodes - Sandra Johnson
928-2088 on site contacts

To the Responsible Party - please note that the *Release Report Form* (TNRCC-0621) must be completed and submitted within 20 days from the date of release discovery.

LPST CASE
INCIDENT REPORT
TNRCC Use Only

LPST ID No. 111747 Facility No.: 29044 Priority: 4.0 Region: Austin-11

Region Lead Central Office Lead Date: 10/8/96

This case was previously a Region lead case and is now being referred to the Central Office
Date of referral: _____

Responsible Party (RP) Name: Federal Express

Address: 3975 Airways Blvd., Module E, Floor 1

City: Memphis State: TN Zip: 38116

Contact Person: Mr. Jamal Mansour

Phone: 901/397-4397 Fax: _____

The RP is the: Tank Owner Tank Operator Land Owner
 Other: _____

Facility Name: Federal Express

Physical Address: 5811 Techni Center City: Austin County: Travis No. 227

Do the contaminant levels exceed the action levels? YES NO. If No, and the site does not meet any of the other required conditions for an LPST site (see page 3 of the *Release Report* form), this site is **not** an LPST site and an ID number should not be issued.

How was the release confirmed?
 Sample results from tank removal from service activities
 Sample results from other release determination activities
 Emergency environmental impact (vapor impact, water well impact, etc.)
Specify type of impact: _____
 Presence of non-aqueous phase liquids
 Other UST lost 8000 gallons within the last couple of days.

Prior to this release incident, was this site an LPST site? YES NO
If Yes, provide LPST ID no.: _____

Comments: The consultant who called in the notification, Carl Traggessor, (HBC) indicated they had put 100 gallons of water into the UST and within 20 minutes, 2/3 of the water was lost. He feels this verifies the release.

Region Inspector: Herschel Janus Date: 10/8/96

Approval (if required): _____ Date: _____

TNRCC-Complete this form when a telephone report of a confirmed release from a regulated storage tank is received. If the site is an LPST site (contamination exceeds action levels or meets another requirement), obtain an LPST ID number and e-mail the completed form to Helen Welch in the RPR Section and fax or mail the form to the Responsible Party (if the RP

LPST 111747-RP

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION
PETROLEUM STORAGE TANK
CORRESPONDENCE IDENTIFICATION SHEET

Date: August 2, 2006
Site Name: Federal Express Corporation
Site Address: 5811 Technicenter Drive, Austin, TX

APC
TH2

LPST ID No.: 111747
Facility ID No.: 0029044

Monitor
RPR
SCR

This checklist **must** accompany all correspondence submitted to the RPR Section and should be affixed to the front of your submittal as a cover page. Please check the appropriate box for the type of correspondence which you have submitted to the RPR Section. Check all boxes that apply if you are submitting more than one type of correspondence. If you cannot find an appropriate category, please complete the "other" section.

PROPOSALS		
<input type="checkbox"/> Initial Abatement (1)	<input type="checkbox"/> Tank Removal (2)	<input type="checkbox"/> Excavation (3)
<input type="checkbox"/> Waste Treatment (4)	<input type="checkbox"/> Site Assessment (5)	<input type="checkbox"/> Aquifer Testing (6)
<input type="checkbox"/> VES/Sparge Testing (7)	<input type="checkbox"/> Qtrly. GW Monitoring (8)	<input type="checkbox"/> CAP Prep. (9)
<input type="checkbox"/> GW Extrac./Treatment (10)	<input type="checkbox"/> Soil Vapor Extrac. (11)	<input type="checkbox"/> Operation & Main. (12)
<input type="checkbox"/> Site Closure (13)	<input type="checkbox"/> Plan A Risk Ass. (14)	<input type="checkbox"/> Plan B Risk Ass. (15)
<input type="checkbox"/> Semi-annual GW Mon. (16)*	<input type="checkbox"/> Annual GW Mon. (18)	<input type="checkbox"/> Product Recovery (19)
<input type="checkbox"/> Other proposal _____		

REPORTING FORMS	
<input type="checkbox"/> Assessment Report Form (TNRCC-0562)	<input type="checkbox"/> Release Report Form (TNRCC-0621)
<input checked="" type="checkbox"/> Product Recovery Report Form (TNRCC-0016)	<input type="checkbox"/> Monitoring Event Summary and Status Report (TNRCC-0013)
<input checked="" type="checkbox"/> Site Closure Request Form (TNRCC-0028)	<input type="checkbox"/> Final Site Closure Report Form (TNRCC-0038)
<input type="checkbox"/> Other form _____	

REPORTS		
<input type="checkbox"/> Tank Closure/Removal	<input type="checkbox"/> Plan A Risk Assessment	<input checked="" type="checkbox"/> Annual Groundwater Monitoring
<input type="checkbox"/> O&M/Performance Mon.	<input type="checkbox"/> Plan B Risk Assessment	<input type="checkbox"/> CAP Installation/Modification
<input type="checkbox"/> Property Divestiture/Phase I ESA	<input type="checkbox"/> Corrective Action Plan (CAP)	<input type="checkbox"/> Aquifer/Pilot Test Results

MISCELLANEOUS	
<input type="checkbox"/> Off-site access assistance	<input type="checkbox"/> Deadline Extension Request
<input type="checkbox"/> Tank tightness test results	<input type="checkbox"/> Request for State-Lead
<input type="checkbox"/> Request for LPST Waste Code	<input type="checkbox"/> Class V ReInjection Request
<input type="checkbox"/> Notice to Owner/Operator for CAS Services	<input type="checkbox"/> Petroleum-Substance Waste Manifest
<input type="checkbox"/> Underground Storage Tank Registration Form	<input type="checkbox"/> Aboveground Storage Tank Registration Form
<input type="checkbox"/> Other (anything that does not fit into one of the categories above) _____	

* The proposal for semi-annual monitoring and annual report (Proposal Activity 17) has been discontinued. For semi-annual monitoring, use Proposal Activity 16.

AUG 11 2006

Received

AUG 09 2006

TCEQ/PST-RPR

Received

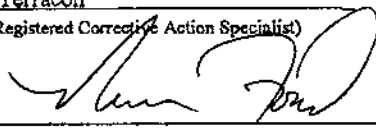
AUG 09 2006

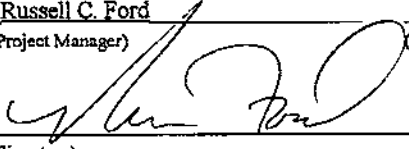
Remediation Division
Corrective Action Section

I attest that all work has been conducted in accordance with accepted industry standards/practices and adhered to TNRCC guidance and rules. I certify that I am aware that misrepresentation of any of the above claims is a violation of 30 TAC 334.453(b)(1)(E) and that this violation may result in the disciplinary actions set forth in 30 TAC 334.453 and or 334.463 and 334.465.

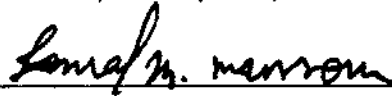
If a proposal is attached for preapproval, has the proposed work, in part or in whole, already been performed or in progress?

If yes, what work? _____

Terracon 825 2/25/07
(Registered Corrective Action Specialist) (RCAS Reg. No.) (Expiration date)
 8/8/06
(Signature) (Date)
(512) 442-1122 (512) 442-1181
(Telephone #) (FAX #)

Russell C. Ford 1502 7/31/07
(Project Manager) (CAPM Reg. No.) (Expiration date)
 8/8/06
(Signature) (Date)
(512) 442-1122 (512) 442-1181
(Telephone #) (FAX #)

By signature below, I certify that documents checked above are included.

Mr. Jamal Mansour Federal Express Corporation
(Name of Responsible Party Contact) (Company)
 8/2/06
(Signature) (Date)
(901) 434-8458 (901) 434-9235
(Telephone #) (FAX #)

Terracon

Consulting Engineers & Scientists

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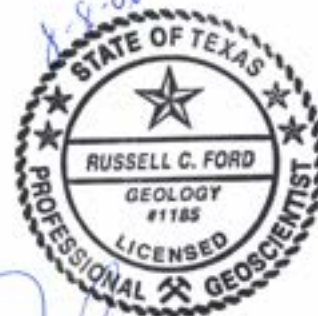
**Texas Commission on Environmental Quality
2006 Annual Groundwater Monitoring Report
Federal Express Corporation
5811 Technicenter Drive
Austin, Travis County, Texas
LPST No. 111747**

DARCY ENVIRONMENTAL GROUP

AUG 11 2006

Prepared for:

**Federal Express Corporation
3620 Hacks Cross Road, Building B
Memphis, TN 38125-7113**



**Russell C. Ford, P.G., CAPM
Senior Project Manager**

Prepared by:

**Terracon
5307 Industrial Oaks Boulevard, Suite 160
Austin, Texas 78735**

August 7, 2006

Received

AUG 09 2006

TCEQ/PST-RFR

Received

AUG 09 2006

**Remediation Division
Corrective Action Section**

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TABLES, GRAPHS AND MAPS

APPENDICES

- Appendix A – Laboratory Reports
- Appendix B – MDPE Report
- Appendix C – Product Recovery Report (TNRCC-0025)
- Appendix D – Waste Disposal Manifest
- Appendix E – Site Closure Request Form (TNRCC-0028)

**2006 Annual Groundwater Monitoring Report
Federal Express Corporation
5811 Technicenter Drive
Austin, Travis County, Texas
LPST No. 111747**

I. REPORT SUMMARY

Terracon performed groundwater monitoring at the Federal Express Corporation Facility, located at 5811 Technicenter Drive in Austin, Texas. This report represents data from two groundwater monitoring events conducted on January 18, 2006 and April 21, 2006. In addition, results from a mobile dual phase extraction (MDPE) event conducted on March 20, 2006 are presented within this report. The report is presented in the format suggested by the Texas Commission on Environmental Quality (TCEQ) Regulatory Guidance publication *Groundwater Monitoring and Reporting* (RG-43).

Groundwater Monitoring

Terracon collected and analyzed groundwater samples from selected on-site monitor wells, in general accordance with the TCEQ Corrective Action Response Form (CARF) dated November 17, 2005. The groundwater sampling events occurred on January 18, 2006 and April 21, 2006.

Groundwater samples were not collected from monitor wells MW-1, MW-2, MW-4, MW-5, and MW-6 during the January 18, 2006 sampling event due to the presence of non-aqueous phase liquids (NAPL) in these wells (see attached Fluid Gauging Data Summary table). Similarly, a groundwater sample was also not collected from well MW-6 during the April 21, 2006 sampling event due to the presence of NAPL in this well at the time of sampling.

Each groundwater sample was analyzed by DHL Analytical in Round Rock, Texas, for methyl tertiary butyl ether (MTBE) using EPA method SW 8021B, and benzene, toluene, ethylbenzene, and xylenes (BTEX) using EPA method SW 8021B. Additionally, the groundwater samples collected from monitor wells MW-3, MW-4, and MW-5 were analyzed for total petroleum hydrocarbons (TPH) using Texas method 1005. The sample collected from well MW-4 during the April 21, 2006 sampling event was also analyzed for polynuclear aromatic hydrocarbons (PAHs) using EPA method SW 8270C.

Tables summarizing the analytical data are attached. Copies of the laboratory reports, including chain-of-custody forms, are included in Appendix A. As seen in the data summary tables, laboratory analysis indicates either stable or reducing petroleum hydrocarbon concentrations in the site wells. Well MW-7 exhibited no detectable TPH or BTEX concentrations, which is consistent with historical results. Laboratory data indicated that groundwater samples collected

from wells MW-8 through MW-11 have exhibited decreasing TPH and BTEX concentrations over time. TPH and total BTEX concentrations from wells MW-3, MW-4, and MW-5, which are all located closest to the source area, have remained relatively stable or are also decreasing. This most recent analytical data generally confirms the previous data which also indicated that the dissolved hydrocarbon plume is stable or decreasing.

The fluid gauging data collected indicates that groundwater elevations at the site are near the lowest point they have been recorded since the release was discovered in 1996. NAPL was present in 5 wells (MW-1, MW-2, MW-4, MW-5, and MW-6) during the January 18, 2006 gauging event when thicknesses ranging from 0.15 feet in MW-2 to 2.12 feet measured in MW-6. It is surmised that this increase in NAPL thickness and occurrence is directly related to the lowering of water levels. This has resulted in exposing NAPL saturated silty clay lenses present in the subsurface stratigraphy, which are usually below the top of the water table, thus allowing for the NAPL to gravity drain and accumulate onto the lowered water table. As water levels rise due to recharge, these silty clay lenses become submerged and effectively trap the NAPL beneath the top of the water table. Subsequent measurements collected following the March 20, 2006 MDPE event indicated NAPL thicknesses ranging from 0.12 to 0.06 feet in well MW-6 only. A Fluid Gauging Data Summary table is included with this report.

MDPE Event

Terracon contracted with EnVac Environmental Services to conduct a MDPE event on March 20, 2006. A copy of the MDPE report is included in Appendix B. The event was conducted at wells MW-1, MW-2 and MW-6, which were the only three wells exhibiting measurable NAPL at the time of the MDPE event. The event was scheduled for 24-hours, however, due to diminishing hydrocarbon recovery rates observed during the course of the event, the event was terminated after approximately 10-hours. The event resulted in the extraction of approximately 28.74 gallons of NAPL in vapor form and 2 gallons of NAPL in liquid form. A Petroleum Storage Tank Product Recovery Report (TCEQ-0025) is included in Appendix C. A total of 3 air samples were collected during the event and analyzed for TPH using EPA method SW 8015B and BTEX using EPA method SW 8021B. A copy of the laboratory report is included in Appendix C.

Prior to initiation of the event the presence of NAPL was measured in wells MW-1, MW-2, and MW-6 with 0.21 feet, 0.14 feet, and 1.37 feet present, respectively. Subsequent to the event, NAPL was only observed in MW-6 with thicknesses ranging from 0.12 to 0.06 feet.

Disposition of Waste

A total of 2,448 gallons of affected groundwater were generated during the MDPE event. The water was transported for disposal at an authorized facility. A copy of the waste manifest for the water is included in Appendix D. All recovered NAPL was destroyed using the onboard thermal oxidizer.

II. CHRONOLOGY OF EVENTS

Date Completed	Brief Description	Brief Summary of Results
10/96	Release of about 6,700 gallons from UST discovered. Permanent removal of UST performed and report submitted to TNRCC by HBC.	Elevated hydrocarbon concentrations present in tank pit soil samples.
5/97	Site assessment conducted and Assessment Report submitted to TNRCC by HBC. Total of 11 monitor wells on site and adjacent off site property.	NAPL present in 3 wells (MW-1, MW-2, MW-6)
6/97	Soil Vapor Extraction (SVE) pilot test conducted and results submitted to TNRCC.	Results from SVE test indicate site conditions favorable for SVE recovery system.
10/97	Corrective Action Plan prepared and submitted by HBC. Plan detailed the installation of a SVE remediation system using 3 recovery wells with destruction of the vapors using an internal combustion (IC) engine.	Plan was approved by TNRCC in February 1998.
5/98 to 1/99	SVE system installed and operated. System experienced significant operation and maintenance problems.	System operated as designed initially, however, destruction rates began to drop significantly after about 90 days of operation and system was removed from operation in January of 1999.
7/16/98	Groundwater sampling event conducted by HBC during operation of SVE system. Total of 5 samples collected.	NAPL present in wells MW-1 through MW-6.
11/19/98	Groundwater sampling event conducted by HBC during operation of SVE system. Total of 5 samples collected.	NAPL present in wells MW-1 through MW-6.
3/24/00	Operation, Monitoring, and Performance (OMP) report for initial SVE system submitted along with proposal to replace IC vapor destruction unit with thermal destruction flare and restart the SVE system.	Proposal for new system approved by TNRCC on 8/22/00.
10/2/00-5/9/01	New SVE system installed and operated. System operated total of 188 days. Utilized 3 recovery wells (MW-1, MW-2, and MW-6) with extracted vapors destroyed thermally (flare unit).	SVE removed approximately 400 gallons of NAPL. NAPL removed entirely from 4 of 6 wells and NAPL thickness reduced from almost 2 feet to less than 0.5 feet.
10/5/00	First semi-annual sampling event by HBC (5 groundwater samples). Samples collected following startup of SVE system.	NAPL present in wells MW-1, MW-2, MW-3, MW-4, MW-5 and MW-6.

Date Completed	Brief Description	Brief Summary of Results
4/4/01	Second semi-annual sampling event performed by HBC (9 groundwater samples). Samples collected near the end of the SVE system operation.	NAPL present in wells MW-5 and MW-6.
5/29/01	OMP Report submitted to TNRCC along with proposals for annual groundwater monitoring and passive skimming of NAPL in wells MW-5 and MW-6.	Proposals for groundwater monitoring and passive skimming approved by TNRCC on 7/13/01.
9/24/01	First quarterly groundwater sampling event performed by HBC. Samples collected from 9 on-site monitor wells.	NAPL observed in monitor wells MW-5 and MW-6. Groundwater data shows reduction in most wells.
12/27/01	Second quarterly groundwater sampling event performed by HBC. Samples collected from 10 on-site monitor wells.	NAPL observed in monitor well MW-6. Groundwater data shows reduction in most wells.
3/27/02	Third quarterly groundwater sampling event performed by HBC. Sample collected from 10 on-site monitor wells.	NAPL observed in monitor well MW-6. Groundwater data shows reduction in most wells. Slight increase observed in MW-11.
6/17/02	Fourth quarterly groundwater sampling event performed by HBC. Samples collected from 10 on-site monitor wells.	NAPL observed in monitor well MW-6. Groundwater data shows reduction in most wells. Concentrations from MW-11 back to within historical levels.
10/11/03	High Vacuum Multi-Phase Extraction event.	0.77 gallons of NAPL removed from wells MW-5 and MW-6.
10/22/03	Quarterly groundwater monitoring event conducted by HBC. Samples collected from 8 monitor wells.	NAPL observed in MW-2, MW-5, and MW-6. Dissolved phase concentrations relatively stable across site.
1/27/04	Quarterly groundwater monitoring event conducted by HBC. Samples collected from 8 monitor wells.	NAPL observed in MW-1, MW-5, and MW-6. Dissolved phase concentrations relatively stable across site.
3/5/04	Fluid gauging conducted by HBC.	NAPL thickness in MW-1, MW-5, and MW-6 decrease drastically since January event.
3/19/04	Annual groundwater monitoring report, product recovery report and proposal for MDPE event submitted.	Analytical data indicate dissolved phase hydrocarbon plume is stable or decreasing. Based on slight rebound in NAPL levels observed, MDPE event proposed.

Date Completed	Brief Description	Brief Summary of Results
5/18/04	MDPE event conducted by EnVac under HBC supervision.	MDPE event conducted for approximately 8 hours, at which point it is terminated due to diminishing hydrocarbon recovery rates. Approximately 8 gallons of NAPL recovered as off-gas vapor.
5/28/04	Fluid gauging conducted by HBC.	No NAPL detected
6/8/04	Fluid gauging conducted by HBC.	No NAPL detected
6/16/04	Fluid gauging conducted by HBC.	No NAPL detected
7/28/04	Product recovery report submitted along with request for site closure.	Report submitted documenting 5/18/04 MDPE event and requesting site closure based on dissolved phase plume stability and lack of measurable NAPL.
9/17/04	Proposal for additional MDPE event and groundwater sampling	Submitted proposal for additional MDPE event based on TCEQ review of 7/28/04 report.
11/10/04	Fluid gauging conducted by HBC.	No NAPL detected
12/2/04	Fluid gauging conducted by HBC.	No NAPL detected
3/3/05	Fluid gauging conducted by HBC.	NAPL detected in well MW-6 (0.34')
3/17/05	MDPE event conducted by EnVac under HBC supervision.	MDPE event conducted on well MW-6. Water table depressed using submersible pump and then MDPE conducted for approximately 12 hours. Total of 26 gallons of NAPL recovered. Event terminated due to diminishing hydrocarbon recovery rates.
3/22/05	Groundwater monitoring event conducted by HBC. Samples collected from 10 monitor wells.	Samples collected from 10 wells. NAPL (0.05') detected in well MW-6 and well was not sampled
4/29/05	Fluid gauging conducted by HBC.	NAPL present in well MW-6 (0.05').
5/6/05	Annual groundwater monitoring report, product recovery report and request for closure submitted.	Report submitted documenting 3/17/05 MDPE event and requesting site closure based on dissolved phase plume stability and NAPL thickness below 0.10'.
1/18/2006	Groundwater monitoring event conducted by Terracon. Samples collected from 6 monitor wells.	Samples collected from 6 wells. NAPL detected in 5 wells (MW-1, MW-2, MW-4, MW-5, and MW-6) which were not sampled.

Date Completed	Brief Description	Brief Summary of Results
2/17/2006	Fluid gauging conducted by Terracon.	NAPL present in wells MW-1, MW-2, and MW-6.
3/20/2006	MDPE event conducted by EnVac under Terracon supervision.	MDPE event conducted on wells MW-1, MW-2, and MW-6. MDPE conducted for approximately 10-hours. Total of 30.78 gallons of NAPL recovered. Event terminated due to diminishing hydrocarbon recovery rates.
4/21/2006	Groundwater monitoring event conducted by Terracon. Samples collected from 5 monitor wells.	Samples collected from 5 wells. NAPL detected in 1 well (MW-6) which was not sampled.
6/19/2006	Fluid gauging conducted by Terracon.	NAPL present in well MW-6 (0.11').
7/17/2006	Fluid gauging conducted by Terracon.	NAPL present in well MW-6 (0.06').
8/7/2006	Annual groundwater monitoring report, product recovery report and request for closure submitted.	Report submitted documenting 3/20/06 MDPE event and requesting site closure based on dissolved phase plume stability and NAPL thickness below 0.10'.

III. TABLES, GRAPHS AND MAPS

The following tables, graphs and maps are attached:

- Table of analytical results
- Table of groundwater gauging data
- Groundwater elevation maps (1/18/06; 4/21/06; 7/17/06)
- Hydrocarbon distribution maps (1/18/06; 4/21/06)

IV. CONCLUSIONS AND RECOMMENDATIONS

Based on results of the groundwater monitoring and MDPE event, Terracon makes the following conclusions and recommendations:

- Based on groundwater monitoring data collected at the site it appears the dissolved-phase hydrocarbon plume is stable or decreasing. This had been previously

documented and no further groundwater monitoring is necessary to further document the stable plume conditions.

- Based on the results from the latest MDPE event and subsequent water level gauging, further NAPL recovery at the site does not appear to be cost effective. Additionally, it appears that the residual NAPL remaining at the site has been removed to the maximum extent practicable and that the amount remaining poses no threat to human health and the environment. Terracon recommends site closure at this time. A copy of the Site Closure Request Form (TNRCC-0028) is included in Appendix E.

V. QUALITY ASSURANCE/QUALITY CONTROL

The following sampling protocol was employed by Terracon personnel during each sampling event:

- Each monitor well was visually inspected to ensure well integrity.
- The water level indicator was thoroughly decontaminated before and after each use.
- Each monitor well was purged of at least three well volumes or to dryness using a new, disposable bailer.
- Subsequent to sufficient recharge, groundwater samples were collected using new, disposable bailers.
- Monitor wells were sampled from least to most contaminated.
- TPH and BTEX/MTBE samples were stored in 40-milliliter VOA vials with no headspace, and preserved with hydrochloric acid. PAH samples were collected in 500-milliliter, unpreserved amber glass bottles. Holding time for preserved samples is 14 days.
- All samples were properly labeled, sealed with custody tape, placed in a cooler with ice, and hand delivered along with chain-of-custody documentation to DHL Analytical in Round Rock, Texas.
- Samples were analyzed using the following approved methods:
 - BTEX/MTBE - EPA SW 8021B
 - TPH - Texas 1005
 - PAH - EPA SW 8270C

FEDERAL EXPRESS CORPORATION

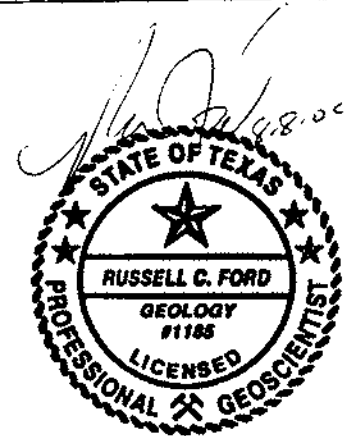
5811 Technicenter Drive, Austin, TX
 LPST # 111747

FLUID GAUGING DATA SUMMARY

DATE	MW-1			MW-2			MW-3			MW-4		
	DTW	NAPL	GWE	DTW	NAPL	GWE	DTW	NAPL	GWE	DTW	NAPL	GWE
10/31/1996	31.64	0.83	528.08	35.08	4.05	528.18	32.79	0.00	528.16	NA	NA	NA
11/1/1996	32.00	1.21	528.01	35.44	4.44	528.11	NA	NA	NA	NA	NA	NA
11/15/1996	31.04	0.31	528.29	34.02	2.86	528.35	32.66	0.00	528.29	NA	NA	NA
2/18/1997	31.78	1.61	528.53	33.22	2.02	528.52	32.45	0.00	528.50	31.70	0.00	528.49
4/7/1997	NA	NA	NA	NA	NA	NA	32.12	0.00	528.83	31.38	0.00	528.81
7/16/1998	28.82	1.48	531.39	30.29	1.57	531.11	30.13	0.81	531.43	29.39	0.44	531.13
11/19/1998	28.71	1.20	531.29	30.16	1.28	531.02	30.02	0.63	531.40	29.25	0.21	531.10
3/23/2000	32.83	1.21	527.18	33.59	0.53	527.03	34.11	0.05	526.88	33.72	0.58	526.91
9/27/00*	32.87	1.17	527.11	33.69	0.53	526.93	34.14	0.02	526.83	34.00	0.79	526.78
10/5/2000	32.28	0.59	527.26	33.41	0.27	527.01	34.11	0.02	526.86	33.97	0.81	526.83
11/29/2000	28.91	0.00	530.19	31.01	0.77	529.79	31.23	0.00	529.72	30.49	0.00	529.70
12/29/2000	28.30	0.00	530.80	30.25	0.70	530.50	30.56	0.00	530.39	29.83	0.00	530.36
1/29/01*	27.64	0.00	531.46	29.18	0.24	531.22	29.86	0.00	531.09	29.00	0.00	531.19
3/7/2001	28.43	0.00	530.67	29.97	0.26	530.45	30.64	0.00	530.31	29.82	0.00	530.37
4/4/2001	28.18	0.00	530.92	29.54	0.00	530.68	30.42	0.00	530.53	29.60	0.00	530.59
4/25/2001	28.61	0.00	530.49	29.99	0.00	530.23	30.83	0.00	530.12	30.08	0.00	530.11
5/18/01*	28.86	0.00	530.24	30.28	0.00	529.94	31.09	0.00	529.86	30.39	0.00	529.80

Notes:

- 1) All measurements in feet
- 2) DTW-depth to water below top of surface casing
- 3) NAPL-non-aqueous phase liquid thickness
- 4) GWE-groundwater elevation (corrected for NAPL using 0.75 specific gravity) in feet above mean sea level
- 5) NA-no reading collected
- *-System not operating



FEDERAL EXPRESS CORPORATION

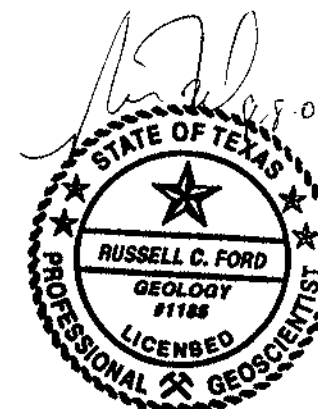
5811 Technicenter Drive, Austin, TX
 LPST # 111747

FLUID GAUGING DATA SUMMARY

DATE	MW-5			MW-6			MW-7			MW-8		
	DTW	NAPL	GWE	DTW	NAPL	GWE	DTW	NAPL	GWE	DTW	NAPL	GWE
10/31/1996	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
11/1/1996	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
11/15/1996	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2/18/1997	34.74	0.00	528.46	36.18	2.40	528.49	30.07	0.00	528.51	29.64	0.00	528.55
4/7/1997	34.41	0.00	528.79	NA	NA	NA	29.76	0.00	528.82	29.30	0.00	528.89
7/16/1998	32.44	0.39	531.05	35.35	4.58	530.96	27.86	0.00	530.72	27.28	0.00	530.91
11/19/1998	32.31	0.18	531.03	35.22	4.32	530.89	27.75	0.00	530.83	27.15	0.00	531.04
3/23/2000	36.54	0.24	526.84	37.30	1.84	526.95	31.68	0.00	526.90	31.26	0.00	526.93
9/27/00*	36.79	0.46	526.76	37.45	1.94	526.88	31.79	0.00	526.79	31.31	0.00	526.88
10/5/2000	36.66	0.34	526.80	36.54	0.87	526.98	31.72	0.00	526.86	31.26	0.00	526.93
11/29/2000	34.04	0.56	529.58	32.98	0.00	529.89	28.89	0.00	529.69	28.35	0.00	529.84
12/29/2000	32.32	0.53	531.28	32.72	0.44	530.48	28.23	0.00	530.35	27.71	0.00	530.48
1/29/01*	32.18	0.00	531.02	31.88	0.28	531.20	27.51	0.00	531.07	27.00	0.00	531.19
3/7/2001	33.61	0.85	530.23	32.59	0.27	530.48	28.27	0.00	530.31	27.82	0.00	530.37
4/4/2001	32.23	0.55	531.38	32.34	0.24	530.71	28.03	0.00	530.55	27.59	0.00	530.60
4/25/2001	33.61	0.45	529.93	32.72	0.20	530.30	28.45	0.00	530.13	28.03	0.00	530.16
5/18/01*	32.90	0.39	530.59	33.09	0.14	529.89	28.74	0.00	529.84	28.31	0.00	529.88

Notes

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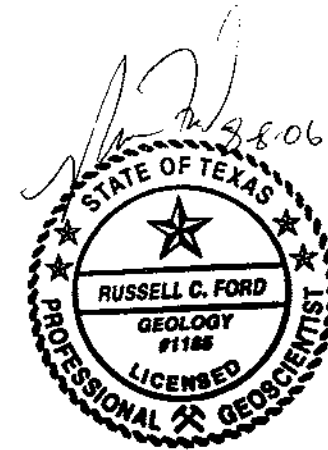
5811 Technicenter Drive, Austin, TX
 LPST # 111747

FLUID GAUGING DATA SUMMARY

DATE	MW-9			MW-10			MW-11		
	DTW	NAPL	GWE	DTW	NAPL	GWE	DTW	NAPL	GWE
10/31/1996	NA	NA	NA	NA	NA	NA	NA	NA	NA
11/1/1996	NA	NA	NA	NA	NA	NA	NA	NA	NA
11/15/1996	NA	NA	NA	NA	NA	NA	NA	NA	NA
2/18/1997	NA	NA	NA	NA	NA	NA	NA	NA	NA
4/7/1997	35.15	0.00	528.76	34.25	0.00	528.74	34.89	0.00	528.74
7/16/1998	33.93	0.00	529.98	32.97	0.00	530.02	33.62	0.00	530.01
11/19/1998	33.82	0.00	530.09	32.87	0.00	530.12	33.53	0.00	530.10
3/23/2000	36.73	0.00	527.18	36.17	0.00	526.82	36.54	0.00	527.09
9/27/00*	36.84	0.00	527.07	36.28	0.00	526.71	36.60	0.00	527.03
10/5/2000	36.81	0.00	527.10	36.24	0.00	526.75	36.58	0.00	527.05
11/29/2000	34.03	0.00	529.88	33.51	0.00	529.48	33.79	0.00	529.84
12/29/2000	33.38	0.00	530.53	32.81	0.00	530.18	33.13	0.00	530.50
1/29/01*	32.65	0.00	531.26	32.10	0.00	530.89	32.42	0.00	531.21
3/7/2001	33.39	0.00	530.52	32.80	0.00	530.19	33.15	0.00	530.48
4/4/2001	33.15	0.00	530.76	32.60	0.00	530.39	32.92	0.00	530.71
4/25/2001	33.56	0.00	530.35	32.97	0.00	530.02	33.33	0.00	530.30
5/18/01*	33.85	0.00	530.06	33.23	0.00	529.76	33.69	0.00	529.94

Notes:

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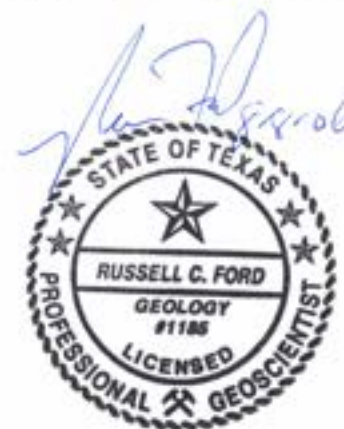
5811 Technicenter Drive, Austin, TX
 LPST # 111747

FLUID GAUGING DATA SUMMARY

DATE	MW-1			MW-2			MW-3			MW-4		
	DTW	NAPL	GWE	DTW	NAPL	GWE	DTW	NAPL	GWE	DTW	NAPL	GWE
9/24/2001	29.68	0.00	529.42	31.01	0.00	529.21	31.89	0.00	529.06	31.30	0.00	528.89
12/27/2001	27.79	0.00	531.31	29.13	0.00	531.09	30.01	0.00	530.94	29.33	0.00	530.86
3/27/2002	29.31	0.00	529.79	30.64	0.00	529.58	31.51	0.00	529.44	30.80	0.00	529.39
6/17/2002	30.56	0.00	528.54	31.98	0.00	528.24	32.80	0.00	528.15	32.06	0.00	528.13
10/22/2003	31.23	0.00	527.87	32.58	0.01	527.65	33.47	0.00	527.48	32.72	0.00	527.47
1/27/2004	32.25	0.51	527.23	33.18	0.00	527.04	34.02	0.00	526.93	33.43	0.00	526.76
3/5/2004	31.41	0.00	527.69	32.79	0.00	527.43	NA	NA	NA	NA	NA	NA
5/18/2004*	28.76	0.48	530.70	30.28	0.00	529.94	31.09	0.00	529.86	30.39	0.00	529.80
5/18/2004**	31.49	0.00	527.61	NA	NA	NA	33.42	0.00	527.53	NA	NA	NA
5/28/2004	31.05	0.00	528.05	32.51	0.00	527.71	33.35	0.00	527.60	32.68	0.00	527.51
6/8/2004	31.01	0.00	528.09	32.50	0.00	527.72	33.35	0.00	527.60	32.58	0.00	527.61
6/16/2004	31.11	0.00	527.99	32.21	0.00	528.01	32.95	0.00	528.00	32.22	0.00	527.97
11/10/2004	32.40	0.00	526.70	32.77	0.00	527.45	32.50	0.00	528.45	31.95	0.00	528.24
12/2/2004	28.64	0.00	530.46	29.67	0.00	530.55	30.55	0.00	530.40	29.80	0.00	530.39
3/3/2005*	29.15	0.00	529.95	30.59	0.00	529.63	31.40	0.00	529.55	30.65	0.00	529.54
3/22/2005**	28.96	0.00	530.14	30.33	0.00	529.89	31.24	0.00	529.71	30.40	0.00	529.79
4/29/2005	29.45	0.00	529.65	30.79	0.00	529.43	31.65	0.00	529.30	30.90	0.00	529.29
1/18/2006	33.08	0.83	526.64	33.95	0.15	526.38	34.66	0.00	526.29	34.21	0.31	526.21
2/17/2006	32.69	0.22	526.58	34.00	0.10	526.30	34.79	0.00	526.16	34.04	0.00	526.15
3/20/2006*	32.78	0.21	526.48	34.07	0.14	526.26	34.80	0.00	526.15	34.08	0.00	526.11
4/21/2006	32.51	0.00	526.59	33.93	0.00	526.29	34.80	0.00	526.15	34.06	0.00	526.13
6/19/2006	32.21	0.00	526.89	33.81	0.00	526.41	34.51	0.00	526.44	33.76	0.00	526.43
7/17/2006	32.02	0.00	527.08	33.65	0.00	526.57	34.33	0.00	526.62	33.49	0.00	526.70

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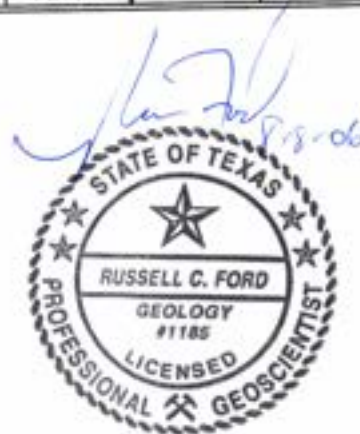
5811 Technicenter Drive, Austin, TX
 LPST # 111747

FLUID GAUGING DATA SUMMARY

DATE	MW-5			MW-6			MW-7			MW-8		
	DTW	NAPL	GWE	DTW	NAPL	GWE	DTW	NAPL	GWE	DTW	NAPL	GWE
9/24/2001	34.36	0.05	528.88	33.79	0.15	529.19	29.68	0.00	528.90	29.29	0.00	528.90
12/27/2001	32.32	0.00	530.88	31.86	0.08	531.07	27.74	0.00	530.84	27.25	0.00	530.94
3/27/2002	33.88	0.00	529.32	33.39	0.06	529.53	29.15	0.00	529.43	28.72	0.00	529.47
6/17/2002	35.06	0.00	528.14	34.30	0.01	528.58	30.43	0.00	528.15	30.00	0.00	528.19
10/22/2003	35.75	0.02	527.47	35.21	0.02	527.68	31.11	0.00	527.47	30.64	0.00	527.55
1/27/2004	36.42	0.12	526.87	37.08	1.51	526.92	31.69	0.00	526.89	31.30	0.00	526.89
3/5/2004	35.93	0.00	527.27	35.44	0.09	527.50	NA	NA	NA	NA	NA	NA
5/18/2004*	32.90	0.39	530.59	33.09	0.14	529.89	27.97	0.00	530.61	27.55	0.00	530.64
5/18/2004**	35.09	0.00	528.11	35.36	0.00	527.51	NA	NA	NA	NA	NA	NA
5/28/2004	35.65	0.00	527.55	35.11	0.00	527.76	31.00	0.00	527.58	30.63	0.00	527.56
6/8/2004	35.65	0.00	527.55	35.04	0.00	527.83	31.01	0.00	527.57	30.65	0.00	527.54
6/16/2004	35.21	0.00	527.99	34.71	0.00	528.16	30.65	0.00	527.93	30.21	0.00	527.98
11/10/2004	35.95	0.00	527.25	32.50	0.00	530.37	30.35	0.00	528.23	29.90	0.00	528.29
12/2/2004	32.85	0.00	530.35	32.33	0.00	530.54	28.24	0.00	530.34	27.72	0.00	530.47
3/3/2005*	33.75	0.00	529.45	33.41	0.34	529.72	29.05	0.00	529.53	28.69	0.00	529.50
3/22/2005**	33.49	0.00	529.71	33.35	0.05	529.56	28.80	0.00	529.78	28.42	0.00	529.77
4/29/2005	33.98	0.00	529.22	33.81	0.05	529.10	29.29	0.00	529.29	28.92	0.00	529.27
1/18/2006	37.15	0.25	526.24	38.16	2.12	526.30	32.40	0.00	526.18	31.56	0.00	526.63
2/17/2006	37.05	0.00	526.15	37.27	0.92	526.29	32.46	0.00	526.12	32.00	0.00	526.19
3/20/2006*	37.12	0.00	526.08	37.72	1.37	526.18	32.48	0.00	526.10	32.02	0.00	526.17
4/21/2006	37.05	0.00	526.15	36.59	0.12	526.37	32.46	0.00	526.12	32.01	0.00	526.18
6/19/2006	36.75	0.00	526.45	36.27	0.11	526.68	32.12	0.00	526.46	31.69	0.00	526.50
7/17/2006	36.57	0.00	526.63	36.04	0.06	526.88	32.00	0.00	526.58	31.43	0.00	526.76

Notes:

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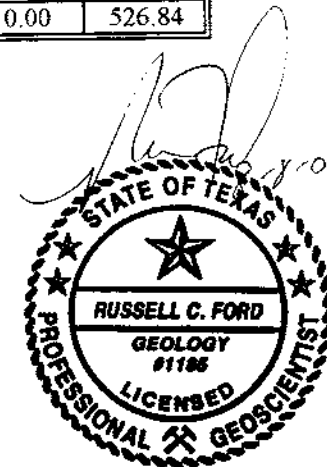
LPST # 111747

FLUID GAUGING DATA SUMMARY

DATE	MW-9			MW-10			MW-11		
	DTW	NAPL	GWE	DTW	NAPL	GWE	DTW	NAPL	GWE
9/24/2001	34.70	0.00	529.21	34.29	0.00	528.70	34.49	0.00	529.14
12/27/2001	32.80	0.00	531.11	32.22	0.00	530.77	32.55	0.00	531.08
3/27/2002	34.32	0.00	529.59	33.70	0.00	529.29	34.10	0.00	529.53
6/17/2002	35.48	0.00	528.43	34.90	0.00	528.09	35.24	0.00	528.39
10/22/2003	36.19	0.00	527.72	35.58	0.00	527.41	36.00	0.00	527.63
1/27/2004	36.78	0.00	527.13	36.23	0.00	526.76	36.62	0.00	527.01
3/5/2004	NA	NA	NA	NA	NA	NA	NA	NA	NA
5/18/2004*	32.98	0.00	530.93	32.32	0.00	530.67	32.75	0.00	530.88
5/18/2004**	NA	NA	NA	NA	NA	NA	NA	NA	NA
5/28/2004	36.02	0.00	527.89	35.51	0.00	527.48	35.80	0.00	527.83
6/8/2004	36.03	0.00	527.88	35.45	0.00	527.54	35.88	0.00	527.75
6/16/2004	35.60	0.00	528.31	35.11	0.00	527.88	35.42	0.00	528.21
11/10/2004	32.85	0.00	531.06	32.85	0.00	530.14	32.15	0.00	531.48
12/2/2004	32.30	0.00	531.61	32.64	0.00	530.35	32.70	0.00	530.93
3/3/2005*	34.14	0.00	529.77	33.59	0.00	529.40	34.95	0.00	528.68
3/22/2005**	33.95	0.00	529.96	33.37	0.00	529.62	33.70	0.00	529.93
4/29/2005	34.24	0.00	529.67	33.45	0.00	529.54	34.19	0.00	529.44
1/18/2006	37.34	0.00	526.57	36.75	0.00	526.24	37.14	0.00	526.49
2/17/2006	37.47	0.00	526.44	36.87	0.00	526.12	37.23	0.00	526.40
3/20/2006*	37.39	0.00	526.52	36.84	0.00	526.15	37.25	0.00	526.38
4/21/2006	37.29	0.00	526.62	36.82	0.00	526.17	37.24	0.00	526.39
6/19/2006	37.19	0.00	526.72	36.57	0.00	526.42	36.95	0.00	526.68
7/17/2006	37.02	0.00	526.89	36.40	0.00	526.59	36.79	0.00	526.84

Notes:

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GROUNDWATER ANALYTICAL DATA SUMMARY
 (all concentrations in mg/L)

MW-1										
DATE	PAH	TDS	TPH (C6-C12)	TPH (C12-C28)	TPH (C28-C35)	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
11/11/1996	NAPL									
7/16/1998	NAPL									
10/5/2000	NAPL									
4/4/2001	NA	NA	14.1(C6-C10)	43.0(>C10-C28)	NA	0.480	1.240	0.226	6.010	0.113
9/24/2001	NA	NA	55.40	6.67	<4.84	0.253	0.685	0.196	6.990	0.062
12/27/2001	NA	NA	12.90	<4.85	<4.85	0.129	0.364	0.105	2.380	0.054
3/27/2002	NA	NA	5.82	2.88	<1.95	0.045	0.107	0.041	0.952	0.040
6/17/2002	NA	NA	4.81	<1.94	<1.94	0.036	0.108	0.039	0.954	<0.080
10/22/2003	NA	NA	23.50	4.41	<1.98	0.025	0.109	0.066	1.790	0.067
1/28/2004	NAPL									
3/23/2005	NA	NA	NA	NA	NA	0.190	0.835	0.175	9.180	0.192
1/18/2006	NAPL									
4/21/2006	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

MW-2										
DATE	PAH	TDS	TPH (C6-C12)	TPH (C12-C28)	TPH (C28-C35)	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
11/11/1996	NAPL									
7/16/1998	NAPL									
10/5/2000	NAPL									
4/4/2001	1.877*	NA	55.2(C6-C10)	109(>C10-C28)	NA	0.045	2.330	0.175	8.610	0.313
9/24/2001	0.636**	NA	149.00	40.50	<4.72	0.265	2.180	0.442	6.400	0.458
12/27/2001	1.669***	NA	104.00	24.70	<4.87	0.036	2.480	0.927	10.600	0.249
3/27/2002	0.525****	NA	35.60	7.59	<1.94	0.032	0.804	1.040	8.740	0.197
6/17/2002	0.356*****	NA	24.0	4.2	<1.95	0.055	0.486	0.934	8.010	<0.020
10/22/2003	NAPL									
1/28/2004			217.0	142.0	<1.98	0.0269	0.194	0.438	5.240	0.163
3/23/2005	NA	NA	18.6	1.2 (J)	<0.67	0.0350	0.104	0.513	7.500	0.242
1/18/2006	NAPL									
4/21/2006	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

*-Benzo(a)anthracene-0 0005, Benzo(b)fluoranthene-0 0007, Benzopyrene-0 0006, Benzo(k)fluoranthene-0 0007, Chrysene-0 0009, Fluoranthene-0.002, Naphthalene-1 86, Phenanthrene-0 01, Pyrene-0 001
 **-Acenaphthene-0 001, Anthracene-0 0009, Benzo(a)anthracene-0 0005, Benzo(b)fluoranthene 0 0007, Benzopyrene 0 0006, Benzo(a)pyrene-0 0002, Chrysene-0 0003, Fluoranthene-0 0006, Fluorene-0 007, Naphthalene-0 619, Phenanthrene-0 003, Pyrene-0 001
 ***-Acenaphthene-0 017, Fluoranthene-0 002, Fluorene-0 030, Naphthalene-1 60, Phenanthrene-0 014, Pyrene-0 008
 ****-Acenaphthene-0 0009, Fluorene-0 001, Naphthalene-0 522, Phenanthrene-0 0005
 *****-Acenaphthene-0 0004, Fluorene-0 0007, Naphthalene-0 355, Phenanthrene-0 0003

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5811 Technicenter Drive, Austin, TX
 LPST # 111747

GROUNDWATER ANALYTICAL DATA SUMMARY

(all concentrations in mg/L)

MW-3										
DATE	PAH	TDS	TPH (C6-C12)	TPH (C12-C28)	TPH (C28-C35)	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
11/11/1996	NA	478	10(Total)	NA	NA	1.920	2.250	0.313	2.880	1.150
7/16/1998	NAPL									
10/5/2000	NAPL									
4/4/2001	NA	NA	7.22(C6-C10)	13.3(>C10-C28)	NA	0.219	0.162	0.111	0.888	0.024
9/24/2001	NA	NA	19.70	<4.75	<4.75	0.241	0.072	0.114	0.906	0.056
12/27/2001	NA	NA	<4.85	<4.85	<4.85	0.096	0.023	0.027	0.266	0.017
3/27/2002	NA	NA	2.05	<1.96	<1.96	0.135	0.015	0.045	0.151	0.034
6/17/2002	NA	NA	3.48	<2.0	<2.0	0.121	0.015	0.051	0.222	0.028
10/22/2003	NA	NA	3.07	0.88	<1.97	0.220	0.053	0.099	0.381	0.097
1/28/2004	NA	NA	6.50	1.70	<2.02	0.310	0.176	0.135	0.631	0.140
3/23/2005	NA	NA	NA	NA	NA	0.120	0.024	0.049	0.177	0.047
1/18/2006	NA	NA	1.34	<1.99	<1.99	0.081	0.003	0.022	0.025	0.032
4/21/2006	NA	NA	1.73	<1.96	<1.96	0.231	0.040	0.062	0.309	0.067

MW-4										
DATE	PAH	TDS	TPH (C6-C12)	TPH (C12-C28)	TPH (C28-C35)	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
2/18/1997	NA	NA	<0.50(Total)	NA	NA	0.004	<0.001	<0.001	<0.001	<0.001
7/16/1998	NAPL									
10/5/2000	NAPL									
4/4/2001	NA	NA	14.6(C6-C10)	43.1(>C10-C28)	NA	0.174	0.656	0.419	2.630	0.320
9/24/2001	NA	NA	20.90	<4.73	<4.73	1.030	1.770	0.364	3.460	0.155
12/27/2001	NA	NA	18.50	5.15	<4.84	1.290	2.780	0.596	6.370	0.216
3/27/2002	NA	NA	20.40	4.48	<1.93	1.270	3.510	0.408	5.500	0.420
6/17/2002	NA	NA	11.00	2.64	<1.96	0.551	1.100	0.246	2.570	<0.020
10/22/2003	NA	NA	23.10	3.27	<1.95	0.125	0.343	0.121	1.160	0.321
1/28/2004	NA	NA	47.40	19.20	<1.99	0.577	2.940	0.735	8.050	0.574
3/22/2005	NA	NA	88.40	9.19	1.3 (J)	0.220	2.000	0.868	8.810	0.754
1/18/2006	NAPL									
4/21/2006	0.121*	NA	9.36	3.00	<1.96	0.054	0.061	0.011	0.490	0.055

*. Naphthalene-0.000502, Fluorene-0.000607, Naphthalene-0.220, Phenanthrene-0.000312

FEDERAL EXPRESS CORPORATION

5811 Technicenter Drive, Austin, TX
 LPST # 111747

GROUNDWATER ANALYTICAL DATA SUMMARY

(all concentrations in mg/L)

MW-5										
DATE	PAH	TDS	TPH (C6-C12)	TPH (C12-C28)	TPH (C28-C35)	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
2/18/1997	0.0006*	NA	3.9(Total)	NA	NA	0.520	0.811	0.096	1.070	0.449
7/16/1998						NAPL				
10/5/2000						NAPL				
4/4/2001						NAPL				
9/24/2001						NAPL				
12/27/2001	NA	NA	28.60	5.88	<4.81	3.57	3.98	0.62	6.07	2.85
3/27/2002	NA	NA	10.30	3.61	<1.99	2.90	2.29	0.40	2.36	2.04
6/17/2002	NA	NA	16.50	2.47	<1.93	3.09	2.74	0.50	3.21	2.13
10/22/2003						NAPL				
1/28/2004						NAPL				
3/22/2005	NA	NA	21	<0.67	<0.67	4.81	3.86	0.43	5.38	3.19
1/18/2006						NAPL				
4/21/2006	NA	NA	11.20	0.954 (j)	<1.93	2.090	1.030	0.378	3.090	0.921

← MW-6
 has never
 been
 sampled
 due to
 NAPL

MW-7										
DATE	PAH	TDS	TPH (C6-C12)	TPH (C12-C28)	TPH (C28-C35)	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
2/18/1997	NA	NA	<0.5(Total)	NA	NA	<0.001	<0.001	<0.001	<0.001	<0.01
7/16/1998	NA	NA	<5.1(C6-C10)	<5.1(>C10-C28)	NA	<0.001	<0.001	<0.001	<0.002	<0.02
11/19/1998	NA	NA	<4.4(C6-C10)	<4.4(>C10-C28)	NA	<0.005	<0.005	<0.005	<0.005	<0.005
10/5/2000	NA	NA	<5(C6-C10)	<5(>C10-C28)	NA	<0.005	<0.005	<0.005	<0.005	<0.005
4/4/2001	NA	NA	<6.44(C6-C10)	<6.44(>C10-C28)	NA	<0.002	<0.004	<0.004	<0.004	<0.004
9/24/2001	NA	NA	<4.78	<4.78	<4.78	<0.002	<0.004	<0.004	<0.004	<0.004
12/27/2001	NA	NA	<4.84	<4.84	<4.84	<0.002	<0.004	<0.004	<0.004	<0.004
3/27/2002	NA	NA	<1.98	<1.98	<1.98	<0.002	<0.004	<0.004	<0.004	<0.004
6/17/2002	NA	NA	<1.95	<1.95	<1.95	<0.002	<0.004	<0.004	<0.004	<0.004
10/22/2003	NA	NA	NA	NA	NA	<0.0008	<0.002	<0.002	<0.003	<0.002
1/28/2004	NA	NA	NA	NA	NA	<0.0008	<0.002	<0.002	<0.003	<0.002
3/22/2005	NA	NA	NA	NA	NA	<0.0008	<0.002	<0.002	<0.003	<0.002
1/18/2006	NA	NA	NA	NA	NA	<0.0008	<0.002	<0.002	<0.003	<0.002
4/21/2006	NA	NA	NA	NA	NA	<0.0008	<0.002	<0.002	<0.003	<0.002

*-Fluorene detected at 0.006 mg/L

FEDERAL EXPRESS CORPORATION

5811 Technicenter Drive, Austin, TX

LPST # 111747

GROUNDWATER ANALYTICAL DATA SUMMARY

(all concentrations in mg/L)

MW-8										
DATE	PAH	TDS	TPH (C6-C12)	TPH (C12-C28)	TPH (C28-C35)	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
2/18/1997	NA	NA	<0.05(Total)	NA	NA	0.005	0.003	<0.001	0.004	<0.01
7/20/1998	NA	NA	<4.9(C6-C10)	<4.9(>C10-C28)	NA	0.034	0.004	0.007	0.020	<0.02
11/19/1998	NA	NA	<6(C6-C10)	<6(>C10-C28)	NA	<0.005	<0.005	<0.005	<0.005	<0.005
10/5/2000	NA	NA	<5(C6-C10)	<5(>C10-C28)	NA	0.007	<0.005	<0.005	<0.005	<0.005
4/4/2001	NA	NA	<4.67(C6-C10)	<4.67(>C10-C28)	NA	0.029	0.005	<0.004	0.011	0.004
9/24/2001	NA	NA	<4.89	<4.89	<4.89	0.014	0.010	<0.004	0.114	0.006
12/27/2001	NA	NA	<4.90	<4.90	<4.90	0.011	<0.004	<0.004	<0.004	0.006
3/27/2002	NA	NA	<1.97	<1.97	<1.97	0.015	<0.004	<0.004	0.020	0.012
6/17/2002	NA	NA	<1.95	<1.95	<1.95	<0.002	<0.004	<0.004	<0.004	<0.004
10/22/2003	NA	NA	NA	NA	NA	<0.0008	<0.002	<0.002	<0.003	<0.002
1/28/2004	NA	NA	NA	NA	NA	<0.0008	<0.002	<0.002	<0.003	<0.002
3/23/2005	NA	NA	NA	NA	NA	0.020	0.0053 (J)	0.008	0.044	0.012
1/18/2006	NA	NA	NA	NA	NA	<0.0008	<0.002	<0.002	<0.003	<0.002
4/21/2006	NA	NA	NA	NA	NA	0.00116 (j)	<0.002	<0.002	<0.003	<0.002

MW-9										
DATE	PAH	TDS	TPH (C6-C12)	TPH (C12-C28)	TPH (C28-C35)	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
3/24/1997	NA	NA	1.2(Total)	NA	NA	0.106	0.120	0.008	0.135	0.038
7/16/1998	NA	NA	<5.3(C6-C10)	<5.3(>C10-C28)	NA	<0.001	<0.001	<0.001	0.002	0.035
11/19/1998	NA	NA	<4.1(C6-C10)	<4.1(>C10-C28)	NA	0.012	<0.005	<0.005	<0.005	0.178
10/5/2000	0.002*	NA	<5(C6-C10)	<5(>C10-C28)	NA	0.149	<0.005	<0.005	<0.005	0.225
4/4/2001	NA	NA	<5.5(C6-C10)	<5.5(>C10-C28)	NA	0.154	<0.004	<0.004	<0.004	0.454
9/24/2001	NA	NA	<4.95	<4.95	<4.95	0.005	<0.004	<0.004	<0.004	0.129
12/27/2001	NA	NA	<4.87	<4.87	<4.87	<0.002	<0.004	<0.004	<0.004	0.060
3/27/2002	NA	NA	<1.98	<1.98	<1.98	<0.002	<0.004	<0.004	<0.004	0.034
6/17/2002	NA	NA	<1.95	<1.95	<1.95	<0.002	<0.004	<0.004	<0.004	0.074
10/22/2003	NA	NA	NA	NA	NA	<0.0008	<0.002	<0.002	<0.003	<0.002
1/28/2004	NA	NA	NA	NA	NA	<0.0008	<0.002	<0.002	<0.003	0.128
3/22/2005	NA	NA	NA	NA	NA	<0.0008	<0.002	<0.002	<0.003	0.012
1/18/2006	NA	NA	NA	NA	NA	<0.0008	<0.002	<0.002	<0.003	0.109
4/21/2006	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

*-Naphthalene detected at 0.002 mg/L

FEDERAL EXPRESS CORPORATION

5811 Technicenter Drive, Austin, TX
 LPST # 111747

GROUNDWATER ANALYTICAL DATA SUMMARY

(all concentrations in mg/L)

MW-10										
DATE	PAH	TDS	TPH (C6-C12)	TPH (C12-C28)	TPH (C28-C35)	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
3/24/1997	NA	NA	<0.5(Total)	NA	NA	<0.001	<0.001	<0.001	<0.001	<0.01
7/16/1998	NA	NA	<4.8(C6-C10)	<4.8(>C10-C28)	NA	<0.001	<0.001	<0.001	0.002	<0.02
11/19/1998	NA	NA	<4.7(C6-C10)	<4.7(>C10-C28)	NA	<0.005	<0.005	<0.005	<0.005	<0.005
10/5/2000	NA	NA	<5(C6-C10)	<5(>C10-C28)	NA	<0.005	<0.005	<0.005	<0.005	<0.005
4/4/2001	NA	NA	<4.89(C6-C10)	<4.89(>C10-C28)	NA	<0.002	<0.004	<0.004	<0.004	<0.004
9/24/2001	NA	NA	<4.84	<4.84	<4.84	<0.002	<0.004	<0.004	<0.004	<0.004
12/27/2001	NA	NA	<4.81	<4.81	<4.81	<0.002	<0.004	<0.004	<0.004	<0.004
3/27/2002	NA	NA	<1.97	<1.97	<1.97	<0.002	<0.004	<0.004	<0.004	<0.004
6/17/2002	NA	NA	<1.95	<1.95	<1.95	<0.002	<0.004	<0.004	<0.004	<0.004
10/22/2003	NA	NA	NA	NA	NA	<0.0008	<0.002	<0.002	<0.003	0.116
1/28/2004	NA	NA	NA	NA	NA	<0.0008	<0.002	<0.002	<0.003	<0.002
3/22/2005	NA	NA	NA	NA	NA	<0.0008	<0.002	<0.002	<0.003	<0.002
1/18/2006	NA	NA	NA	NA	NA	<0.0008	<0.002	<0.002	<0.003	<0.002
4/21/2006	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

MW-11										
DATE	PAH	TDS	TPH (C6-C12)	TPH (C12-C28)	TPH (C28-C35)	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
3/24/1997	NA	NA	<0.50(Total)	NA	NA	<0.001	<0.001	<0.001	<0.001	<0.01
7/16/1998	NA	NA	<5(C6-C10)	<5(>C10-C28)	NA	0.053	0.009	0.003	0.012	0.026
11/19/1998	NA	NA	25.3(C6-C10)	<4.4(>C10-C28)	NA	1.850	2.200	0.036	2.210	<0.005
10/5/2000	NA	NA	<5(C6-C10)	<5(>C10-C28)	NA	<0.005	<0.005	<0.005	<0.005	<0.005
4/4/2001	NA	NA	<5.28(C6-C10)	<5.28(>C10-C28)	NA	1.770	3.570	0.399	2.600	0.525
9/24/2001	NA	NA	9.67	<4.79	<4.79	1.620	3.080	0.625	2.480	0.134
12/27/2001	NA	NA	<4.85	<4.85	<4.85	0.071	0.085	0.088	0.142	0.040
3/27/2002	NA	NA	16.10	3.88	<1.96	1.010	5.170	0.894	4.350	0.409
6/17/2002	NA	NA	11.00	2.09	<1.96	0.952	3.550	0.523	2.390	<0.020
10/22/2003	NA	NA	4.78	<1.95	<1.95	0.049	0.616	0.209	0.774	0.239
1/28/2004	NA	NA	3.51	<2.0	<2.0	0.0416	0.336	0.116	0.475	0.145
3/22/2005	NA	NA	NA	NA	NA	0.1120	1.260	0.737	3.690	0.635
1/18/2006	NA	NA	NA	NA	NA	0.0237	0.0999	0.133	0.433	0.0945
4/21/2006	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Sanitary Sewer Technicenter Drive

Subsurface Natural Gas Supply Line

Playscape

Norman Elementary School

Federal Express Office Area

Federal Express Shipment Area

Asphalt Pavement

MW-11
526.49

MW-4
526.21
0.31

Asphalt Play Area

MW-5
526.24
0.25

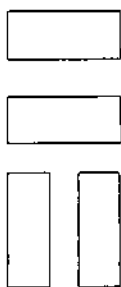
MW-2
526.38
0.15

MW-9
526.57

MW-6
526.30
2.12

MW-3
526.29

MW-8
526.63



Portable School Buildings

MW-1
526.64
0.83

Recovery Compound

MW-10
526.24

MW-7
526.18

Playground

LEGEND



Monitoring Well Locations

526.38

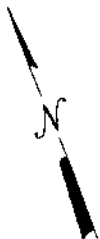
Groundwater Elevation (Ft. MSL)

0.15

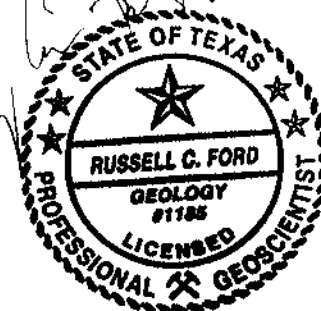
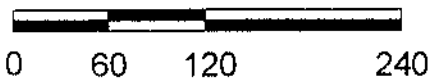
NAPL Thickness (Ft.)

—526.25—

Groundwater Elevation Contour (Ft. MSL)



SCALE-FEET



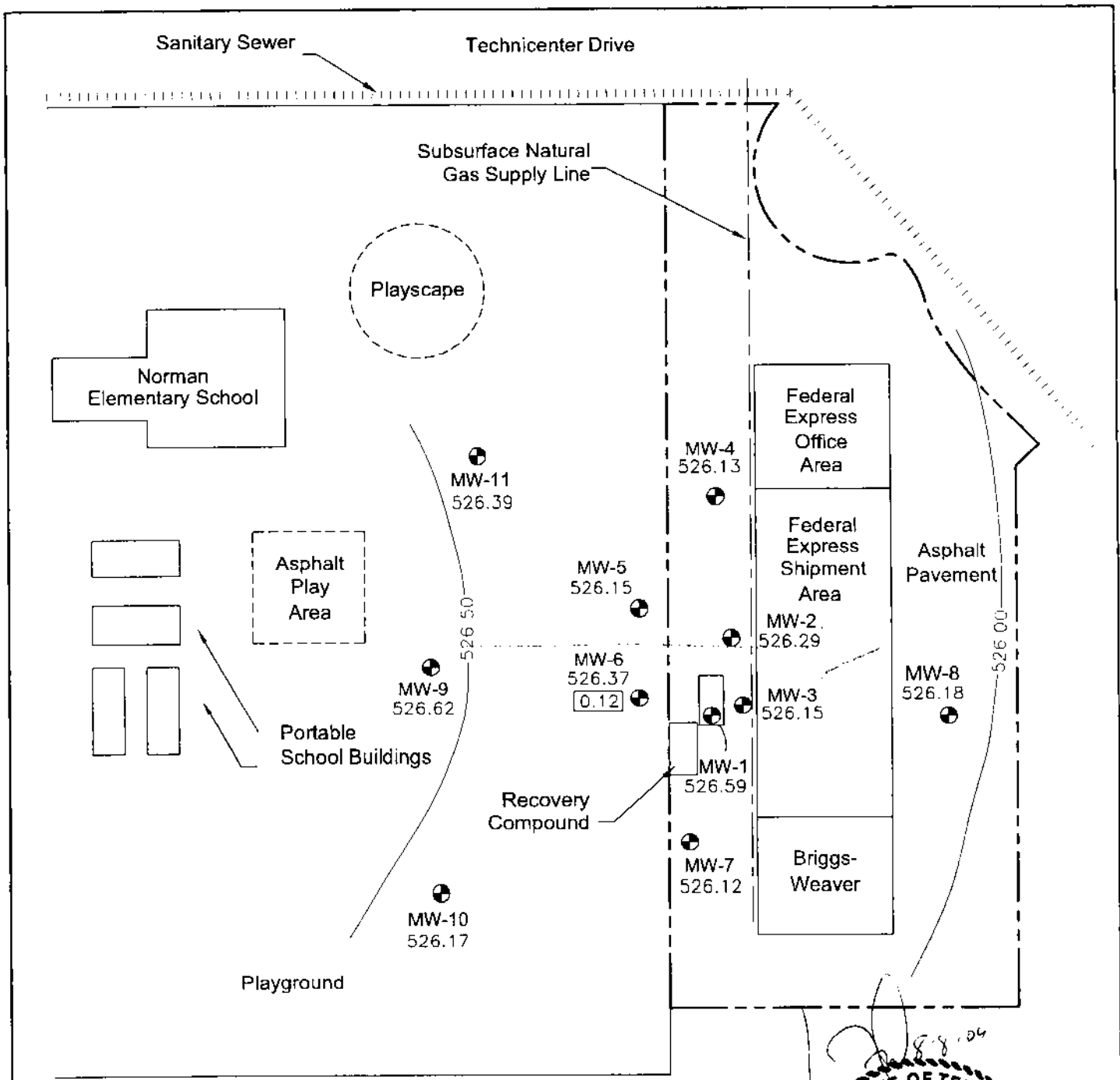
Terracon

Groundwater Elevation Map



(1/18/06)

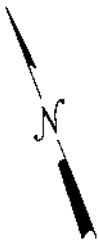
Federal Express
Austin, Texas

Terracon Project No. 96007145

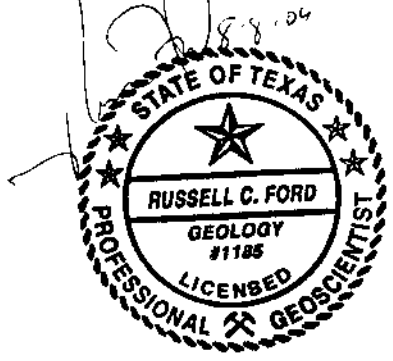
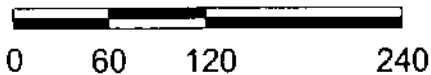


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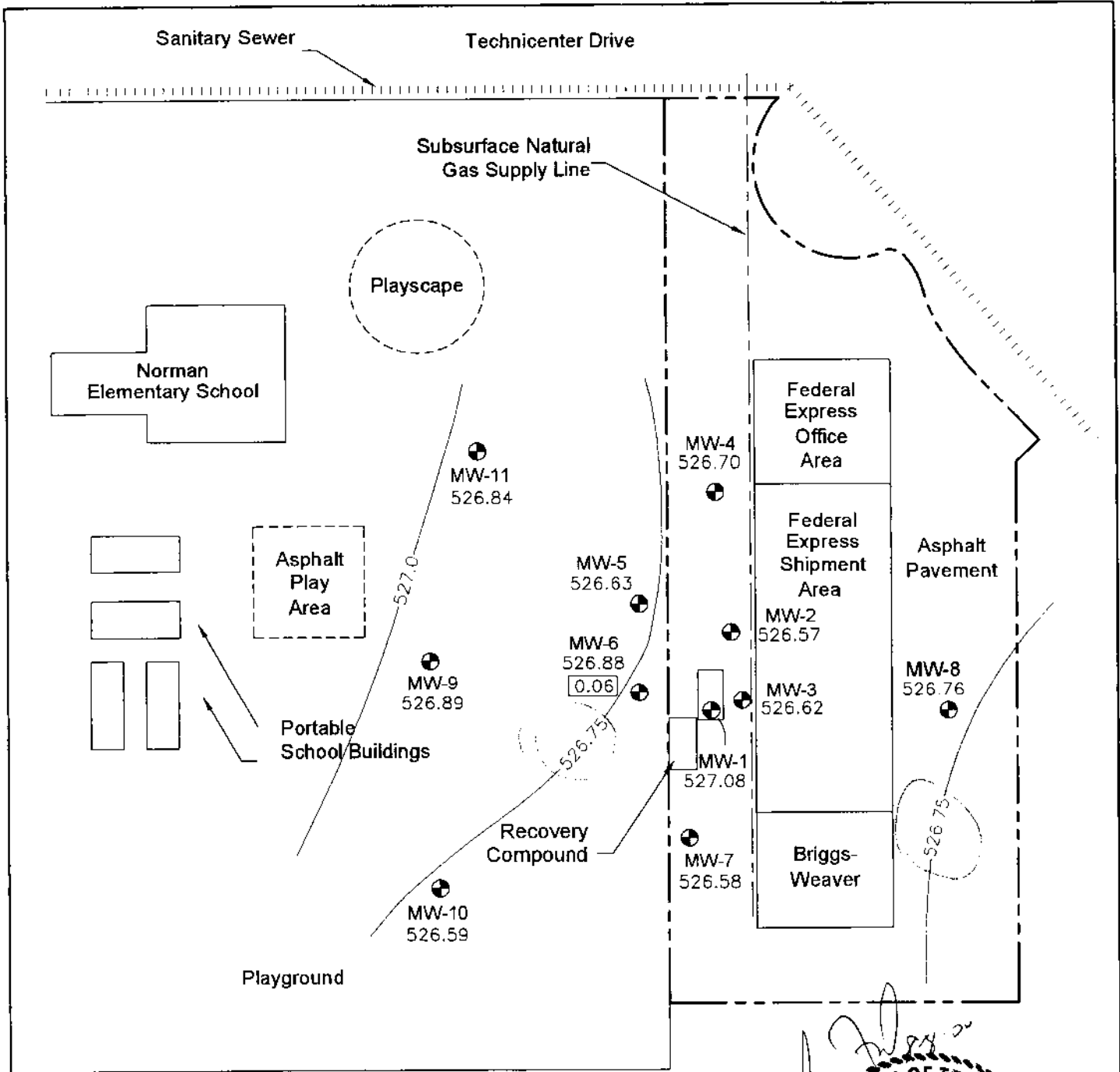
-  Monitoring Well Locations
- 526.37 Groundwater Elevation (Ft. MSL)
-  NAPL Thickness (Ft.)
- 526.0— Groundwater Elevation Contour (Ft. MSL)






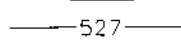
SCALE- FEET



Terracon
 Groundwater Elevation Map
 (4/21/06)
 Federal Express
 Austin, Texas
 Terracon Project No. 96007145

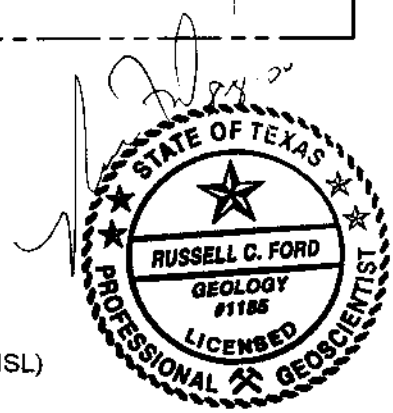
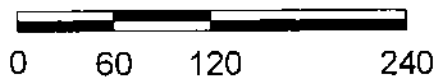


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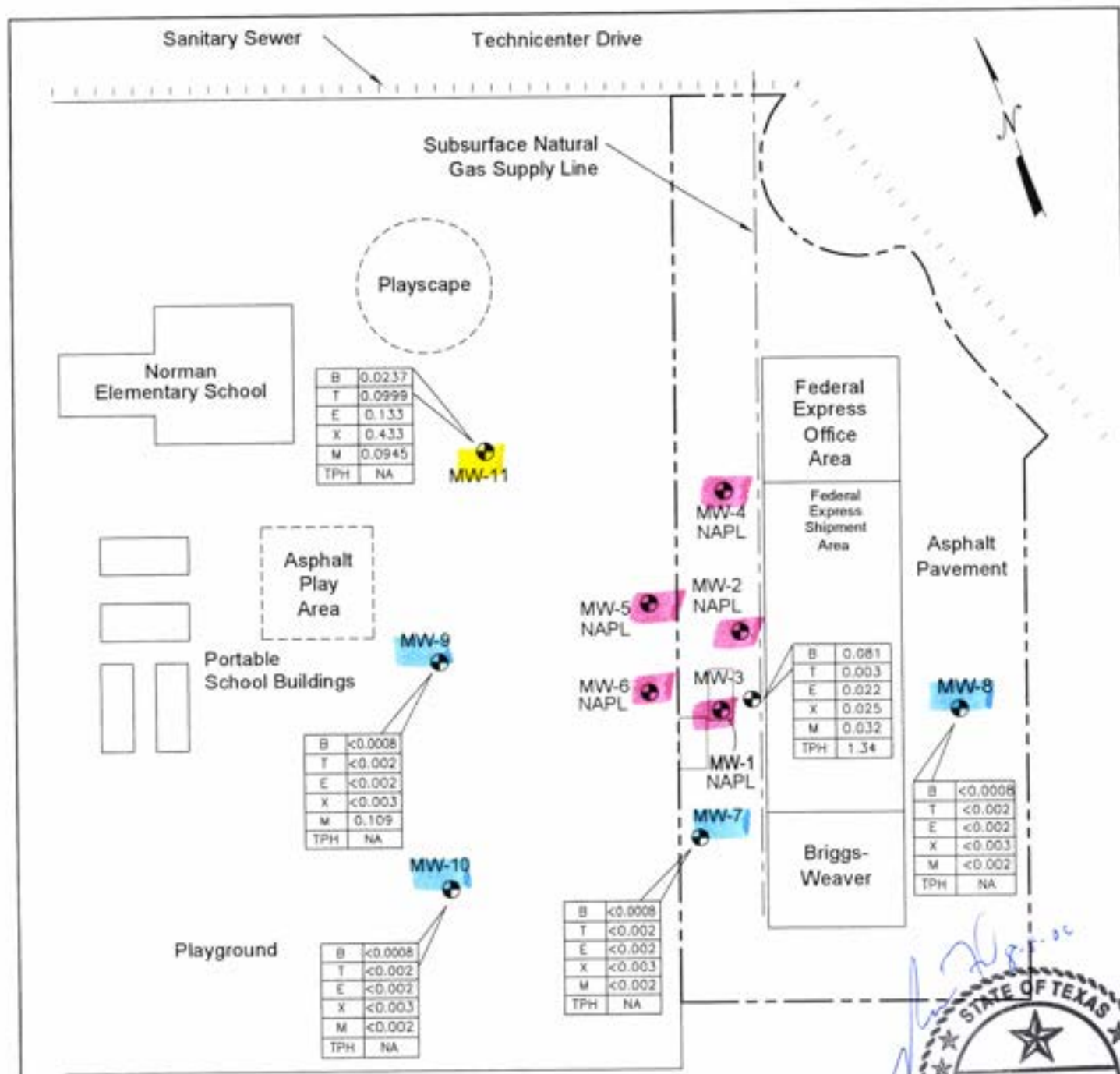
-  Monitoring Well Locations
-  526.88 Groundwater Elevation (Ft. MSL)
-  0.06 NAPL Thickness (Ft.)
-  527 Groundwater Elevation Contour (Ft. MSL)



SCALE-FEET



Terracon
Groundwater Elevation Map
 (7/17/06)
 Federal Express
 Austin, Texas
 Terracon Project No. 96007145



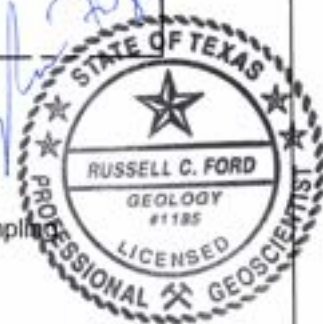
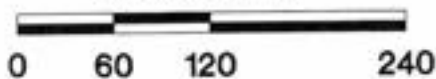
LEGEND

- Monitoring Well Locations
- B Benzene
- T Toluene
- E Ethylbenzene
- X Xylenes
- M MTBE
- TPH Total Petroleum Hydrocarbons

- NAPL NAPL Present at time of Sampling
- NS No Sample Collected

* All concentrations in mg/L

SCALE-FEET

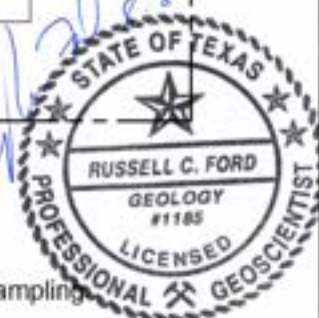
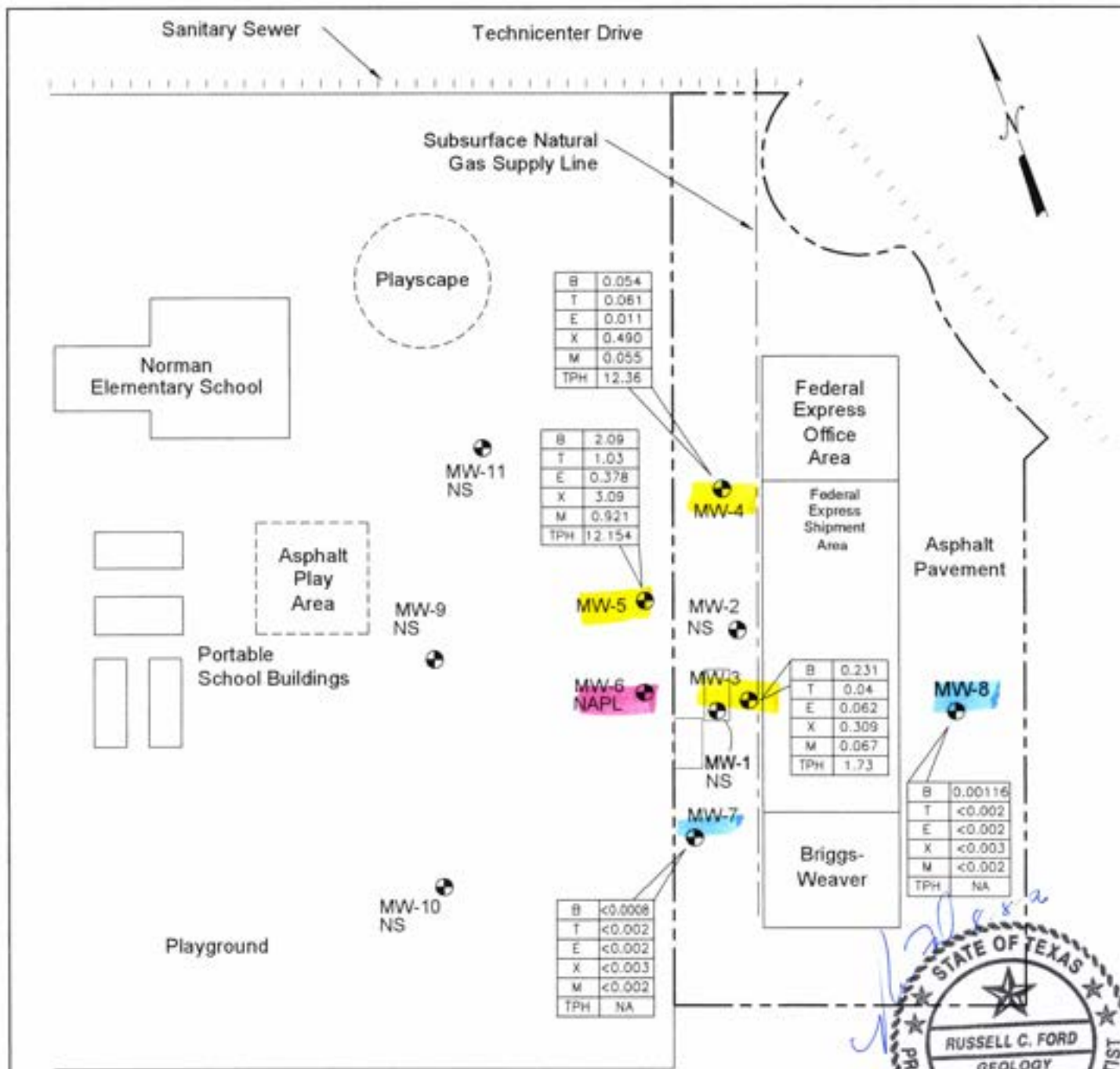


Terracon
Hydrocarbon Distribution

(1/18/06)

Federal Express
Austin, Texas

Terracon Project No. 96007145



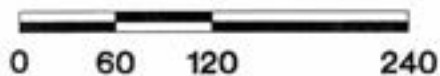
LEGEND

- Monitoring Well Locations
- B Benzene
- T Toluene
- E Ethylbenzene
- X Xylenes
- M MTBE
- TPH Total Petroleum Hydrocarbons

- NAPL NAPL Present at time of Sampling
- NS No Sample Collected

* All concentrations in mg/L

SCALE- FEET



Terracon
Hydrocarbon Distribution

(4/21/06)

Federal Express
Austin, Texas

Terracon Project No. 96007145



January 23, 2006

Russ Ford
Terracon
5307 Industrial Oaks Blvd., Suite 160
Austin, Texas 78735

TEL: (512) 442-1122
FAX (512) 442-1181

Order No.: 0601077

RE: Fedex

Dear Russ Ford:

DHL Analytical received 6 sample(s) on 1/18/2006 for the analyses presented in the following report.

There were no problems with the analyses and all data met requirements of NELAC except where noted in the Case Narrative. All non-NELAC methods will be identified accordingly in the case narrative and all estimated uncertainties of test results are within method or EPA specifications.

If you have any questions regarding these tests results, please feel free to call. Thank you for using DHL Analytical.

Sincerely,

A handwritten signature in black ink, appearing to read "John DuPont".

John DuPont
General Manager

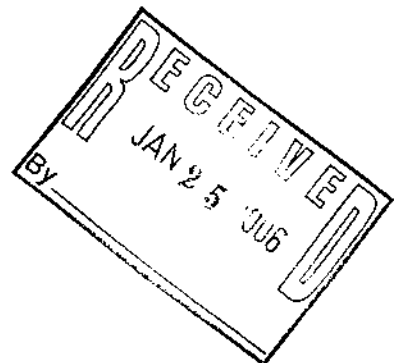




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• Sample Results	14-19
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January 23, 2006

Approved: _____

A handwritten signature in black ink, appearing to read "John DuPont", written over a horizontal line.

John DuPont



2300 Double Creek Drive • Round Rock, TX 78664
Phone (512) 388-8222 • FAX (512) 388-8229

No 27240
CHAIN-OF-CUSTODY

CLIENT: TERRACON
ADDRESS: 5307 (MAYNARD) DR STE 160 AUSTIN TX 78755
PHONE: 512 442 1122 FAX 442-1181
DATA REPORTED TO: SAUL GARZA
ADDITIONAL REPORT COPIES TO: BRENNAN WARRIOR

DATE: 1/13/06 PAGE 2 OF 2
PO #: 96007145 DHL WORK ORDER #: 0601077
PROJECT LOCATION OR NAME: FED EX
CLIENT PROJECT #: 96007145 COLLECTOR: BRENNAN WARRIOR

Field Sample I.D.	DHL Lab #	Date	Time	Matrix	Container Type	# of Containers	PRESERVATION					ANALYSES	FIELD NOTES
							HCl	HNO ₃	H ₂ SO ₄ □ NaOH □	ICE	UNPRESERVED		
<u>MW-3</u>	<u>06</u>	<u>1/13/06</u>	<u>1540</u>	<u>W</u>	<u>VOAS</u>	<u>4</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
<u>NOTHING FOUND</u>													

TOTAL													
RELINQUISHED BY: (Signature)	<u>[Signature]</u>	DATE/TIME	<u>1/13/06 1645</u>	RECEIVED BY: (Signature)	<u>[Signature]</u>	TURN AROUND TIME	RUSH <input type="checkbox"/> CALL FIRST	LABORATORY USE ONLY:	<u>ON ICE</u>				
RELINQUISHED BY: (Signature)	<u>[Signature]</u>	DATE/TIME		RECEIVED BY: (Signature)		1 DAY <input type="checkbox"/> CALL FIRST	RECEIVING TEMP: <u>8°C</u>	THERM #: <u>42</u>	<u>JUST COLLECTED</u>				
RELINQUISHED BY: (Signature)		DATE/TIME		RECEIVED BY: (Signature)		2 DAY <input type="checkbox"/>	CUSTODY SEALS - <input type="checkbox"/> BROKEN <input checked="" type="checkbox"/> INTACT <input type="checkbox"/> NOT USED						
						NORMAL <input checked="" type="checkbox"/>	<input type="checkbox"/> CARRIER BILL #						
						OTHER <input type="checkbox"/>	<input type="checkbox"/> APC DELIVERY						
							<input checked="" type="checkbox"/> HAND DELIVERED						

CUSTODY SEAL

DATE

1/18/05

SIGNATURE

[Handwritten Signature]

QEC

Quality Environmental Containers
800-255-3950 • 304-255-3900

DHL Analytical

Sample Receipt Checklist

Client Name HBC ENGIN.

Date Received: 1/18/2006

Work Order Number 0601077

Received by MLW

Checklist completed by: MLW 1/19/06
Signature Date

Reviewed by MLW 1/19/06
Initials Date

Carrier name Hand Delivered

- Shipping container/cooler in good condition? Yes No Not Present
- Custody seals intact on shipping container/cooler? Yes No Not Present
- Custody seals intact on sample bottles? Yes No Not Present
- Chain of custody present? Yes No
- Chain of custody signed when relinquished and received? Yes No
- Chain of custody agrees with sample labels? Yes No
- Samples in proper container/bottle? Yes No
- Sample containers intact? Yes No
- Sufficient sample volume for indicated test? Yes No
- All samples received within holding time? Yes No
- Container/Temp Blank temperature in compliance? Yes No
- Water - VOA vials have zero headspace? Yes No No VOA vials submitted
- Water - pH acceptable upon receipt? Yes No Not Applicable

Adjusted? _____ Checked by _____

Any No and/or NA (not applicable) response must be detailed in the comments section below.

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action _____

Laboratory Data Package Signature Page

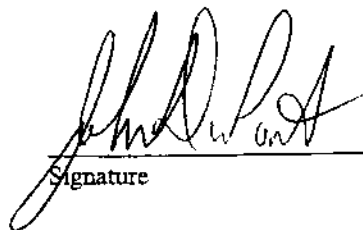
This data package consists of:

This signature page, the laboratory review checklist, and the following reportable data:

- R1 Field chain-of-custody documentation;
 - R2 Sample identification cross-reference;
 - R3 Test reports (analytical data sheets) for each environmental sample that includes:
 - a) Items consistent with NELAC 5.13
 - b) dilution factors,
 - c) preparation methods,
 - d) cleanup methods, and
 - e) if required for the project, tentatively identified compounds (TICs).
 - R4 Surrogate recovery data including:
 - a) Calculated recovery (%R), and
 - b) The laboratory's surrogate QC limits.
 - R5 Test reports/summary forms for blank samples;
 - R6 Test reports/summary forms for laboratory control samples (LCSs) including:
 - a) LCS spiking amounts,
 - b) Calculated %R for each analyte, and
 - c) The laboratory's LCS QC limits.
 - R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - a) Samples associated with the MS/MSD clearly identified,
 - b) MS/MSD spiking amounts,
 - c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
 - d) Calculated %Rs and relative percent differences (RPDs), and
 - e) The laboratory's MS/MSD QC limits
 - R8 Laboratory analytical duplicate (if applicable) recovery and precision:
 - a) the amount of analyte measured in the duplicate,
 - b) the calculated RPD, and
 - c) the laboratory's QC limits for analytical duplicates.
 - R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix;
 - R10 Other problems or anomalies.
- The Exception Report for every "No" or "Not Reviewed (NR)" item in laboratory review checklist.

Release Statement: I am responsible for the release of this laboratory data package. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By me signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratory in the Laboratory Review Checklist, and no information or data have been knowingly withheld that would affect the quality of the data.

Scott Schroeder – Project Manager
Michelle Green – QA Manager
John DuPont – General Manager


Signature

01/23/06
Date

DHL Analytical, Inc.

Laboratory Review Checklist: Reportable Data

Project Name: <i>Felix</i>	Date: <i>1/23/06</i>
Reviewer Name: Michelle Green	Laboratory Work Order: <i>0601077</i>
Prep Batch Number(s): See Prep Dates Report	Run Batch: See Analytical Dates Report

# ¹	A ²	Description	Yes	No	NA ³	NR ⁴	ER# ⁵
R1	OI	CHAIN-OF-CUSTODY (C-O-C)					
		1) Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	✓				<i>R1-01</i>
		2) Were all departures from standard conditions described in an exception report?				✓	
R2	OI	SAMPLE AND QUALITY CONTROL (QC) IDENTIFICATION					
		1) Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	✓				
		2) Are all laboratory ID numbers cross-referenced to the corresponding QC data?	✓				
R3	OI	TEST REPORTS					
		1) Were all samples prepared and analyzed within holding times?	✓				
		2) Other than those results < MQL, were all other raw values bracketed by calibration standards?	✓				
		3) Were calculations checked by a peer or supervisor?	✓				
		4) Were all analyte identifications checked by a peer or supervisor?	✓				
		5) Were sample quantitation limits reported for all analytes not detected?	✓				
		6) Were all results for soil and sediment samples reported on a dry weight basis?				✓	
		7) Were % moisture (or solids) reported for all soil and sediment samples?				✓	
		8) If required for the project, TICs reported?				✓	
R4	O	SURROGATE RECOVERY DATA					
		1) Were surrogates added prior to extraction?	✓				
		2) Were surrogate percent recoveries in all samples within the laboratory QC limits?	✓				
R5	OI	TEST REPORTS/SUMMARY FORMS FOR BLANK SAMPLES					
		1) Were appropriate type(s) of blanks analyzed?	✓				
		2) Were blanks analyzed at the appropriate frequency?	✓				
		3) Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	✓				
		4) Were blank concentrations < MQL?	✓				
R6	OI	LABORATORY CONTROL SAMPLES (LCS)					
		1) Were all COCs included in the LCS?	✓				
		2) Was each LCS taken through the entire analytical procedure, (prep and cleanup steps)?	✓				
		3) Were LCSs analyzed at the required frequency?	✓				
		4) Were LCS (and LCSD, if applicable) %Rs & RPD recovery within the laboratory QC limits?	✓				
		5) Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?	✓				
R7	OI	MATRIX SPIKE (MS) AND MATRIX SPIKE DUPLICATE (MSD) DATA					
		1) Were the project/method specified analytes included in the MS and MSD?	✓				
		2) Were MS/MSD analyzed at the appropriate frequency?	✓				
		3) Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	✓				
		4) Were MS/MSD RPDs within laboratory QC limits?	✓				
R8	OI	ANALYTICAL DUPLICATE DATA					
		1) Were appropriate analytical duplicates analyzed for each matrix?				✓	
		2) Were analytical duplicates analyzed at the appropriate frequency?				✓	
		3) Were RPDs or relative standard deviations within the laboratory QC limits?				✓	
R9	OI	METHOD QUANTITATION LIMITS (MQLS)					
		1) Are the MQLs for each method analyte included in the laboratory data package?	✓				
		2) Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	✓				
		3) Are unadjusted MQLs included in the laboratory data package?	✓				
R10	OI	OTHER PROBLEMS/ANOMALIES					
		1) Are all known problems/anomalies/special conditions noted in this LRC and ER?	✓				
		2) Were all necessary corrective actions performed for the reported data?	✓				
		3) Was applicable and available technology used to lower the SQL minimize the matrix interference affects on the sample results?	✓				

DHL Analytical, Inc.

Laboratory Review Checklist (continued): Supporting Data

Project Name: *Jid Ex*

Date: *1/27/06*

Reviewer Name: Michelle Green

Laboratory Work Order: *0601077*

# ¹	A ²	Description	Yes	No	NA ³	NR ⁴	ER# ⁵
S1	OI	INITIAL CALIBRATION (ICAL)					
		1) Were response factors and/or relative response factors for each analyte within QC limits?	✓				
		2) Were percent RSDs or correlation coefficient criteria met?	✓				
		3) Was the number of standards recommended in the method used for all analytes?	✓				
		4) Were all points generated between the lowest and highest standard used to calculate the curve?	✓				
		5) Are ICAL data available for all instruments used?	✓				
		6) Has the initial calibration curve been verified using an appropriate second source standard?	✓				
S2	OI	INITIAL AND CONTINUING CALIBRATION VERIFICATION (ICCV AND CCV) AND CONTINUING CALIBRATION BLANK (CCB)					
		1) Was the CCV analyzed at the method-required frequency?	✓				
		2) Were percent differences for each analyte within the method-required QC limits?	✓				
		3) Was the ICAL curve verified for each analyte?	✓				
		4) Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	✓				
S3	O	MASS SPECTRAL TUNING					
		1) Was the appropriate compound for the method used for tuning?	✓				
		2) Were ion abundance data within the method-required QC limits?	✓				
S4	O	INTERNAL STANDARDS (IS)					
		1) Were IS area counts and retention times within the method-required QC limits?	✓				
S5	OI	RAW DATA (NELAC SECTION 1 APPENDIX A GLOSSARY, & SECTION 5.12)					
		1) Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	✓				
		2) Were data associated with manual integrations flagged on the raw data?	✓				
S6	O	DUAL COLUMN CONFIRMATION					
		1) Did dual column confirmation results meet the method-required QC?	✓				
S7	O	TENTATIVELY IDENTIFIED COMPOUNDS (TICS)					
		1) If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?				✓	
S8	I	INTERFERENCE CHECK SAMPLE (ICS) RESULTS					
		1) Were percent recoveries within method QC limits?				✓	
S9	I	SERIAL DILUTIONS, POST DIGESTION SPIKES, AND METHOD OF STANDARD ADDITIONS					
		1) Were percent differences, recoveries, and the linearity within the QC limits specified in the method?				✓	
S10	OI	METHOD DETECTION LIMIT (MDL) STUDIES					
		1) Was a MDL study performed for each reported analyte?	✓				
S11	OI	PROFICIENCY TEST REPORTS					
		1) Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	✓				
S12	OI	STANDARDS DOCUMENTATION					
		1) Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	✓				
S13	OI	COMPOUND/ANALYTE IDENTIFICATION PROCEDURES					
		1) Are the procedures for compound/analyte identification documented?	✓				
S14	OI	DEMONSTRATION OF ANALYST COMPETENCY (DOC)					
		1) Was DOC conducted consistent with NELAC Chapter 5C?	✓				
S15	OI	VERIFICATION/VALIDATION DOCUMENTATION FOR METHODS (NELAC)					
		1) Are all the methods used to generate the data documented, verified, and validated, where applicable?	✓				
S16	OI	LABORATORY STANDARD OPERATING PROCEDURES (SOPS)					
		1) Are the laboratory SOPs current and on file for each method performed?	✓				

1 Items identified by the letter "R" should be included in the laboratory data package submitted to the TCEQ in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.

2 O = organic analyses; I = inorganic analyses (and general chemistry, when applicable)

3 NA = Not applicable; NR = Not Reviewed

5 ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked)

CLIENT: Terracon
Project: Fedex
Lab Order: 0601077

CASE NARRATIVE

Samples were analyzed using the methods outlined in the following references:

Method SW8021B - Volatile Organics by GC
Method TX1005 - Total Petroleum Hydrocarbon

Exception Report R1-01

The sample was received and log-in performed on 1/18/06. A total of 6 samples were received. The samples arrived in good condition and were properly packaged.

DATA REPORTING

Sample reports include the Sample Quantitation Limit (SQL) and the Reporting Limit (RL) for each analyte. The computer system allows for reporting SQL with 2 significant figures and the RL with 3 significant figures. Because of rounding it may sometime appear that a "J" flagged result is lower than the SQL if the sample result is very near the SQL.

CLIENT: Terracon
Project: Fedex
Lab Order: 0601077

Work Order Sample Summary

Lab Smp ID	Client Sample ID	Tag Number	Date Collected	Date Recved
0601077-01	MW-7		1/18/2006 1:30:00 PM	1/18/2006
0601077-02	MW-8		1/18/2006 1:40:00 PM	1/18/2006
0601077-03	MW-10		1/18/2006 2:00:00 PM	1/18/2006
0601077-04	MW-9		1/18/2006 2:10:00 PM	1/18/2006
0601077-05	MW-11		1/18/2006 2:20:00 PM	1/18/2006
0601077-06	MW-3		1/18/2006 3:40:00 PM	1/18/2006

Lab Order: 0601077
Client: Terracon
Project: Fedex

PREP DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
0601077-01A	MW-7	1/18/2006 1:30:00 PM	Aqueous	SW5030B	Purge and Trap Water GC	1/20/2006 9:48:31 AM	21174
0601077-02A	MW-8	1/18/2006 1:40:00 PM	Aqueous	SW5030B	Purge and Trap Water GC	1/20/2006 9:48:31 AM	21174
0601077-03A	MW-10	1/18/2006 2:00:00 PM	Aqueous	SW5030B	Purge and Trap Water GC	1/20/2006 9:48:31 AM	21174
0601077-04A	MW-9	1/18/2006 2:10:00 PM	Aqueous	SW5030B	Purge and Trap Water GC	1/20/2006 9:48:31 AM	21174
0601077-05A	MW-11	1/18/2006 2:20:00 PM	Aqueous	SW5030B	Purge and Trap Water GC	1/20/2006 9:48:31 AM	21174
0601077-06A	MW-3	1/18/2006 3:40:00 PM	Aqueous	SW5030B	Purge and Trap Water GC	1/20/2006 9:48:31 AM	21174
0601077-06B	MW-3	1/18/2006 3:40:00 PM	Aqueous	TX1005	TX1005 Water Prep	1/23/2006 9:13:02 AM	21186

Lab Order: 0601077
Client: Terracon
Project: Fedex

ANALYTICAL DATES REPORT

Sample ID	Client Sample ID	Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
0601077-01A	MW-7	Aqueous	SW8021B	BTEX\MTBE Water	21174	1	1/20/2006 11:56:50 AM	GC9_060120A
0601077-02A	MW-8	Aqueous	SW8021B	BTEX\MTBE Water	21174	1	1/20/2006 12:13:42 PM	GC9_060120A
0601077-03A	MW-10	Aqueous	SW8021B	BTEX\MTBE Water	21174	1	1/20/2006 12:30:35 PM	GC9_060120A
0601077-04A	MW-9	Aqueous	SW8021B	BTEX\MTBE Water	21174	1	1/20/2006 12:47:22 PM	GC9_060120A
0601077-05A	MW-11	Aqueous	SW8021B	BTEX\MTBE Water	21174	1	1/20/2006 1:04:04 PM	GC9_060120A
0601077-06A	MW-3	Aqueous	SW8021B	BTEX\MTBE Water	21174	1	1/20/2006 1:20:49 PM	GC9_060120A
0601077-06B	MW-3	Aqueous	TX1005	Tx1005 TPH Water	21186	1	1/23/2006 3:06:47 PM	GC12_060123B

DHL Analytical

Date: 23-Jan-06

CLIENT: Terracon
 Project: Fedex
 Project No: 96007145
 Lab Order: 0601077

Client Sample ID: MW-7
 Lab ID: 0601077-01
 Collection Date: 1/18/2006 1:30:00 PM
 Matrix: AQUEOUS

Analyses	Result	SQL	RL	Qual	Units	DF	Date Analyzed
BTEX\MTBE WATER		SW8021B		SW5030B			Analyst: KC
Methyl tert-butyl ether	ND	2.00	6.00		µg/L	1	1/20/2006 11:56:50 AM
Benzene	ND	0.800	2.00		µg/L	1	1/20/2006 11:56:50 AM
Toluene	ND	2.00	6.00		µg/L	1	1/20/2006 11:56:50 AM
Ethylbenzene	ND	2.00	6.00		µg/L	1	1/20/2006 11:56:50 AM
Xylenes, Total	ND	3.00	9.00		µg/L	1	1/20/2006 11:56:50 AM
Surr: a,a,a-Trifluorotoluene	97.2	0	87-113		%REC	1	1/20/2006 11:56:50 AM

Qualifiers: ND - Not Detected at the SQL
 J - Analyte detected between SQL and RL
 B - Analyte detected in the associated Method Blank
 DF- Dilution Factor
 See Final Page of Report for MQLs and MDLs

S - Spike Recovery outside control limits
 C - Sample Result or QC discussed in Case Narrative
 RL - Reporting Limit (MQL adjusted for moisture and sample size)
 SQL - Sample Quantitation Limit
 E - TPH pattern not Gas or Diesel Range Pattern

DHL Analytical

Date: 23-Jan-06

CLIENT: Terracon
 Project: Fedex
 Project No: 96007145
 Lab Order: 0601077

Client Sample ID: MW-8
 Lab ID: 0601077-02
 Collection Date: 1/18/2006 1:40:00 PM
 Matrix: AQUEOUS

Analyses	Result	SQL	RL	Qual	Units	DF	Date Analyzed
BTEX\MTBE WATER							Analyst: KC
		SW8021B		SW5030B			
Methyl tert-butyl ether	ND	2.00	6.00		µg/L	1	1/20/2006 12:13:42 PM
Benzene	ND	0.800	2.00		µg/L	1	1/20/2006 12:13:42 PM
Toluene	ND	2.00	6.00		µg/L	1	1/20/2006 12:13:42 PM
Ethylbenzene	ND	2.00	6.00		µg/L	1	1/20/2006 12:13:42 PM
Xylenes, Total	ND	3.00	9.00		µg/L	1	1/20/2006 12:13:42 PM
Surr: a,a,a-Trifluorotoluene	99.1	0	87-113		%REC	1	1/20/2006 12:13:42 PM

Qualifiers: ND - Not Detected at the SQL
 J - Analyte detected between SQL and RL
 B - Analyte detected in the associated Method Blank
 DF - Dilution Factor
 See Final Page of Report for MQLs and MDLs

S - Spike Recovery outside control limits
 C - Sample Result or QC discussed in Case Narrative
 RL - Reporting Limit (MQL adjusted for moisture and sample size)
 SQL - Sample Quantitation Limit
 E - TPH pattern not Gas or Diesel Range Pattern

DHL Analytical

Date: 23-Jan-06

CLIENT: Terracon
 Project: Fedex
 Project No: 96007145
 Lab Order: 0601077

Client Sample ID: MW-10
 Lab ID: 0601077-03
 Collection Date: 1/18/2006 2:00:00 PM
 Matrix: AQUEOUS

Analyses	Result	SQL	RL	Qual	Units	DF	Date Analyzed
BTEX\MTBE WATER							Analyst: KC
		SW8021B		SW5030B			
Methyl tert-butyl ether	ND	2.00	6.00		µg/L	1	1/20/2006 12:30:35 PM
Benzene	ND	0.800	2.00		µg/L	1	1/20/2006 12:30:35 PM
Toluene	ND	2.00	6.00		µg/L	1	1/20/2006 12:30:35 PM
Ethylbenzene	ND	2.00	6.00		µg/L	1	1/20/2006 12:30:35 PM
Xylenes, Total	ND	3.00	9.00		µg/L	1	1/20/2006 12:30:35 PM
Surr: a,a,a-Trifluorotoluene	102	0	87-113		%REC	1	1/20/2006 12:30:35 PM

Qualifiers: ND - Not Detected at the SQL
 J - Analyte detected between SQL and RL
 B - Analyte detected in the associated Method Blank
 DF - Dilution Factor
 See Final Page of Report for MQLs and MDLs

S - Spike Recovery outside control limits
 C - Sample Result or QC discussed in Case Narrative
 RL - Reporting Limit (MQL adjusted for moisture and sample size)
 SQL - Sample Quantitation Limit
 E - TPH pattern not Gas or Diesel Range Pattern

DHL Analytical

Date: 23-Jan-06

CLIENT: Terracon
 Project: Fedex
 Project No: 96007145
 Lab Order: 0601077

Client Sample ID: MW-9
 Lab ID: 0601077-04
 Collection Date: 1/18/2006 2:10:00 PM
 Matrix: AQUEOUS

Analyses	Result	SQL	RL	Qual	Units	DF	Date Analyzed
BTEX\MTBE WATER							Analyst: KC
Methyl tert-butyl ether	109	2.00	6.00		µg/L	1	1/20/2006 12:47:22 PM
Benzene	ND	0.800	2.00		µg/L	1	1/20/2006 12:47:22 PM
Toluene	ND	2.00	6.00		µg/L	1	1/20/2006 12:47:22 PM
Ethylbenzene	ND	2.00	6.00		µg/L	1	1/20/2006 12:47:22 PM
Xylenes, Total	ND	3.00	9.00		µg/L	1	1/20/2006 12:47:22 PM
Surr: a,a,a-Trifluorotoluene	103	0	87-113		%REC	1	1/20/2006 12:47:22 PM

Qualifiers: ND - Not Detected at the SQL
 J - Analyte detected between SQL and RL
 B - Analyte detected in the associated Method Blank
 DF - Dilution Factor
 See Final Page of Report for MQLs and MDLs

S - Spike Recovery outside control limits
 C - Sample Result or QC discussed in Case Narrative
 RL - Reporting Limit (MQL adjusted for moisture and sample size)
 SQL - Sample Quantitation Limit
 E - TPH pattern not Gas or Diesel Range Pattern

DHL Analytical

Date: 23-Jan-06

CLIENT: Terracon
Project: Fedex
Project No: 96007145
Lab Order: 0601077

Client Sample ID: MW-11
Lab ID: 0601077-05
Collection Date: 1/18/2006 2:20:00 PM
Matrix: AQUEOUS

Analyses	Result	SQL	RL	Qual	Units	DF	Date Analyzed
BTEX\MTBE WATER		SW8021B		SW5030B			Analyst: KC
Methyl tert-butyl ether	94.5	2.00	6.00		µg/L	1	1/20/2006 1:04:04 PM
Benzene	23.7	0.800	2.00		µg/L	1	1/20/2006 1:04:04 PM
Toluene	99.9	2.00	6.00		µg/L	1	1/20/2006 1:04:04 PM
Ethylbenzene	133	2.00	6.00		µg/L	1	1/20/2006 1:04:04 PM
Xylenes, Total	433	3.00	9.00		µg/L	1	1/20/2006 1:04:04 PM
Surr: a,a,a-Trifluorotoluene	102	0	87-113		%REC	1	1/20/2006 1:04:04 PM

Qualifiers: ND - Not Detected at the SQL
J - Analyte detected between SQL and RL
B - Analyte detected in the associated Method Blank
DF- Dilution Factor
See Final Page of Report for MQLs and MDLs

S - Spike Recovery outside control limits
C - Sample Result or QC discussed in Case Narrative
RL - Reporting Limit (MQL adjusted for moisture and sample size)
SQL - Sample Quantitation Limit
E - TPH pattern not Gas or Diesel Range Pattern

DHL Analytical

Date: 23-Jan-06

CLIENT: Terracon
 Project: Fedex
 Project No: 96007145
 Lab Order: 0601077

Client Sample ID: MW-3
 Lab ID: 0601077-06
 Collection Date: 1/18/2006 3:40:00 PM
 Matrix: AQUEOUS

Analyses	Result	SQL	RL	Qual	Units	DF	Date Analyzed
TX1005 TPH WATER			TX1005	TX1005			Analyst: KC
T/R Hydrocarbons: C6-C12	1.34	0.695	1.99	J	mg/L	1	1/23/2006 3:06:47 PM
T/R Hydrocarbons: >C12-C28	ND	0.695	1.99		mg/L	1	1/23/2006 3:06:47 PM
T/R Hydrocarbons: >C28-C35	ND	0.695	1.99		mg/L	1	1/23/2006 3:06:47 PM
T/R Hydrocarbons: C6-C35	1.34	0.695	1.99	J	mg/L	1	1/23/2006 3:06:47 PM
Surr: 1-Chlorooctane	105	0	87-147		%REC	1	1/23/2006 3:06:47 PM
Surr: Octacosane	102	0	80-140		%REC	1	1/23/2006 3:06:47 PM
BTEX\MTBE WATER			SW8021B	SW5030B			Analyst: KC
Methyl tert-butyl ether	31.7	2.00	6.00		µg/L	1	1/20/2006 1:20:49 PM
Benzene	81.3	0.800	2.00		µg/L	1	1/20/2006 1:20:49 PM
Toluene	2.62	2.00	6.00	J	µg/L	1	1/20/2006 1:20:49 PM
Ethylbenzene	22.1	2.00	6.00		µg/L	1	1/20/2006 1:20:49 PM
Xylenes, Total	25.4	3.00	9.00		µg/L	1	1/20/2006 1:20:49 PM
Surr: a,a,a-Trifluorotoluene	103	0	87-113		%REC	1	1/20/2006 1:20:49 PM

Qualifiers: ND - Not Detected at the SQL
 J - Analyte detected between SQL and RL
 B - Analyte detected in the associated Method Blank
 DF- Dilution Factor
 See Final Page of Report for MQLs and MDLs

S - Spike Recovery outside control limits
 C - Sample Result or QC discussed in Case Narrative
 RL - Reporting Limit (MQL adjusted for moisture and sample size)
 SQL - Sample Quantitation Limit
 E - TPH pattern not Gas or Diesel Range Pattern

CLIENT: Terracon
 Work Order: 0601077
 Project: Fedex

ANALYTICAL QC SUMMARY REPORT

RunID: GC12_060123B

Sample ID: LCS-21186	Batch ID: 21186	TestNo: TX1005	Units: mg/L							
SampType: LCS	Run ID: GC12_060123B	Analysis Date: 1/23/2006 2:46:11 PM	Prep Date: 1/23/2006							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C6-C35	29.2	2.00	25.00	0	117	75	125			
Surr: 1-Chlorooctane	3.11		2.500		124	113	173			
Surr: Octacosane	2.57		2.500		103	80	140			

Sample ID: LCSD-21186	Batch ID: 21186	TestNo: TX1005	Units: mg/L							
SampType: LCSD	Run ID: GC12_060123B	Analysis Date: 1/23/2006 2:51:16 PM	Prep Date: 1/23/2006							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C6-C35	27.7	2.00	25.00	0	111	75	125	5.40	20	
Surr: 1-Chlorooctane	2.92		2.500		117	113	173	0	0	
Surr: Octacosane	2.42		2.500		96.6	80	140	0	0	

Sample ID: MB-21186	Batch ID: 21186	TestNo: TX1005	Units: mg/L							
SampType: MBLK	Run ID: GC12_060123B	Analysis Date: 1/23/2006 3:01:35 PM	Prep Date: 1/23/2006							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C6-C12	ND	2.00								
T/R Hydrocarbons: >C12-C28	ND	2.00								
T/R Hydrocarbons: >C28-C35	ND	2.00								
T/R Hydrocarbons: C6-C35	ND	2.00								
Surr: 1-Chlorooctane	2.51		2.500		101	87	147			
Surr: Octacosane	2.58		2.500		103	80	140			

Qualifiers: B Analyte detected in the associated Method Blank
 ND Not Detected at the Method Detection Limit
 S Spike Recovery outside control limits
 J Analyte detected between MDL and RL
 R RPD outside accepted control limits

CLIENT: Terracon
 Work Order: 0601077
 Project: Fedex

ANALYTICAL QC SUMMARY REPORT

RunID: GC12_060123B

Sample ID: CCV2-060123	Batch ID: R24835	TestNo: TX1005	Units: mg/L							
SampType: CCV	Run ID: GC12_060123B	Analysis Date: 1/23/2006 2:11:02 PM	Prep Date:							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C6-C12	256	2.00								
T/R Hydrocarbons: >C12-C28	352	2.00								
T/R Hydrocarbons: >C28-C35	0.691	2.00								
T/R Hydrocarbons: C6-C35	609	2.00	500.0	0	122	75	125			
Surr: 1-Chlorooctane	37.7		25.00		151	140	195			
Surr: Octacosane	26.4		25.00		105	85	133			

Sample ID: CCV3-060123	Batch ID: R24835	TestNo: TX1005	Units: mg/L							
SampType: CCV	Run ID: GC12_060123B	Analysis Date: 1/23/2006 3:33:16 PM	Prep Date:							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C6-C12	238	2.00								
T/R Hydrocarbons: >C12-C28	321	2.00								
T/R Hydrocarbons: >C28-C35	ND	2.00								
T/R Hydrocarbons: C6-C35	559	2.00	500.0	0	112	75	125			
Surr: 1-Chlorooctane	35.1		25.00		140	140	195			
Surr: Octacosane	24.1		25.00		96.4	85	133			

Sample ID: ICV-060123	Batch ID: R24835	TestNo: TX1005	Units: mg/L							
SampType: ICV	Run ID: GC12_060123B	Analysis Date: 1/23/2006 10:59:49 AM	Prep Date:							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C6-C12	503	2.00								
T/R Hydrocarbons: >C12-C28	645	2.00								
T/R Hydrocarbons: >C28-C35	0.570	2.00								
T/R Hydrocarbons: C6-C35	1150	2.00	1000	0	115	75	125			
Surr: 1-Chlorooctane	73.3		50.00		147	140	195			
Surr: Octacosane	48.6		50.00		97.2	85	133			

Qualifiers: B Analyte detected in the associated Method Blank
 ND Not Detected at the Method Detection Limit
 S Spike Recovery outside control limits
 J Analyte detected between MDL and RL
 R RPD outside accepted control limits

CLIENT: Terracon
 Work Order: 0601077
 Project: Fedex

ANALYTICAL QC SUMMARY REPORT

RunID: GC9_060120A

Sample ID: LCS-21174		Batch ID: 21174		TestNo: SW8021B		Units: µg/L				
SampType: LCS		Run ID: GC9_060120A		Analysis Date: 1/20/2006 11:15:27 AM		Prep Date: 1/20/2006				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether	49.2	6.00	50.00	0	98.5	78	122			
Benzene	48.0	2.00	50.00	0	96.1	81	125			
Toluene	50.3	6.00	50.00	0	101	84	123			
Ethylbenzene	49.7	6.00	50.00	0	99.4	83	119			
Xylenes, Total	151	9.00	150.0	0	100	81	117			
Surr: a,a,a-Trifluorotoluene	206		200.0		103	87	113			

Sample ID: MB-21174		Batch ID: 21174		TestNo: SW8021B		Units: µg/L				
SampType: MBLK		Run ID: GC9_060120A		Analysis Date: 1/20/2006 11:32:24 AM		Prep Date: 1/20/2006				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether	ND	6.00								
Benzene	ND	2.00								
Toluene	ND	6.00								
Ethylbenzene	ND	6.00								
Xylenes, Total	ND	9.00								
Surr: a,a,a-Trifluorotoluene	203		200.0		101	87	113			

Sample ID: 0601077-01AMS		Batch ID: 21174		TestNo: SW8021B		Units: µg/L				
SampType: MS		Run ID: GC9_060120A		Analysis Date: 1/20/2006 3:37:01 PM		Prep Date: 1/20/2006				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether	47.1	6.00	50.00	0	94.2	78	122			
Benzene	47.2	2.00	50.00	0	94.5	81	125			
Toluene	49.2	6.00	50.00	0	98.4	84	123			
Ethylbenzene	49.8	6.00	50.00	0	99.7	83	119			
Xylenes, Total	151	9.00	150.0	0	101	81	117			
Surr: a,a,a-Trifluorotoluene	193		200.0		96.3	87	113			

Sample ID: 0601077-01AMSD		Batch ID: 21174		TestNo: SW8021B		Units: µg/L				
SampType: MSD		Run ID: GC9_060120A		Analysis Date: 1/20/2006 3:53:46 PM		Prep Date: 1/20/2006				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether	46.0	6.00	50.00	0	92.0	78	122	2.44	20	
Benzene	46.1	2.00	50.00	0	92.1	81	125	2.52	20	
Toluene	48.2	6.00	50.00	0	96.4	84	123	2.04	20	
Ethylbenzene	48.4	6.00	50.00	0	96.7	83	119	3.05	20	
Xylenes, Total	146	9.00	150.0	0	97.3	81	117	3.45	20	
Surr: a,a,a-Trifluorotoluene	192		200.0		96.2	87	113	0	0	

Qualifiers: B Analyte detected in the associated Method Blank J Analyte detected between MDL and RL
 ND Not Detected at the Method Detection Limit R RPD outside accepted control limits
 S Spike Recovery outside control limits

CLIENT: Terracon
 Work Order: 0601077
 Project: Fedex

ANALYTICAL QC SUMMARY REPORT

RunID: GC9_060120A

Sample ID: ICV-060120	Batch ID: R24817	TestNo: SW8021B	Units: µg/L							
SampType: ICV	Run ID: GC9_060120A	Analysis Date: 1/20/2006 10:58:36 AM	Prep Date:							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether	89.8	6.00	100.0	0	89.8	80	120			
Benzene	90.6	2.00	100.0	0	90.6	85	115			
Toluene	97.0	6.00	100.0	0	97.0	85	115			
Ethylbenzene	98.1	6.00	100.0	0	98.1	85	115			
Xylenes, Total	293	9.00	300.0	0	97.6	85	115			
Surr: a,a,a-Trifluorotoluene	205		200.0		102	87	113			

Sample ID: CCV1-060120	Batch ID: R24817	TestNo: SW8021B	Units: µg/L							
SampType: CCV	Run ID: GC9_060120A	Analysis Date: 1/20/2006 2:11:07 PM	Prep Date:							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether	45.0	6.00	50.00	0	90.0	80	120			
Benzene	47.4	2.00	50.00	0	94.8	85	115			
Toluene	49.3	6.00	50.00	0	98.6	85	115			
Ethylbenzene	49.6	6.00	50.00	0	99.2	85	115			
Xylenes, Total	150	9.00	150.0	0	99.8	85	115			
Surr: a,a,a-Trifluorotoluene	207		200.0		103	87	113			

Sample ID: CCV2-060120	Batch ID: R24817	TestNo: SW8021B	Units: µg/L							
SampType: CCV	Run ID: GC9_060120A	Analysis Date: 1/20/2006 4:10:28 PM	Prep Date:							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether	50.6	6.00	50.00	0	101	80	120			
Benzene	48.1	2.00	50.00	0	96.2	85	115			
Toluene	50.0	6.00	50.00	0	100	85	115			
Ethylbenzene	50.4	6.00	50.00	0	101	85	115			
Xylenes, Total	152	9.00	150.0	0	102	85	115			
Surr: a,a,a-Trifluorotoluene	207		200.0		103	87	113			

Qualifiers: B Analyte detected in the associated Method Blank J Analyte detected between MDL and RL
 ND Not Detected at the Method Detection Limit R RPD outside accepted control limits
 S Spike Recovery outside control limits

CLIENT: Terracon
Work Order: 0601077
Project: Fedex

SQL SUMMARY REPORT

TestNo: TX1005	MDL	SQL
Analyte	mg/L	mg/L
T/R Hydrocarbons: C6-C12	0.7	2
T/R Hydrocarbons: >C12-C28	0.7	2
T/R Hydrocarbons: >C28-C35	0.7	2
T/R Hydrocarbons: C6-C35	0.7	2

TestNo: SW8021B	MDL	SQL
Analyte	µg/L	µg/L
Methyl tert-butyl ether	2	6
Benzene	0.8	2
Toluene	2	6
Ethylbenzene	2	6
Xylenes, Total	3	9

Qualifiers: MQL -Method Quantitation Limit as defined by TRRP
MDL -Method Detection Limit as defined by TRRP



May 02, 2006

Russ Ford
Terracon
5307 Industrial Oaks Blvd., Suite 160
Austin, Texas 78735

TEL: (512) 442-1122
FAX (512) 442-1181

Order No.: 0604148

RE: Federal Express

Dear Russ Ford:

DHL Analytical received 5 sample(s) on 4/21/2006 for the analyses presented in the following report.

There were no problems with the analyses and all data met requirements of NELAC except where noted in the Case Narrative. All non-NELAC methods will be identified accordingly in the case narrative and all estimated uncertainties of test results are within method or EPA specifications.

If you have any questions regarding these tests results, please feel free to call. Thank you for using DHL Analytical.

Sincerely,

A handwritten signature in black ink, appearing to read "John DuPont", written in a cursive style.

John DuPont
General Manager



TABLE OF CONTENTS

This report for Terracon: Federal Express (DHL Work Order 0604148) contains the following information:

ITEM	Page
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• Data Package Signature Page	5
• Laboratory Review Checklist	6-7
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• QC Summary Report	17-28
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• Total Number of Pages	29

May 2, 2006

Approved: _____


John DuPont

Sample Receipt Checklist

Client Name Terracon

Date Received: 4/21/2006

Work Order Number 0604148

Received by MLG

Checklist completed by: [Signature] 4-21-06
Signature Date

Reviewed by [Initials] 04/21/06
Initials Date

Carrier name Hand Delivered

- Shipping container/cooler in good condition? Yes No Not Present
- Custody seals intact on shipping container/cooler? Yes No Not Present
- Custody seals intact on sample bottles? Yes No Not Present
- Chain of custody present? Yes No
- Chain of custody signed when relinquished and received? Yes No
- Chain of custody agrees with sample labels? Yes No
- Samples in proper container/bottle? Yes No
- Sample containers intact? Yes No
- Sufficient sample volume for indicated test? Yes No
- All samples received within holding time? Yes No
- Container/Temp Blank temperature in compliance? Yes No
- Water - VOA vials have zero headspace? Yes No No VOA vials submitted
- Water - pH acceptable upon receipt? Yes No Not Applicable

Adjusted? _____ Checked by _____

Any No response must be detailed in the comments section below.

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action _____

Laboratory Data Package Signature Page

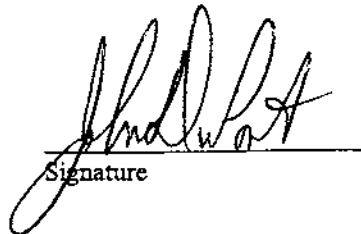
This data package consists of:

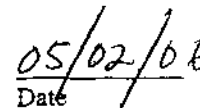
This signature page, the laboratory review checklist, and the following reportable data:

- R1 Field chain-of-custody documentation;
 - R2 Sample identification cross-reference;
 - R3 Test reports (analytical data sheets) for each environmental sample that includes:
 - a) Items consistent with NELAC 5.13
 - b) dilution factors,
 - c) preparation methods,
 - d) cleanup methods, and
 - e) if required for the project, tentatively identified compounds (TICs).
 - R4 Surrogate recovery data including:
 - a) Calculated recovery (%R), and
 - b) The laboratory's surrogate QC limits.
 - R5 Test reports/summary forms for blank samples;
 - R6 Test reports/summary forms for laboratory control samples (LCSs) including:
 - a) LCS spiking amounts,
 - b) Calculated %R for each analyte, and
 - c) The laboratory's LCS QC limits.
 - R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - a) Samples associated with the MS/MSD clearly identified,
 - b) MS/MSD spiking amounts,
 - c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
 - d) Calculated %Rs and relative percent differences (RPDs), and
 - e) The laboratory's MS/MSD QC limits
 - R8 Laboratory analytical duplicate (if applicable) recovery and precision:
 - a) the amount of analyte measured in the duplicate,
 - b) the calculated RPD, and
 - c) the laboratory's QC limits for analytical duplicates.
 - R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix;
 - R10 Other problems or anomalies.
- The Exception Report for every "No" or "Not Reviewed (NR)" item in laboratory review checklist.

Release Statement: I am responsible for the release of this laboratory data package. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratory in the Laboratory Review Checklist, and no information or data have been knowingly withheld that would affect the quality of the data.

Scott Schroeder – Project Manager
Michelle Green – QA Manager
John DuPont – General Manager


Signature


Date

DHL Analytical, Inc.

Laboratory Review Checklist: Reportable Data

Project Name: <i>Federal Express</i>	Date: <i>5-2-06</i>
Reviewer Name: Michelle Green	Laboratory Work Order: <i>0604148</i>
Prep Batch Number(s): See Prep Dates Report	Run Batch: See Analytical Dates Report

# ¹	A ²	Description	Yes	No	NA ³	NR ⁴	ER# ⁵
R1	OI	CHAIN-OF-CUSTODY (C-O-C)					
		1) Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	✓				R1-01
		2) Were all departures from standard conditions described in an exception report?			✓		
R2	OI	SAMPLE AND QUALITY CONTROL (QC) IDENTIFICATION					
		1) Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	✓				
		2) Are all laboratory ID numbers cross-referenced to the corresponding QC data?	✓				
R3	OI	TEST REPORTS					
		1) Were all samples prepared and analyzed within holding times?	✓				
		2) Other than those results < MQL, were all other raw values bracketed by calibration standards?	✓				
		3) Were calculations checked by a peer or supervisor?	✓				
		4) Were all analyte identifications checked by a peer or supervisor?	✓				
		5) Were sample quantitation limits reported for all analytes not detected?	✓				
		6) Were all results for soil and sediment samples reported on a dry weight basis?				✓	
		7) Were % moisture (or solids) reported for all soil and sediment samples?				✓	
8) If required for the project, TICs reported?				✓			
R4	O	SURROGATE RECOVERY DATA					
		1) Were surrogates added prior to extraction?	✓				
		2) Were surrogate percent recoveries in all samples within the laboratory QC limits? <i>MS 5/2/06</i>			✓		R4-02
R5	OI	TEST REPORTS/SUMMARY FORMS FOR BLANK SAMPLES					
		1) Were appropriate type(s) of blanks analyzed?	✓				
		2) Were blanks analyzed at the appropriate frequency?	✓				
		3) Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	✓				
		4) Were blank concentrations < MQL?	✓				
R6	OI	LABORATORY CONTROL SAMPLES (LCS)					
		1) Were all COCs included in the LCS?	✓				
		2) Was each LCS taken through the entire analytical procedure, (prep and cleanup steps)?	✓				
		3) Were LCSs analyzed at the required frequency?	✓				
		4) Were LCS (and LCSD, if applicable) %Rs & RPD recovery within the laboratory QC limits?	✓				
		5) Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?	✓				
R7	OI	MATRIX SPIKE (MS) AND MATRIX SPIKE DUPLICATE (MSD) DATA					
		1) Were the project/method specified analytes included in the MS and MSD?	✓				
		2) Were MS/MSD analyzed at the appropriate frequency?	✓				
		3) Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	✓				
		4) Were MS/MSD RPDs within laboratory QC limits?	✓				
R8	OI	ANALYTICAL DUPLICATE DATA					
		1) Were appropriate analytical duplicates analyzed for each matrix?				✓	
		2) Were analytical duplicates analyzed at the appropriate frequency?				✓	
		3) Were RPDs or relative standard deviations within the laboratory QC limits?				✓	
R9	OI	METHOD QUANTITATION LIMITS (MQLS)					
		1) Are the MQLs for each method analyte included in the laboratory data package?	✓				
		2) Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	✓				
		3) Are unadjusted MQLs included in the laboratory data package?	✓				
R10	OI	OTHER PROBLEMS/ANOMALIES					
		1) Are all known problems/anomalies/special conditions noted in this LRC and ER?	✓				
		2) Were all necessary corrective actions performed for the reported data?	✓				
		3) Was applicable and available technology used to lower the SQL minimize the matrix interference affects on the sample results?	✓				

DHL Analytical, Inc.

Laboratory Review Checklist (continued): Supporting Data

Project Name: *Federal Express*

Date: *5-2-06*

Reviewer Name: Michelle Green

Laboratory Work Order: *0604148*

# ¹	A ²	Description	Yes	No	NA ³	NR ⁴	ER# ⁵
S1	OI	INITIAL CALIBRATION (ICAL)					
		1) Were response factors and/or relative response factors for each analyte within QC limits?	✓				
		2) Were percent RSDs or correlation coefficient criteria met?	✓				
		3) Was the number of standards recommended in the method used for all analytes?	✓				
		4) Were all points generated between the lowest and highest standard used to calculate the curve?	✓				
		5) Are ICAL data available for all instruments used?	✓				
		6) Has the initial calibration curve been verified using an appropriate second source standard?	✓				
S2	OI	INITIAL AND CONTINUING CALIBRATION VERIFICATION (ICCV AND CCV) AND CONTINUING CALIBRATION BLANK (CCB)					
		1) Was the CCV analyzed at the method-required frequency?	✓				
		2) Were percent differences for each analyte within the method-required QC limits?	✓				
		3) Was the ICAL curve verified for each analyte?	✓				
		4) Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	✓				
S3	O	MASS SPECTRAL TUNING					
		1) Was the appropriate compound for the method used for tuning?	✓				
		2) Were ion abundance data within the method-required QC limits?	✓				
S4	O	INTERNAL STANDARDS (IS)					
		1) Were IS area counts and retention times within the method-required QC limits?	✓				
S5	OI	RAW DATA (NELAC SECTION 1 APPENDIX A GLOSSARY, & SECTION 5.12)					
		1) Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	✓				
		2) Were data associated with manual integrations flagged on the raw data?	✓				
S6	O	DUAL COLUMN CONFIRMATION					
		1) Did dual column confirmation results meet the method-required QC?	✓				
S7	O	TENTATIVELY IDENTIFIED COMPOUNDS (TICS)					
		1) If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			✓		
S8	I	INTERFERENCE CHECK SAMPLE (ICS) RESULTS					
		1) Were percent recoveries within method QC limits?			✓		
S9	I	SERIAL DILUTIONS, POST DIGESTION SPIKES, AND METHOD OF STANDARD ADDITIONS					
		1) Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			✓		
S10	OI	METHOD DETECTION LIMIT (MDL) STUDIES					
		1) Was a MDL study performed for each reported analyte?	✓				
S11	OI	PROFICIENCY TEST REPORTS					
		1) Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	✓				
S12	OI	STANDARDS DOCUMENTATION					
		1) Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?			✓		
S13	OI	COMPOUND/ANALYTE IDENTIFICATION PROCEDURES					
		1) Are the procedures for compound/analyte identification documented?	✓				
S14	OI	DEMONSTRATION OF ANALYST COMPETENCY (DOC)					
		1) Was DOC conducted consistent with NELAC Chapter 5C?	✓				
S15	OI	VERIFICATION/VALIDATION DOCUMENTATION FOR METHODS (NELAC)					
		1) Are all the methods used to generate the data documented, verified, and validated, where applicable?			✓		
S16	OI	LABORATORY STANDARD OPERATING PROCEDURES (SOPS)					
		1) Are the laboratory SOPs current and on file for each method performed?	✓				

1 Items identified by the letter "R" should be included in the laboratory data package submitted to the TCEQ in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
 2 O = organic analyses. I = inorganic analyses (and general chemistry, when applicable)
 3 NA = Not applicable 4 NR = Not Reviewed
 5 ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked)

CLIENT: Terracon
Project: Federal Express
Lab Order: 0604148

CASE NARRATIVE

Samples were analyzed using the methods outlined in the following references:

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition.

Method SW8021B - Volatile Organics by GC
Method SW8270C - PAH Analysis
Method TX1005 - Total Petroleum Hydrocarbon

Exception Report R1-01

The sample was received and log-in performed on 4/21/06. A total of 5 samples were received. The samples arrived in good condition and were properly packaged.

Exception Report R4-02

For PAH analysis the surrogate recovery for sample MW-4 was above control limits for 4-Terphenyl-d14. This is flagged accordingly. No further corrective actions were taken.

DATA REPORTING

Sample reports include the Sample Quantitation Limit (SQL) and the Reporting Limit (RL) for each analyte. The computer system allows for reporting SQL with 2 significant figures and the RL with 3 significant figures. Because of rounding it may sometimes appear that a "J" flagged result is lower than the SQL if the sample result is very near the SQL.

CLIENT: Terracon
Project: Federal Express
Lab Order: 0604148

Work Order Sample Summary

Lab Smp ID	Client Sample ID	Tag Number	Date Collected	Date Recved
0604148-01	MW-5		4/21/2006 11:30:00 AM	4/21/2006
0604148-02	MW-7		4/21/2006 11:45:00 AM	4/21/2006
0604148-03	MW-8		4/21/2006 12:00:00 PM	4/21/2006
0604148-04	MW-3		4/21/2006 12:00:00 PM	4/21/2006
0604148-05	MW-4		4/21/2006 12:15:00 PM	4/21/2006

Lab Order: 0604148
 Client: Terracon
 Project: Federal Express

PREP DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
0604148-01A	MW-5	4/21/2006 11:30:00 AM	Aqueous	SW5030B	Purge and Trap Water GC	5/1/2006 5:55:54 PM	22080
0604148-01B	MW-5	4/21/2006 11:30:00 AM	Aqueous	TX1005	TX1005 Water Prep	4/24/2006 3:53:10 PM	21994
0604148-02A	MW-7	4/21/2006 11:45:00 AM	Aqueous	SW5030B	Purge and Trap Water GC	4/26/2006 10:23:33 AM	22016
0604148-03A	MW-8	4/21/2006 12:00:00 PM	Aqueous	SW5030B	Purge and Trap Water GC	4/26/2006 10:23:33 AM	22016
0604148-04A	MW-3	4/21/2006 12:00:00 PM	Aqueous	SW5030B	Purge and Trap Water GC	5/1/2006 5:55:54 PM	22080
	MW-3	4/21/2006 12:00:00 PM	Aqueous	SW5030B	Purge and Trap Water GC	5/1/2006 5:55:54 PM	22080
0604148-04B	MW-3	4/21/2006 12:00:00 PM	Aqueous	TX1005	TX1005 Water Prep	4/24/2006 3:53:10 PM	21994
0604148-05A	MW-4	4/21/2006 12:15:00 PM	Aqueous	SW5030B	Purge and Trap Water GC	5/1/2006 5:55:54 PM	22080
	MW-4	4/21/2006 12:15:00 PM	Aqueous	SW5030B	Purge and Trap Water GC	5/1/2006 5:55:54 PM	22080
0604148-05B	MW-4	4/21/2006 12:15:00 PM	Aqueous	TX1005	TX1005 Water Prep	4/24/2006 3:53:10 PM	21994
0604148-05C	MW-4	4/21/2006 12:15:00 PM	Aqueous	SW3510C	Aq Prep Sep Funnel: PAH	4/25/2006 10:02:29 AM	21998
	MW-4	4/21/2006 12:15:00 PM	Aqueous	SW3510C	Aq Prep Sep Funnel: PAH	4/25/2006 10:02:29 AM	21998

Lab Order: 0604148
 Client: Terracon
 Project: Federal Express

ANALYTICAL DATES REPORT

Sample ID	Client Sample ID	Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
0604148-01A	MW-5	Aqueous	SW8021B	Volatile Organics by GC	22080	20	5/1/2006 7:13:08 PM	GC9_060501A
0604148-01B	MW-5	Aqueous	TX1005	Tx1005 TPH Water	21994	1	4/24/2006 5:25:44 PM	GC12_060424D
0604148-02A	MW-7	Aqueous	SW8021B	Volatile Organics by GC	22016	1	4/26/2006 5:00:30 PM	GC9_060426A
0604148-03A	MW-8	Aqueous	SW8021B	Volatile Organics by GC	22016	1	4/26/2006 5:18:27 PM	GC9_060426A
0604148-04A	MW-3	Aqueous	SW8021B	Volatile Organics by GC	22080	10	5/2/2006 10:39:26 AM	GC9_060501A
	MW-3	Aqueous	SW8021B	Volatile Organics by GC	22080	1	5/1/2006 7:31:11 PM	GC9_060501A
0604148-04B	MW-3	Aqueous	TX1005	Tx1005 TPH Water	21994	1	4/24/2006 5:31:22 PM	GC12_060424D
0604148-05A	MW-4	Aqueous	SW8021B	Volatile Organics by GC	22080	1	5/2/2006 10:21:17 AM	GC9_060501A
	MW-4	Aqueous	SW8021B	Volatile Organics by GC	22080	20	5/1/2006 7:49:18 PM	GC9_060501A
0604148-05B	MW-4	Aqueous	TX1005	Tx1005 TPH Water	21994	1	4/24/2006 5:36:37 PM	GC12_060424D
0604148-05C	MW-4	Aqueous	SW8270C	PAHs: GC/MS	21998	50	4/26/2006 10:52:00 AM	GCMS6_060425A
	MW-4	Aqueous	SW8270C	PAHs: GC/MS	21998	1	4/25/2006 10:34:00 PM	GCMS6_060425A

DHL Analytical

Date: 02-May-06

CLIENT: Terracon
 Project: Federal Express
 Project No: 96007145
 Lab Order: 0604148

Client Sample ID: MW-5
 Lab ID: 0604148-01
 Collection Date: 4/21/2006 11:30:00 AM
 Matrix: AQUEOUS

Analyses	Result	SQL	RL	Qual	Units	DF	Date Analyzed
TX1005 TPH WATER		TX1005		Analyst: KC			
T/R Hydrocarbons: C6-C12	11.2	0.674	1.93		mg/L	1	4/24/2006 5:25:44 PM
T/R Hydrocarbons: >C12-C28	0.954	0.674	1.93	J	mg/L	1	4/24/2006 5:25:44 PM
T/R Hydrocarbons: >C28-C35	ND	0.674	1.93		mg/L	1	4/24/2006 5:25:44 PM
T/R Hydrocarbons: C6-C35	12.2	0.674	1.93		mg/L	1	4/24/2006 5:25:44 PM
Surr: 1-Chlorooctane	108	0	87-147		%REC	1	4/24/2006 5:25:44 PM
Surr: Octacosane	132	0	80-140		%REC	1	4/24/2006 5:25:44 PM
VOLATILE ORGANICS BY GC		SW8021B		Analyst: KC			
Methyl tert-butyl ether	921	40.0	120		µg/L	20	5/1/2006 7:13:08 PM
Benzene	2090	16.0	40.0		µg/L	20	5/1/2006 7:13:08 PM
Toluene	1030	40.0	120		µg/L	20	5/1/2006 7:13:08 PM
Ethylbenzene	378	40.0	120		µg/L	20	5/1/2006 7:13:08 PM
Xylenes, Total	3090	60.0	180		µg/L	20	5/1/2006 7:13:08 PM
Surr: a,a,a-Trifluorotoluene	109	0	87-113		%REC	20	5/1/2006 7:13:08 PM

Qualifiers: ND - Not Detected at the SQL
 J - Analyte detected between SQL and RL
 B - Analyte detected in the associated Method Blank
 DF - Dilution Factor
 See Final Page of Report for MQLs and MDLs

S - Spike Recovery outside control limits
 C - Sample Result or QC discussed in Case Narrative
 RL - Reporting Limit (MQL adjusted for moisture and sample size)
 SQL - Sample Quantitation Limit
 E - TPH pattern not Gas or Diesel Range Pattern

DHL Analytical

Date: 02-May-06

CLIENT: Terracon
 Project: Federal Express
 Project No: 96007145
 Lab Order: 0604148

Client Sample ID: MW-7
 Lab ID: 0604148-02
 Collection Date: 4/21/2006 11:45:00 AM
 Matrix: AQUEOUS

Analyses	Result	SQL	RL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANICS BY GC		SW8021B			Analyst: KC		
Methyl tert-butyl ether	ND	2.00	6.00		µg/L	1	4/26/2006 5:00:30 PM
Benzene	ND	0.800	2.00		µg/L	1	4/26/2006 5:00:30 PM
Toluene	ND	2.00	6.00		µg/L	1	4/26/2006 5:00:30 PM
Ethylbenzene	ND	2.00	6.00		µg/L	1	4/26/2006 5:00:30 PM
Xylenes, Total	ND	3.00	9.00		µg/L	1	4/26/2006 5:00:30 PM
Surr: a,a,a-Trifluorotoluene	103	0	87-113		%REC	1	4/26/2006 5:00:30 PM

Qualifiers: ND - Not Detected at the SQL
 J - Analyte detected between SQL and RL
 B - Analyte detected in the associated Method Blank
 DF- Dilution Factor
 See Final Page of Report for MQLs and MDLs

S - Spike Recovery outside control limits
 C - Sample Result or QC discussed in Case Narrative
 RL - Reporting Limit (MQL adjusted for moisture and sample size)
 SQL - Sample Quantitation Limit
 E - TPH pattern not Gas or Diesel Range Pattern

DHL Analytical

Date: 02-May-06

CLIENT: Terracon
 Project: Federal Express
 Project No: 96007145
 Lab Order: 0604148

Client Sample ID: MW-8
 Lab ID: 0604148-03
 Collection Date: 4/21/2006 12:00:00 PM
 Matrix: AQUEOUS

Analyses	Result	SQL	RL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANICS BY GC		SW8021B			Analyst: KC		
Methyl tert-butyl ether	ND	2.00	6.00		µg/L	1	4/26/2006 5:18:27 PM
Benzene	1.16	0.800	2.00	J	µg/L	1	4/26/2006 5:18:27 PM
Toluene	ND	2.00	6.00		µg/L	1	4/26/2006 5:18:27 PM
Ethylbenzene	ND	2.00	6.00		µg/L	1	4/26/2006 5:18:27 PM
Xylenes, Total	ND	3.00	9.00		µg/L	1	4/26/2006 5:18:27 PM
Surr: a,a,a-Trifluorotoluene	108	0	87-113		%REC	1	4/26/2006 5:18:27 PM

Qualifiers: ND - Not Detected at the SQL
 J - Analyte detected between SQL and RL
 B - Analyte detected in the associated Method Blank
 DF - Dilution Factor
 See Final Page of Report for MQLs and MDLs

S - Spike Recovery outside control limits
 C - Sample Result or QC discussed in Case Narrative
 RL - Reporting Limit (MQL adjusted for moisture and sample size)
 SQL - Sample Quantitation Limit
 E - TPH pattern not Gas or Diesel Range Pattern

DHL Analytical

Date: 02-May-06

CLIENT: Terracon
 Project: Federal Express
 Project No: 96007145
 Lab Order: 0604148

Client Sample ID: MW-3
 Lab ID: 0604148-04
 Collection Date: 4/21/2006 12:00:00 PM
 Matrix: AQUEOUS

Analyses	Result	SQL	RL	Qual	Units	DF	Date Analyzed
TX1005 TPH WATER		TX1005		Analyst: KC			
T/R Hydrocarbons: C6-C12	1.73	0.686	1.96	J	mg/L	1	4/24/2006 5:31:22 PM
T/R Hydrocarbons: >C12-C28	ND	0.686	1.96		mg/L	1	4/24/2006 5:31:22 PM
T/R Hydrocarbons: >C28-C35	ND	0.686	1.96		mg/L	1	4/24/2006 5:31:22 PM
T/R Hydrocarbons: C6-C35	1.73	0.686	1.96	J	mg/L	1	4/24/2006 5:31:22 PM
Surr: 1-Chlorooctane	103	0	87-147		%REC	1	4/24/2006 5:31:22 PM
Surr: Octacosane	97.9	0	80-140		%REC	1	4/24/2006 5:31:22 PM
VOLATILE ORGANICS BY GC		SW8021B		Analyst: KC			
Methyl tert-butyl ether	67.6	2.00	6.00		µg/L	1	5/1/2006 7:31:11 PM
Benzene	231	8.00	20.0		µg/L	10	5/2/2006 10:39:26 AM
Toluene	39.5	2.00	6.00		µg/L	1	5/1/2006 7:31:11 PM
Ethylbenzene	62.6	2.00	6.00		µg/L	1	5/1/2006 7:31:11 PM
Xylenes, Total	309	3.00	9.00		µg/L	1	5/1/2006 7:31:11 PM
Surr: a,a,a-Trifluorotoluene	103	0	87-113		%REC	10	5/2/2006 10:39:26 AM
Surr: a,a,a-Trifluorotoluene	112	0	87-113		%REC	1	5/1/2006 7:31:11 PM

Qualifiers: ND - Not Detected at the SQL
 J - Analyte detected between SQL and RL
 B - Analyte detected in the associated Method Blank
 DF - Dilution Factor
 See Final Page of Report for MQLs and MDLs

S - Spike Recovery outside control limits
 C - Sample Result or QC discussed in Case Narrative
 RL - Reporting Limit (MQL adjusted for moisture and sample size)
 SQL - Sample Quantitation Limit
 E - TPH pattern not Gas or Diesel Range Pattern

DHL Analytical

Date: 02-May-06

CLIENT: Terracon
 Project: Federal Express
 Project No: 96007145
 Lab Order: 0604148

Client Sample ID: MW-4
 Lab ID: 0604148-05
 Collection Date: 4/21/2006 12:15:00 PM
 Matrix: AQUEOUS

Analyses	Result	SQL	RL	Qual	Units	DF	Date Analyzed
TX1005 TPH WATER		TX1005		Analyst: KC			
T/R Hydrocarbons: C6-C12	9.36	0.684	1.96		mg/L	1	4/24/2006 5:36:37 PM
T/R Hydrocarbons: >C12-C28	3.00	0.684	1.96		mg/L	1	4/24/2006 5:36:37 PM
T/R Hydrocarbons: >C28-C35	ND	0.684	1.96		mg/L	1	4/24/2006 5:36:37 PM
T/R Hydrocarbons: C6-C35	12.4	0.684	1.96		mg/L	1	4/24/2006 5:36:37 PM
Surr: 1-Chlorooctane	131	0	87-147		%REC	1	4/24/2006 5:36:37 PM
Surr: Octacosane	91.7	0	80-140		%REC	1	4/24/2006 5:36:37 PM
VOLATILE ORGANICS BY GC		SW8021B		Analyst: KC			
Methyl tert-butyl ether	54.6	2.00	6.00		µg/L	1	5/2/2006 10:21:17 AM
Benzene	53.8	0.800	2.00		µg/L	1	5/2/2006 10:21:17 AM
Toluene	60.9	2.00	6.00		µg/L	1	5/2/2006 10:21:17 AM
Ethylbenzene	10.8	2.00	6.00		µg/L	1	5/2/2006 10:21:17 AM
Xylenes, Total	490	60.0	180		µg/L	20	5/1/2006 7:49:18 PM
Surr: a,a,a-Trifluorotoluene	106	0	87-113		%REC	20	5/1/2006 7:49:18 PM
Surr: a,a,a-Trifluorotoluene	99.5	0	87-113		%REC	1	5/2/2006 10:21:17 AM
PAHS: GC/MS		SW8270C		Analyst: DO			
Acenaphthene	0.382	0.100	0.200		µg/L	1	4/25/2006 10:34:00 PM
Acenaphthylene	ND	0.100	0.200		µg/L	1	4/25/2006 10:34:00 PM
Anthracene	ND	0.100	0.200		µg/L	1	4/25/2006 10:34:00 PM
Benzo[a]anthracene	ND	0.100	0.200		µg/L	1	4/25/2006 10:34:00 PM
Benzo[a]pyrene	ND	0.100	0.200		µg/L	1	4/25/2006 10:34:00 PM
Benzo[b]fluoranthene	ND	0.100	0.200		µg/L	1	4/25/2006 10:34:00 PM
Benzo[g,h,i]perylene	ND	0.100	0.200		µg/L	1	4/25/2006 10:34:00 PM
Benzo[k]fluoranthene	ND	0.100	0.200		µg/L	1	4/25/2006 10:34:00 PM
Chrysene	ND	0.100	0.200		µg/L	1	4/25/2006 10:34:00 PM
Dibenz[a,h]anthracene	ND	0.100	0.200		µg/L	1	4/25/2006 10:34:00 PM
Fluoranthene	ND	0.100	0.200		µg/L	1	4/25/2006 10:34:00 PM
Fluorene	0.607	0.100	0.200		µg/L	1	4/25/2006 10:34:00 PM
Indeno[1,2,3-cd]pyrene	ND	0.100	0.200		µg/L	1	4/25/2006 10:34:00 PM
Naphthalene	120	5.00	10.0		µg/L	50	4/26/2006 10:52:00 AM
Phenanthrene	0.312	0.100	0.200		µg/L	1	4/25/2006 10:34:00 PM
Pyrene	ND	0.100	0.200		µg/L	1	4/25/2006 10:34:00 PM
Surr: 2-Fluorobiphenyl	71.1	0	40-140		%REC	1	4/25/2006 10:34:00 PM
Surr: 2-Fluorobiphenyl	67.0	0	40-140		%REC	50	4/26/2006 10:52:00 AM
Surr: 4-Terphenyl-d14	72.4	0	40-140		%REC	1	4/25/2006 10:34:00 PM
Surr: 4-Terphenyl-d14	156	0	40-140	s	%REC	50	4/26/2006 10:52:00 AM
Surr: Nitrobenzene-d5	67.3	0	40-140		%REC	50	4/26/2006 10:52:00 AM
Surr: Nitrobenzene-d5	76.1	0	40-140		%REC	1	4/25/2006 10:34:00 PM

Qualifiers: ND - Not Detected at the SQL
 J - Analyte detected between SQL and RL
 B - Analyte detected in the associated Method Blank
 DF - Dilution Factor
 See Final Page of Report for MQLs and MDLs

S - Spike Recovery outside control limits
 C - Sample Result or QC discussed in Case Narrative
 RL - Reporting Limit (MQL adjusted for moisture and sample size)
 SQL - Sample Quantitation Limit
 E - TPH pattern not Gas or Diesel Range Pattern

CLIENT: Terracon
 Work Order: 0604148
 Project: Federal Express

ANALYTICAL QC SUMMARY REPORT

RunID: GC12_060424D

Sample ID: LCS-21994	Batch ID: 21994	TestNo: TX1005	Units: mg/L							
SampType: LCS	Run ID: GC12_060424D	Analysis Date: 4/24/2006 4:59:29 PM	Prep Date: 4/24/2006							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C6-C35	23.5	2.00	25.00	0	93.9	75	125			
Surr: 1-Chlorooctane	2.92		2.500		117	113	173			
Surr: Octacosane	2.31		2.500		92.6	80	140			

Sample ID: MB-21994	Batch ID: 21994	TestNo: TX1005	Units: mg/L							
SampType: MBLK	Run ID: GC12_060424D	Analysis Date: 4/24/2006 5:04:45 PM	Prep Date: 4/24/2006							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C6-C12	ND	2.00								
T/R Hydrocarbons: >C12-C28	ND	2.00								
T/R Hydrocarbons: >C28-C35	ND	2.00								
T/R Hydrocarbons: C6-C35	ND	2.00								
Surr: 1-Chlorooctane	2.63		2.500		105	87	147			
Surr: Octacosane	2.49		2.500		99.5	80	140			

Sample ID: 0604149-05AMS	Batch ID: 21994	TestNo: TX1005	Units: mg/L							
SampType: MS	Run ID: GC12_060424D	Analysis Date: 4/24/2006 5:10:00 PM	Prep Date: 4/24/2006							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C6-C35	22.9	1.93	24.12	0	95.2	75	125			
Surr: 1-Chlorooctane	2.91		2.412		121	113	173			
Surr: Octacosane	2.42		2.412		100	80	140			

Sample ID: 0604149-05AMSD	Batch ID: 21994	TestNo: TX1005	Units: mg/L							
SampType: MSD	Run ID: GC12_060424D	Analysis Date: 4/24/2006 5:15:15 PM	Prep Date: 4/24/2006							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C6-C35	22.4	1.94	24.27	0	92.2	75	125	2.51	20	
Surr: 1-Chlorooctane	2.82		2.427		116	113	173	0	0	
Surr: Octacosane	2.24		2.427		92.3	80	140	0	0	

Qualifiers: B Analyte detected in the associated Method Blank
 J Analyte detected between MDL and RL
 ND Not Detected at the Method Detection Limit
 RL Reporting Limit
 DF Dilution Factor
 MDL Method Dection Limit
 R RPD outside accepted control limits
 S Spike Recovery outside control limits

CLIENT: Terracon
 Work Order: 0604148
 Project: Federal Express

ANALYTICAL QC SUMMARY REPORT

RunID: GC12_060424D

Sample ID: ICV-060424	Batch ID: R25967	TestNo: TX1005	Units: mg/L							
SampType: ICV	Run ID: GC12_060424D	Analysis Date: 4/24/2006 9:53:42 AM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C6-C12	501	2.00	0							
T/R Hydrocarbons: >C12-C28	573	2.00	0							
T/R Hydrocarbons: >C28-C35	1.11	2.00	0							
T/R Hydrocarbons: C6-C35	1080	2.00	1000	0	108	75	125			
Surr: 1-Chlorooctane	73.3		50.00		147	140	195			
Surr: Octacosane	46.3		50.00		92.7	85	133			

Sample ID: CCV5-060424	Batch ID: R25967	TestNo: TX1005	Units: mg/L							
SampType: CCV	Run ID: GC12_060424D	Analysis Date: 4/24/2006 4:54:13 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C6-C12	254	2.00	0							
T/R Hydrocarbons: >C12-C28	301	2.00	0							
T/R Hydrocarbons: >C28-C35	0.0558	2.00	0							
T/R Hydrocarbons: C6-C35	554	2.00	500.0	0	111	75	125			
Surr: 1-Chlorooctane	37.4		25.00		150	140	195			
Surr: Octacosane	24.9		25.00		99.7	85	133			

Sample ID: CCV7-060424	Batch ID: R25967	TestNo: TX1005	Units: mg/L							
SampType: CCV	Run ID: GC12_060424D	Analysis Date: 4/24/2006 6:23:33 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C6-C12	257	2.00	0							
T/R Hydrocarbons: >C12-C28	312	2.00	0							
T/R Hydrocarbons: >C28-C35	0.301	2.00	0							
T/R Hydrocarbons: C6-C35	570	2.00	500.0	0	114	75	125			
Surr: 1-Chlorooctane	38.3		25.00		153	140	195			
Surr: Octacosane	25.7		25.00		103	85	133			

Qualifiers: B Analyte detected in the associated Method Blank DF Dilution Factor
 J Analyte detected between MDL and RL MDL Method Detection Limit
 ND Not Detected at the Method Detection Limit R RPD outside accepted control limits
 RL Reporting Limit S Spike Recovery outside control limits

CLIENT: Terracon
 Work Order: 0604148
 Project: Federal Express

ANALYTICAL QC SUMMARY REPORT

RunID: GC9_060426A

Sample ID: LCS-22016	Batch ID: 22016	TestNo: SW8021B	Units: µg/L							
SampType: LCS	Run ID: GC9_060426A	Analysis Date: 4/26/2006 10:39:13 AM	Prep Date: 4/26/2006							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether	45.8	6.00	50.00	0	91.7	78	122			
Benzene	49.3	2.00	50.00	0	98.5	81	125			
Toluene	49.9	6.00	50.00	0	99.7	84	123			
Ethylbenzene	48.9	6.00	50.00	0	97.7	83	119			
Xylenes, Total	148	9.00	150.0	0	98.6	81	117			
Surr: a,a,a-Trifluorotoluene	218		200.0		109	87	113			

Sample ID: MB-22016	Batch ID: 22016	TestNo: SW8021B	Units: µg/L							
SampType: MBLK	Run ID: GC9_060426A	Analysis Date: 4/26/2006 10:57:17 AM	Prep Date: 4/26/2006							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether	ND	6.00								
Benzene	ND	2.00								
Toluene	ND	6.00								
Ethylbenzene	ND	6.00								
Xylenes, Total	ND	9.00								
Surr: a,a,a-Trifluorotoluene	217		200.0		108	87	113			

Sample ID: 0604130-02AMS	Batch ID: 22016	TestNo: SW8021B	Units: µg/L							
SampType: MS	Run ID: GC9_060426A	Analysis Date: 4/26/2006 4:05:25 PM	Prep Date: 4/26/2006							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether	51.7	6.00	50.00	0	103	78	122			
Benzene	50.5	2.00	50.00	0	101	81	125			
Toluene	50.5	6.00	50.00	0	101	84	123			
Ethylbenzene	49.7	6.00	50.00	0	99.4	83	119			
Xylenes, Total	152	9.00	150.0	0	101	81	117			
Surr: a,a,a-Trifluorotoluene	216		200.0		108	87	113			

Sample ID: 0604130-02AMSD	Batch ID: 22016	TestNo: SW8021B	Units: µg/L							
SampType: MSD	Run ID: GC9_060426A	Analysis Date: 4/26/2006 4:24:30 PM	Prep Date: 4/26/2006							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether	50.7	6.00	50.00	0	101	78	122	1.78	20	
Benzene	51.2	2.00	50.00	0	102	81	125	1.30	20	
Toluene	51.0	6.00	50.00	0	102	84	123	0.959	20	
Ethylbenzene	50.3	6.00	50.00	0	101	83	119	1.17	20	
Xylenes, Total	153	9.00	150.0	0	102	81	117	1.19	20	
Surr: a,a,a-Trifluorotoluene	220		200.0		110	87	113	0	0	

Qualifiers: B Analyte detected in the associated Method Blank DF Dilution Factor
 J Analyte detected between MDL and RL MDL Method Dection Limit
 ND Not Detected at the Method Detection Limit R RPD outside accepted control limits
 RL Reporting Limit S Spike Recovery outside control limits

CLIENT: Terracon
 Work Order: 0604148
 Project: Federal Express

ANALYTICAL QC SUMMARY REPORT

RunID: GC9_060426A

Sample ID: ICV-060426	Batch ID: R26022	TestNo: SW8021B	Units: µg/L							
SampType: ICV	Run ID: GC9_060426A	Analysis Date: 4/26/2006 10:21:06 AM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether	100	6.00	100.0	0	100	80	120			
Benzene	102	2.00	100.0	0	102	85	115			
Toluene	106	6.00	100.0	0	106	85	115			
Ethylbenzene	105	6.00	100.0	0	105	85	115			
Xylenes, Total	318	9.00	300.0	0	106	85	115			
Surr: a,a,a-Trifluorotoluene	218		200.0		109	87	113			

Sample ID: CCV1-060426	Batch ID: R26022	TestNo: SW8021B	Units: µg/L							
SampType: CCV	Run ID: GC9_060426A	Analysis Date: 4/26/2006 2:17:58 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether	45.9	6.00	50.00	0	91.8	80	120			
Benzene	50.8	2.00	50.00	0	102	85	115			
Toluene	51.8	6.00	50.00	0	104	85	115			
Ethylbenzene	50.7	6.00	50.00	0	101	85	115			
Xylenes, Total	155	9.00	150.0	0	103	85	115			
Surr: a,a,a-Trifluorotoluene	220		200.0		110	87	113			

Sample ID: CCV3-060426	Batch ID: R26022	TestNo: SW8021B	Units: µg/L							
SampType: CCV	Run ID: GC9_060426A	Analysis Date: 4/26/2006 7:08:19 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether	44.6	6.00	50.00	0	89.2	80	120			
Benzene	49.0	2.00	50.00	0	98.0	85	115			
Toluene	49.8	6.00	50.00	0	99.7	85	115			
Ethylbenzene	48.5	6.00	50.00	0	96.9	85	115			
Xylenes, Total	145	9.00	150.0	0	96.8	85	115			
Surr: a,a,a-Trifluorotoluene	214		200.0		107	87	113			

Qualifiers: B Analyte detected in the associated Method Blank DF Dilution Factor
 J Analyte detected between MDL and RL MDL Method Dection Limit
 ND Not Detected at the Method Detection Limit R RPD outside accepted control limits
 RL Reporting Limit S Spike Recovery outside control limits

CLIENT: Terracon
 Work Order: 0604148
 Project: Federal Express

ANALYTICAL QC SUMMARY REPORT

RunID: GC9_060501A

Sample ID: LCS-22080	Batch ID: 22080	TestNo: SW8021B	Units: µg/L							
SampType: LCS	Run ID: GC9_060501A	Analysis Date: 5/1/2006 6:36:54 PM	Prep Date: 5/1/2006							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether	45.6	6.00	50.00	0	91.1	78	122			
Benzene	49.7	2.00	50.00	0	99.4	81	125			
Toluene	51.4	6.00	50.00	0	103	84	123			
Ethylbenzene	50.3	6.00	50.00	0	101	83	119			
Xylenes, Total	153	9.00	150.0	0	102	81	117			
Surr: a,a,a-Trifluorotoluene	215		200.0		108	87	113			

Sample ID: MB-22080	Batch ID: 22080	TestNo: SW8021B	Units: µg/L							
SampType: MBLK	Run ID: GC9_060501A	Analysis Date: 5/1/2006 6:55:04 PM	Prep Date: 5/1/2006							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether	ND	6.00								
Benzene	ND	2.00								
Toluene	ND	6.00								
Ethylbenzene	ND	6.00								
Xylenes, Total	ND	9.00								
Surr: a,a,a-Trifluorotoluene	211		200.0		106	87	113			

Sample ID: 0604208-05BMS	Batch ID: 22080	TestNo: SW8021B	Units: µg/L							
SampType: MS	Run ID: GC9_060501A	Analysis Date: 5/1/2006 8:25:24 PM	Prep Date: 5/1/2006							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether	68.2	6.00	50.00	16.86	103	78	122			
Benzene	53.3	2.00	50.00	1.456	104	81	125			
Toluene	52.4	6.00	50.00	0	105	84	123			
Ethylbenzene	53.2	6.00	50.00	0	106	83	119			
Xylenes, Total	157	9.00	150.0	0	105	81	117			
Surr: a,a,a-Trifluorotoluene	218		200.0		109	87	113			

Sample ID: 0604208-05BMSD	Batch ID: 22080	TestNo: SW8021B	Units: µg/L							
SampType: MSD	Run ID: GC9_060501A	Analysis Date: 5/1/2006 8:43:25 PM	Prep Date: 5/1/2006							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether	67.7	6.00	50.00	16.86	102	78	122	0.652	20	
Benzene	53.1	2.00	50.00	1.456	103	81	125	0.415	20	
Toluene	52.6	6.00	50.00	0	105	84	123	0.368	20	
Ethylbenzene	53.3	6.00	50.00	0	107	83	119	0.222	20	
Xylenes, Total	157	9.00	150.0	0	105	81	117	0.0519	20	
Surr: a,a,a-Trifluorotoluene	220		200.0		110	87	113	0	0	

Qualifiers: B Analyte detected in the associated Method Blank DF Dilution Factor
 J Analyte detected between MDL and RL MDL Method Detection Limit
 ND Not Detected at the Method Detection Limit R RPD outside accepted control limits
 RL Reporting Limit S Spike Recovery outside control limits

CLIENT: Terracon
 Work Order: 0604148
 Project: Federal Express

ANALYTICAL QC SUMMARY REPORT

RunID: GC9_060501A

Sample ID: ICV-060501	Batch ID: R26064	TestNo: SW8021B	Units: µg/L							
SampType: ICV	Run ID: GC9_060501A	Analysis Date: 5/1/2006 9:55:43 AM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether	96.7	6.00	100.0	0	96.7	80	120			
Benzene	97.7	2.00	100.0	0	97.7	85	115			
Toluene	102	6.00	100.0	0	102	85	115			
Ethylbenzene	101	6.00	100.0	0	101	85	115			
Xylenes, Total	302	9.00	300.0	0	101	85	115			
Surr: a,a,a-Trifluorotoluene	216		200.0		108	87	113			

Sample ID: CCV1-060501	Batch ID: R26064	TestNo: SW8021B	Units: µg/L							
SampType: CCV	Run ID: GC9_060501A	Analysis Date: 5/1/2006 4:28:11 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether	45.6	6.00	50.00	0	91.1	80	120			
Benzene	47.8	2.00	50.00	0	95.7	85	115			
Toluene	48.9	6.00	50.00	0	97.8	85	115			
Ethylbenzene	47.4	6.00	50.00	0	94.8	85	115			
Xylenes, Total	144	9.00	150.0	0	96.1	85	115			
Surr: a,a,a-Trifluorotoluene	201		200.0		100	87	113			

Sample ID: CCV2-060501	Batch ID: R26064	TestNo: SW8021B	Units: µg/L							
SampType: CCV	Run ID: GC9_060501A	Analysis Date: 5/1/2006 9:01:26 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether	48.0	6.00	50.00	0	95.9	80	120			
Benzene	51.7	2.00	50.00	0	103	85	115			
Toluene	53.2	6.00	50.00	0	106	85	115			
Ethylbenzene	52.0	6.00	50.00	0	104	85	115			
Xylenes, Total	158	9.00	150.0	0	105	85	115			
Surr: a,a,a-Trifluorotoluene	221		200.0		110	87	113			

Sample ID: ICV-060502	Batch ID: R26064	TestNo: SW8021B	Units: µg/L							
SampType: ICV	Run ID: GC9_060501A	Analysis Date: 5/2/2006 10:03:17 AM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether	92.6	6.00	100.0	0	92.6	80	120			
Benzene	97.1	2.00	100.0	0	97.1	85	115			
Toluene	102	6.00	100.0	0	102	85	115			
Ethylbenzene	101	6.00	100.0	0	101	85	115			
Xylenes, Total	305	9.00	300.0	0	102	85	115			
Surr: a,a,a-Trifluorotoluene	213		200.0		106	87	113			

Qualifiers: B Analyte detected in the associated Method Blank J Analyte detected between MDL and RL ND Not Detected at the Method Detection Limit RL Reporting Limit	DF Dilution Factor MDL Method Dection Limit R RPD outside accepted control limits S Spike Recovery outside control limits
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CLIENT: Terracon
 Work Order: 0604148
 Project: Federal Express

ANALYTICAL QC SUMMARY REPORT

RunID: GC9_060501A

Sample ID: CCV1-060502	Batch ID: R26064	TestNo: SW8021B	Units: µg/L
SampType: CCV	Run ID: GC9_060501A	Analysis Date: 5/2/2006 11:50:40 AM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether	43.0	6.00	50.00	0	86.1	80	120			
Benzene	49.5	2.00	50.00	0	99.0	85	115			
Toluene	50.9	6.00	50.00	0	102	85	115			
Ethylbenzene	49.8	6.00	50.00	0	99.6	85	115			
Xylenes, Total	151	9.00	150.0	0	101	85	115			
Surr: a,a,a-Trifluorotoluene	211		200.0		106	87	113			

Qualifiers:

B Analyte detected in the associated Method Blank	DF Dilution Factor
J Analyte detected between MDL and RL	MDL Method Detection Limit
ND Not Detected at the Method Detection Limit	R RPD outside accepted control limits
RL Reporting Limit	S Spike Recovery outside control limits

CLIENT: Terracon
 Work Order: 0604148
 Project: Federal Express

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS6_060425A

Sample ID: LCSD-21998	Batch ID: 21998	TestNo: SW8270C	Units: µg/L
SampType: LCSD	Run ID: GCMS6_060425A	Analysis Date: 4/25/2006 6:07:00 PM	Prep Date: 4/25/2006

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	2.24	0.200	4.000	0	56.0	50	110	5.52	30	
Acenaphthylene	2.36	0.200	4.000	0	58.9	55	110	5.21	30	
Anthracene	2.19	0.200	4.000	0	54.7	44	110	4.52	30	
Benzo[a]anthracene	2.14	0.200	4.000	0	53.5	48	115	2.74	30	
Chrysene	2.37	0.200	4.000	0	59.3	54	122	0.477	30	
Fluoranthene	2.85	0.200	4.000	0	71.2	40	126	1.93	30	
Fluorene	2.42	0.200	4.000	0	60.5	54	110	8.82	30	
Naphthalene	2.29	0.200	4.000	0	57.2	44	110	0.228	30	
Phenanthrene	2.80	0.200	4.000	0	69.9	51	114	2.61	30	
Pyrene	2.36	0.200	4.000	0	59.1	53	120	11.0	30	
Surr: 2-Fluorobiphenyl	6.10		8.000		76.2	40	140	0	30	
Surr: 4-Terphenyl-d14	9.02		8.000		113	40	140	0	30	
Surr: Nitrobenzene-d5	6.55		8.000		81.9	40	140	0	30	

Sample ID: MB-21998	Batch ID: 21998	TestNo: SW8270C	Units: µg/L
SampType: MBLK	Run ID: GCMS6_060425A	Analysis Date: 4/25/2006 7:47:00 PM	Prep Date: 4/25/2006

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	0.200								
Acenaphthylene	ND	0.200								
Anthracene	ND	0.200								
Benzo[a]anthracene	ND	0.200								
Benzo[a]pyrene	ND	0.200								
Benzo[b]fluoranthene	ND	0.200								
Benzo[g,h,i]perylene	ND	0.200								
Benzo[k]fluoranthene	ND	0.200								
Chrysene	ND	0.200								
Dibenz[a,h]anthracene	ND	0.200								
Fluoranthene	ND	0.200								
Fluorene	ND	0.200								
Indeno[1,2,3-cd]pyrene	ND	0.200								
Naphthalene	ND	0.200								
Phenanthrene	ND	0.200								
Pyrene	ND	0.200								
Surr: 2-Fluorobiphenyl	5.74		8.000		71.7	40	140			
Surr: 4-Terphenyl-d14	7.53		8.000		94.1	40	140			
Surr: Nitrobenzene-d5	6.29		8.000		78.6	40	140			

Qualifiers: B Analyte detected in the associated Method Blank DF Dilution Factor
 J Analyte detected between MDL and RL MDL Method Detection Limit
 ND Not Detected at the Method Detection Limit R RPD outside accepted control limits
 RL Reporting Limit S Spike Recovery outside control limits

CLIENT: Terracon
 Work Order: 0604148
 Project: Federal Express

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS6_060425A

Sample ID: LCSD-21998	Batch ID: 21998	TestNo: SW8270C	Units: µg/L											
SampType: LCSD	Run ID: GCMS6_060425A	Analysis Date: 4/26/2006 9:45:00 AM	Prep Date: 4/25/2006	Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzo[a]pyrene	2.88	0.200	4.000	0	72.1	53	112	16.1	30					
Benzo[b]fluoranthene	2.80	0.200	4.000	0	70.0	52	117	11.9	30					
Benzo[g,h,i]perylene	3.10	0.200	4.000	0	77.4	60	114	18.2	30					
Benzo[k]fluoranthene	3.11	0.200	4.000	0	77.7	53	124	6.91	30					
Dibenz[a,h]anthracene	3.31	0.200	4.000	0	82.7	51	120	11.8	30					
Indeno[1,2,3-cd]pyrene	3.37	0.200	4.000	0	84.2	57	116	14.1	30					
Surr: 2-Fluorobiphenyl	6.67		8.000		83.4	40	140	0	30					
Surr: 4-Terphenyl-d14	9.61		8.000		120	40	140	0	30					
Surr: Nitrobenzene-d5	6.23		8.000		77.9	40	140	0	30					

Sample ID: LCS-21998	Batch ID: 21998	TestNo: SW8270C	Units: µg/L											
SampType: LCS	Run ID: GCMS6_060425A	Analysis Date: 4/26/2006 10:18:00 AM	Prep Date: 4/25/2006	Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	2.38	0.200	4.000	0	59.6	50	110							
Acenaphthylene	2.36	0.200	4.000	0	58.9	55	110							
Anthracene	2.18	0.200	4.000	0	54.5	44	110							
Benzo[a]anthracene	2.20	0.200	4.000	0	54.9	48	115							
Benzo[a]pyrene	2.99	0.200	4.000	0	74.9	53	112							
Benzo[b]fluoranthene	2.65	0.200	4.000	0	66.2	52	117							
Benzo[g,h,i]perylene	3.25	0.200	4.000	0	81.2	60	114							
Benzo[k]fluoranthene	2.93	0.200	4.000	0	73.2	53	124							
Chrysene	2.54	0.200	4.000	0	63.4	54	122							
Dibenz[a,h]anthracene	3.48	0.200	4.000	0	87.0	51	120							
Fluoranthene	2.63	0.200	4.000	0	65.8	40	126							
Fluorene	2.39	0.200	4.000	0	59.8	54	110							
Indeno[1,2,3-cd]pyrene	3.43	0.200	4.000	0	85.7	57	116							
Naphthalene	2.31	0.200	4.000	0	57.7	44	110							
Phenanthrene	2.74	0.200	4.000	0	68.5	51	114							
Pyrene	2.66	0.200	4.000	0	66.4	53	120							
Surr: 2-Fluorobiphenyl	6.21		8.000		77.6	40	140							
Surr: 4-Terphenyl-d14	7.96		8.000		99.5	40	140							
Surr: Nitrobenzene-d5	5.76		8.000		72.0	40	140							

Qualifiers:	B Analyte detected in the associated Method Blank	DF Dilution Factor	
	J Analyte detected between MDL and RL	MDL Method Dection Limit	
	ND Not Detected at the Method Detection Limit	R RPD outside accepted control limits	
	RL Reporting Limit	S Spike Recovery outside control limits	

CLIENT: Terracon
 Work Order: 0604148
 Project: Federal Express

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS6_060425A

Sample ID: ICV-060425	Batch ID: R25981	TestNo: SW8270C	Units: µg/L
SampType: ICV	Run ID: GCMS6_060425A	Analysis Date: 4/25/2006 5:01:00 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	2160	0.200	2000	0	108	80	120			
Acenaphthylene	2090	0.200	2000	0	104	80	120			
Anthracene	2130	0.200	2000	0	106	80	120			
Benzo[a]anthracene	1870	0.200	2000	0	93.5	80	120			
Benzo[a]pyrene	2390	0.200	2000	0	119	80	120			
Benzo[b]fluoranthene	2090	0.200	2000	0	104	80	120			
Benzo[g,h,i]perylene	2190	0.200	2000	0	109	80	120			
Benzo[k]fluoranthene	2360	0.200	2000	0	118	80	120			
Chrysene	2070	0.200	2000	0	104	80	120			
Dibenz[a,h]anthracene	2240	0.200	2000	0	112	80	120			
Fluoranthene	2310	0.200	2000	0	115	80	120			
Fluorene	2240	0.200	2000	0	112	80	120			
Indeno[1,2,3-cd]pyrene	2240	0.200	2000	0	112	80	120			
Naphthalene	2210	0.200	2000	0	110	80	120			
Phenanthrene	2230	0.200	2000	0	111	80	120			
Pyrene	1740	0.200	2000	0	87.1	80	120			
Surr: 2-Fluorobiphenyl	2310		4000		57.8	40	140			
Surr: 4-Terphenyl-d14	3120		4000		78.1	40	140			
Surr: Nitrobenzene-d5	2540		4000		63.4	40	140			

Sample ID: ICV2-060425	Batch ID: R25981	TestNo: SW8270C	Units: µg/L
SampType: ICV	Run ID: GCMS6_060425A	Analysis Date: 4/26/2006 4:43:00 AM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	2120	0.200	2000	0	106	80	120			
Acenaphthylene	1970	0.200	2000	0	98.3	80	120			
Anthracene	2020	0.200	2000	0	101	80	120			
Benzo[a]anthracene	1860	0.200	2000	0	93.0	80	120			
Benzo[a]pyrene	2370	0.200	2000	0	119	80	120			
Benzo[b]fluoranthene	2130	0.200	2000	0	106	80	120			
Benzo[g,h,i]perylene	2180	0.200	2000	0	109	80	120			
Benzo[k]fluoranthene	2370	0.200	2000	0	119	80	120			
Chrysene	2070	0.200	2000	0	104	80	120			
Dibenz[a,h]anthracene	2300	0.200	2000	0	115	80	120			
Fluoranthene	2230	0.200	2000	0	112	80	120			
Fluorene	2160	0.200	2000	0	108	80	120			
Indeno[1,2,3-cd]pyrene	2270	0.200	2000	0	113	80	120			
Naphthalene	2220	0.200	2000	0	111	80	120			
Phenanthrene	2190	0.200	2000	0	110	80	120			
Pyrene	1760	0.200	2000	0	87.9	80	120			
Surr: 2-Fluorobiphenyl	2300		4000		57.6	40	140			

Qualifiers: B Analyte detected in the associated Method Blank J Analyte detected between MDL and RL ND Not Detected at the Method Detection Limit RL Reporting Limit	DF Dilution Factor MDL Method Detection Limit R RPD outside accepted control limits S Spike Recovery outside control limits
---	--

CLIENT: Terracon
 Work Order: 0604148
 Project: Federal Express

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS6_060425A

Sample ID: ICV2-060425	Batch ID: R25981	TestNo: SW8270C	Units: µg/L							
SampType: ICV	Run ID: GCMS6_060425A	Analysis Date: 4/26/2006 4:43:00 AM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Terphenyl-d14	3000		4000		75.1	40	140			
Surr: Nitrobenzene-d5	2510		4000		62.6	40	140			

Qualifiers:

B Analyte detected in the associated Method Blank	DF Dilution Factor
J Analyte detected between MDL and RL	MDL Method Dection Limit
ND Not Detected at the Method Detection Limit	R RPD outside accepted control limits
RL Reporting Limit	S Spike Recovery outside control limits

CLIENT: Terracon
 Work Order: 0604148
 Project: Federal Express

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS6_060430A

Sample ID: ICV-060430	Batch ID: R26042	TestNo: SW8270C	Units: µg/L							
SampType: ICV	Run ID: GCMS6_060430A	Analysis Date: 4/30/2006 3:22:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	1990	0.200	2000	0	99.3	80	120			
Acenaphthylene	1890	0.200	2000	0	94.6	80	120			
Anthracene	1950	0.200	2000	0	97.4	80	120			
Benzo[a]anthracene	2000	0.200	2000	0	99.9	80	120			
Benzo[a]pyrene	1900	0.200	2000	0	95.0	80	120			
Benzo[b]fluoranthene	1900	0.200	2000	0	94.8	80	120			
Benzo[g,h,i]perylene	2270	0.200	2000	0	114	80	120			
Benzo[k]fluoranthene	1760	0.200	2000	0	87.8	80	120			
Chrysene	1960	0.200	2000	0	97.9	80	120			
Dibenz[a,h]anthracene	2180	0.200	2000	0	109	80	120			
Fluoranthene	1880	0.200	2000	0	94.1	80	120			
Fluorene	1970	0.200	2000	0	98.4	80	120			
Indeno[1,2,3-cd]pyrene	2220	0.200	2000	0	111	80	120			
Naphthalene	1960	0.200	2000	0	98.1	80	120			
Phenanthrene	1940	0.200	2000	0	97.2	80	120			
Pyrene	1930	0.200	2000	0	96.6	80	120			
Surr: 2-Fluorobiphenyl	1800		2000		90.1	40	140			
Surr: 4-Terphenyl-d14	2100		2000		105	40	140			
Surr: Nitrobenzene-d5	2130		2000		107	40	140			

Qualifiers:

B Analyte detected in the associated Method Blank	DF Dilution Factor
J Analyte detected between MDL and RL	MDL Method Detection Limit
ND Not Detected at the Method Detection Limit	R RPD outside accepted control limits
RL Reporting Limit	S Spike Recovery outside control limits

CLIENT: Terracon
 Work Order: 0604148
 Project: Federal Express

SQL SUMMARY REPORT

TestNo: TX1005	MDL	SQL
Analyte	mg/L	mg/L
T/R Hydrocarbons: C6-C12	0.7	2
T/R Hydrocarbons: >C12-C28	0.7	2
T/R Hydrocarbons: >C28-C35	0.7	2
T/R Hydrocarbons: C6-C35	0.7	2

TestNo: SW8021B	MDL	SQL
Analyte	µg/L	µg/L
Methyl tert-butyl ether	2	6
Benzene	0.8	2
Toluene	2	6
Ethylbenzene	2	6
Xylenes, Total	3	9

TestNo: SW8270C	MDL	SQL
Analyte	µg/L	µg/L
Acenaphthene	0.1	0.2
Acenaphthylene	0.1	0.2
Anthracene	0.1	0.2
Benzo[a]anthracene	0.1	0.2
Benzo[a]pyrene	0.1	0.2
Benzo[b]fluoranthene	0.1	0.2
Benzo[g,h,i]perylene	0.1	0.2
Benzo[k]fluoranthene	0.1	0.2
Chrysene	0.1	0.2
Dibenz[a,h]anthracene	0.1	0.2
Fluoranthene	0.1	0.2
Fluorene	0.1	0.2
Indeno[1,2,3-cd]pyrene	0.1	0.2
Naphthalene	0.1	0.2
Phenanthrene	0.1	0.2
Pyrene	0.1	0.2

Qualifiers: SQL -Method Quantitation Limit as defined by TRRP
 MDL -Method Detection Limit as defined by TRRP



April 16, 2006

Mr. Saul Garza
 HBC-Terracon
 5307 Industrial Oaks Blvd
 Austin, TX 78735

**Subject: Mobile Dual-phase Extraction (MDPE)
 10 Hr MDPE Event with Offgas Treatment (750-CFM Thermal Oxidizer)**

**MDPE Event No. 3
 Federal Express
 5811 Technicenter
 Austin, TX.**

Dear Mr. Garza:

The following report summarizes data collected during the 10-hour High Vacuum Multi-phase Extraction (MDPE) event conducted at the above subject site on 3/20/2006, by EnVac Environmental Services. The objective of the MDPE treatment (MDPE Event No.3 – 8-hour event) was to remove both vapor and phase separated hydrocarbons (PSH) from groundwater monitor wells. Offgas vapors from the KingVac emission stacks were destroyed using a propane-fired 750-SCFM thermal oxidizer.

Groundwater Drawdown Information

Groundwater elevation and PSH thickness data were recorded prior to and immediately following MDPE Event No.3. The data is located in TABLE 4 of the attached Field Data Record. Prior to the event, 3 of the 5 monitor wells gauged reported measurable levels of phase-separated-hydrocarbons. The maximum reported PSH thickness prior to and after the MDPE event was 1.37 to 0.00 feet. Final changes in corrected water level elevations measured in the monitor wells ranged between approximately -0.06 feet to -1.06 feet (see TABLE 4 – Groundwater Drawdown Data). Following the MDPE event, 0 of the 5 monitor wells had measurable amounts of PSH (see TABLE 4 – Groundwater Drawdown Data). All extraction wells were gauged within ten minutes of removal from the extraction array.

A combined estimated total of 30.78 equivalent gallons of petroleum hydrocarbons were removed during MDPE Event No.3. The combined volume of hydrocarbons removed was comprised of approximately 2 gallons (12.4 pounds) as PSH and approximately 28.78 equivalent gallons (178.44 pounds) as offgas vapor. At the conclusion of MDPE Event No.3, approximately 2,448 gallons of recovered liquids were measured in the vacuum tank.

Summary of Field Activities

Activities during the 10-hour MDPE event progressed as follows:

3/20/2006

10:15 PM Sunday	EnVac personnel (David Krierand Mike Epperson) arrived on site. The plan was to arrive around 5:00 PM Sunday afternoon to set up and begin a 10-hour MDPE event, however, heavy rain and traffic delayed our arrival from the Wichita Falls, TX. When we did arrive, we found that Federal Express vehicles had not been moved as discussed previously with the client. We parked the KingVac and thermal oxidizer out of the way and sent the driver and site professional to a hotel.
8:00 AM	Arrived back on site to find vehicles still blocking access to well locations, Called customer and informed him that we did not have access.
9:00 AM	HBC-Terracon representative arrived on-site and we discussed having certain vehicles moved in order to allow safe access out of the way of hazards (high power lines) and leave room in drive for through traffic.
9:30 AM	EnVac personnel set up KingVac for vapor treatment (i.e., 750 SCFM thermal oxidizer) and gauged monitor wells.

10:00 AM	Began extraction from MW-1, MW-2, and MW-6. No tank was placed on-site, so fluids were pumped directly to KingVac debris tank (2,600 gallons). Arrangements were made to have USFilter pick up fluids later that afternoon. All three wells were drawn down approximately 1.0 to 1.5 feet below the static PSH/groundwater interface.
10:30 AM	Recorded differential pressure data from MW-3 while extracting from MW-1, MW-2, and MW-6.
11:00 AM	Began alternating extraction wells (see TABLE 2) in order to maintain vapor removal and produce fluids at a rate that could be stored on-site (no storage tank other than 2,600 vacuum tank).
6:10 PM Monday	Discussed vapor concentrations and liquid production with client (Mr. Saul Garza) - and concluded that we should cease the operation as of 10 hours rather than continue the event. Concluded MDPE Event No.3. Gauged extraction wells, and gauged vacuum tank for total liquid volume and finalized manifest. Technician offloaded recovered liquids (2448 gallons) to U.S. Filter for reclamation.

Differential Pressure (Soil Vacuum Influence) Information

Recorded differential pressure readings from monitor wells (see TABLE 3 – Differential Pressure Data).

Observation Well	Extraction Well	Distance
MW-3	MW-1	35

Air Removal Rates

Air removal rates were calculated from velocity measurements recorded at the influent pipe to the thermal oxidizer. The cumulative airflow measurements ranged between approximately 440 SCFM and 459 SCFM throughout the event (see TABLE 1 – Cumulative Removal Data). A portion of the total air volume measured at the emission stacks were attributable to air, which was "bled" into extraction wellheads through breather ports. This "bleed" air was introduced to the monitor well for the purpose of enhancing liquid recovery rates. Atmospheric airflow attributable to breather port apertures at each extraction well is recorded in TABLE 2 (Wellhead Data) of the attached MDPE Field Data Record. Atmospheric airflow at this site was also introduced through a dilution or "relief" valve inlet located on the liquid ring pump (designed to prevent pump cavitation). The atmospheric air introduced through the "relief" valve inlet on the liquid ring pump served to maintain a safe operating vacuum and to lower the concentration of petroleum hydrocarbons in the offgas effluent. The lowering of offgas concentrations due to the increase in airflow rate allows for increased accuracy in hydrocarbon concentration readings, while maintaining high mass removal rates.

Offgas Vapor Treatment

Hydrocarbon vapors produced by the MDPE process were diverted from the KingVac emissions stacks into propane fired, 750 SCFM-thermal-oxidizer, where 99.5% of generated gases were destroyed before reaching the atmosphere. In accordance with 30TAC106.533 and 106.262, the thermal oxidizer was operated at a minimum temperature of 1400° F.

Disposition of Fluids

Approximately 2,448 gallons of liquid was extracted from the monitor wells during MDPE Event No.3. All fluids extracted were transferred to U.S. Filter for reclamation.

Thank you for this opportunity to serve the environmental needs of HBC-Terracon, Inc. We look forward to working with you in the future to provide innovative and cost effective environmental solutions at this and other sites.

Sincerely,

Brian W. Burgess

EnVac Environmental Services, Inc.



Company		SiteID	Contact	Professional	Operator
Terracon		455	Garza	Krier	Burgess
Site Name:		Event Hrs	Equipment	Start	End
Federal Express		10	KingVac	3/20/2006	2/20/2006
5811 Technicenter Austin, TX		EventID	Liquid No	Fuel Type	Disposal Facility
		1730	255394	Gasoline	U.S. Filter
		Stack Dia	MW of Prod	Total Fluids	PSH (gallons)
		6	86	2448	2

MDPE Event No: 3

Print Date: 06/26/06

Table 1 – Cumulative Removal Data

Time	Discharge				Inlet Vac TO	
	ppm	CFM	ER	VOC lbs.	In-Hg	Temp
10:00 AM	6500	459.00	-	-	22	1412
10:30 AM	5800	459.00	38.14	19.07	22	1415
11:00 AM	5200	440.00	33.40	16.7	22	1417
11:30 AM	4800	440.00	29.72	14.86	22	1416
12:00 PM	4400	440.00	27.35	13.67	21	1415
12:30 PM	4200	440.00	25.56	12.78	21	1415
1:00 PM	4000	440.00	24.37	12.19	21	1416
1:30 PM	3800	440.00	23.18	11.59	21	1414
2:00 PM	3600	440.00	22.00	11.	21	1414
2:30 PM	3400	440.00	20.81	10.4	21	1417
3:00 PM	3200	440.00	19.62	9.81	21	1413
3:30 PM	3000	440.00	18.43	9.21	21	1411
4:00 PM	2800	440.00	17.24	8.62	21	1415
4:30 PM	2600	440.00	16.05	8.03	20	1414
5:00 PM	2400	440.00	14.86	7.43	20	1413
5:30 PM	2200	440.00	13.67	6.84	20	1412
6:00 PM	2000	440.00	12.48	6.24	20	1412

Observation Well	MW-3
Extraction Well (EW)	MW-1
Distance (ft) to EW	35
Maximum Change	-1.06
10:30 AM	-0.47
11:00 AM	-0.78
11:30 AM	-1.06

TX Removal Data Summary

Removal	lbs	Gallons
PSH	12	2
Vapor	178.44	28.78
Totals	191	31

Table 2
Well Head Data

Date	Time	EventID	MW-1		MW-2		MW-6	
			BPRV	VAC	BPRV	VAC	BPRV	VAC
03/20	10:00 AM	1730	6	1	8	1	8	1
03/20	10:30 AM	1730	6	1	8	1	8	1
03/20	11:00 AM	1730	-	-	8	1	8	1
03/20	11:30 AM	1730	6	1	-	-	8	1
03/20	12:00 PM	1730	-	-	8	1	8	1
03/20	12:30 PM	1730	6	1	-	-	8	1
03/20	1:00 PM	1730	6	1	8	1	-	-
03/20	1:30 PM	1730	-	-	8	1	6	2
03/20	2:00 PM	1730	6	1	-	-	6	2
03/20	2:30 PM	1730	6	1	-	-	6	2
03/20	3:00 PM	1730	-	-	8	1	6	1
03/20	3:30 PM	1730	-	-	8	1	6	1
03/20	4:00 PM	1730	6	1	-	-	6	1
03/20	4:30 PM	1730	6	1	8	1	-	-
03/20	5:00 PM	1730	-	-	8	1	6	1
03/20	5:30 PM	1730	6	1	-	-	6	1
03/20	6:00 PM	1730	6	1	8	1	6	1



Company		SiteID	Contact	Professional	Operator
Terracon		455	Garza	Krier	Burgess
Site Name:		Event Hrs	Equipment	Start	End
Federal Express		10	KingVac	3/20/2006	2/20/2006
5811 Technicenter Austin, TX		EventID	Liquid No	Fuel Type	Disposal Facility
		1730	255394	Gasoline	U.S. Filter
		Stack Dia	MW of Prod	Total Fluids	PSH (gallons)
		6	86	2448	2

MDPE Event No: 3

Print Date: 06/26/06

Table 4 - Groundwater Draw

Well Data			Prior to MDPE			After MDPE			Static WL Changes	Comments
Well ID	Dia	TD	DTP	DTW	PSH	DTP	DTW	PSH		
MW-6	4		36.35	37.72	1.37	-	37.75	0.00	-1.06	
MW-5	4		-	37.12	0.00	-	37.18	0.00	-0.06	
MW-3	4		-	34.80	0.00	-	35.07	0.00	-0.27	
MW-2	4		33.93	34.07	0.14	-	34.40	0.00	-0.43	
MW-1	4		32.57	32.78	0.21	-	32.83	0.00	-0.21	

Legend

BPRV.	Breather Port Relief Valve	In.Hg	Inches Mercury	PSH	Phase Separated Hydrocarbon
CFM	Cubic Feet per Minute	Inlet Va	Vacuum Tank Vacuum	R.S	Removed Sock before gauging
Dia	Diameter	lbs	pounds	TD	Total Depth
DTP	Depth to Phase	LRRV.	Liquid Ring Relief Valve	Temp	Temperature
DTW	Depth to Water	MDPE	Mobile Dual Phase Extraction	T.O.	Thermal Oxidizer
ER	Emissions Rate	MW	Molecular Weight	VAC	Vacuum
EW	Extraction Well	NA	Not Available	VOC	Volatile Organic Compound
HVME	High Vacuum Multiphase Extraction	ppm	Parts per Million	WL	Water Level

Explanation of Tables:

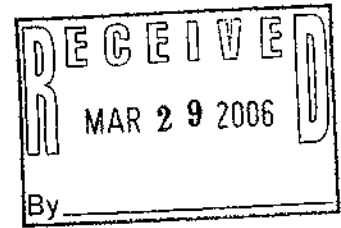
- Table 1 – Cumulative Removal Data** Indicates vapor concentration, air flow (CFM), emission rate, and KingVac Tank vacuum.
- Table 2 -- Well Head Data** Indicates vacuum (inches-Hg.) and ambient bleedair volume (CFM) at wellhead.
- Table 3 -- Differential Pressure Data** Indicates differential pressure (inches water column) at nearby observation wells during extraction process.
- Table 4 – Groundwater Drawdown Data** Groundwater and PSH levels and PSH thickness immediately before and after the MDPE event.

Comments

Note1: Envac provided 3 Tedlar air bags

Air Sample Analysis

		Date:	Time	#			Date:	Time	#
Field Screen Air Sample	No. 1				Lab Sample	No. 1			
	No. 2					No. 2			
	No. 3					No. 3			



March 28, 2006

Russ Ford
Terracon
5307 Industrial Oaks Blvd., Suite 160
Austin, Texas 78735

TEL: (512) 442-1122
FAX (512) 442-1181

Order No.: 0603124

RE: Fed Ex

Dear Russ Ford:

DHL Analytical received 3 sample(s) on 3/21/2006 for the analyses presented in the following report.

There were no problems with the analyses and all data met requirements of NELAC except where noted in the Case Narrative. All non-NELAC methods will be identified accordingly in the case narrative and all estimated uncertainties of test results are within method or EPA specifications.

If you have any questions regarding these tests results, please feel free to call. Thank you for using DHL Analytical.

Sincerely,

A handwritten signature in black ink, appearing to read "John DuPont".

John DuPont
General Manager



TABLE OF CONTENTS

This report for Terracon: Fed Ex (DHL Work Order 0603124) contains the following information:

ITEM	Page
• Cover Page	1
• Table of Contents	2
• Original chain of custody, fedex slip (if used), log-in checklist	3-4
• Data Package Signature Page	5
• Laboratory Review Checklist	6-7
• Case Narrative	8
• Work Order Summary	9
• Preparation Dates Report	10
• Analytical Dates Report	11
• Sample Results	12-14
• QC Summary Report	15-17
• MQL Summary Report	18
• Total Number of Pages	18

March 28, 2006

Approved: _____


John DuPont

Sample Receipt Checklist

Client Name Terracon

Date Received: 3/21/2006

Work Order Number 0603124

Received by JGD

Checklist completed by: Mark Was | 3.21.06
Signature | Date

Reviewed by: JGD | 03/21/06
Initials | Date

Carrier name Hand Delivered

- Shipping container/cooler in good condition? Yes No Not Present
- Custody seals intact on shipping container/cooler? Yes No Not Present
- Custody seals intact on sample bottles? Yes No Not Present
- Chain of custody present? Yes No
- Chain of custody signed when relinquished and received? Yes No
- Chain of custody agrees with sample labels? Yes No
- Samples in proper container/bottle? Yes No
- Sample containers intact? Yes No
- Sufficient sample volume for indicated test? Yes No
- All samples received within holding time? Yes No
- Container/Temp Blank temperature in compliance? Yes No
- Water - VOA vials have zero headspace? Yes No No VOA vials submitted
- Water - pH acceptable upon receipt? Yes No Not Applicable

Adjusted? _____ Checked by _____

Any No response must be detailed in the comments section below.

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action _____

Laboratory Data Package Signature Page

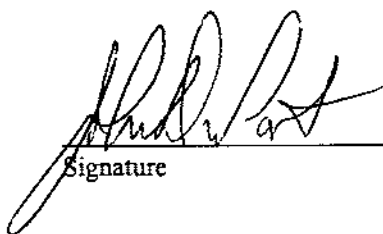
This data package consists of:

This signature page, the laboratory review checklist, and the following reportable data:

- R1 Field chain-of-custody documentation;
 - R2 Sample identification cross-reference;
 - R3 Test reports (analytical data sheets) for each environmental sample that includes:
 - a) Items consistent with NELAC 5.13
 - b) dilution factors,
 - c) preparation methods,
 - d) cleanup methods, and
 - e) if required for the project, tentatively identified compounds (TICs).
 - R4 Surrogate recovery data including:
 - a) Calculated recovery (%R), and
 - b) The laboratory's surrogate QC limits.
 - R5 Test reports/summary forms for blank samples;
 - R6 Test reports/summary forms for laboratory control samples (LCSs) including:
 - a) LCS spiking amounts,
 - b) Calculated %R for each analyte, and
 - c) The laboratory's LCS QC limits.
 - R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - a) Samples associated with the MS/MSD clearly identified,
 - b) MS/MSD spiking amounts,
 - c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
 - d) Calculated %Rs and relative percent differences (RPDs), and
 - e) The laboratory's MS/MSD QC limits
 - R8 Laboratory analytical duplicate (if applicable) recovery and precision:
 - a) the amount of analyte measured in the duplicate,
 - b) the calculated RPD, and
 - c) the laboratory's QC limits for analytical duplicates.
 - R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix;
 - R10 Other problems or anomalies.
- The Exception Report for every "No" or "Not Reviewed (NR)" item in laboratory review checklist.

Release Statement: I am responsible for the release of this laboratory data package. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By me signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratory in the Laboratory Review Checklist, and no information or data have been knowingly withheld that would affect the quality of the data.

Scott Schroeder – Project Manager
Michelle Green – QA Manager
John DuPont – General Manager


Signature

03/28/06
~~03/28/03~~ (JD)
Date

DHL Analytical, Inc.

Laboratory Review Checklist: Reportable Data

Project Name: <u>fel Ex</u>	Date: <u>3/28/06</u>
Reviewer Name: <u>Carlos Castro</u>	Laboratory Work Order: <u>0603124</u>
Prep Batch Number(s): See Prep Dates Report	Run Batch: See Analytical Dates Report

#1	A2	Description	Yes	No	NA ³	NR ⁴	ER ⁵
R1	OI	CHAIN-OF-CUSTODY (C-O-C)					
		1) Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	✓				21-01
		2) Were all departures from standard conditions described in an exception report?			✓		
R2	OI	SAMPLE AND QUALITY CONTROL (QC) IDENTIFICATION					
		1) Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	✓				
		2) Are all laboratory ID numbers cross-referenced to the corresponding QC data?	✓				
R3	OI	TEST REPORTS					
		1) Were all samples prepared and analyzed within holding times?	✓				
		2) Other than those results < MQL, were all other raw values bracketed by calibration standards?	✓				
		3) Were calculations checked by a peer or supervisor?	✓				
		4) Were all analyte identifications checked by a peer or supervisor?	✓				
		5) Were sample quantitation limits reported for all analytes not detected?	✓				
		6) Were all results for soil and sediment samples reported on a dry weight basis?			✓		
		7) Were % moisture (or solids) reported for all soil and sediment samples?			✓		
		8) If required for the project, TICs reported?			✓		
R4	O	SURROGATE RECOVERY DATA					
		1) Were surrogates added prior to extraction?			✓		
		2) Were surrogate percent recoveries in all samples within the laboratory QC limits?			✓		
R5	OI	TEST REPORTS/SUMMARY FORMS FOR BLANK SAMPLES					
		1) Were appropriate type(s) of blanks analyzed?	✓				
		2) Were blanks analyzed at the appropriate frequency?	✓				
		3) Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	✓				
		4) Were blank concentrations < MQL?	✓				
R6	OI	LABORATORY CONTROL SAMPLES (LCS)					
		1) Were all COCs included in the LCS?			✓		
		2) Was each LCS taken through the entire analytical procedure, (prep and cleanup steps)?			✓		
		3) Were LCSs analyzed at the required frequency?			✓		
		4) Were LCS (and LCSD, if applicable) %Rs & RPD recovery within the laboratory QC limits?			✓		
		5) Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?			✓		
R7	OI	MATRIX SPIKE (MS) AND MATRIX SPIKE DUPLICATE (MSD) DATA					
		1) Were the project/method specified analytes included in the MS and MSD?			✓		
		2) Were MS/MSD analyzed at the appropriate frequency?			✓		
		3) Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?			✓		
		4) Were MS/MSD RPDs within laboratory QC limits?			✓		
R8	OI	ANALYTICAL DUPLICATE DATA					
		1) Were appropriate analytical duplicates analyzed for each matrix?	✓				
		2) Were analytical duplicates analyzed at the appropriate frequency?	✓				
		3) Were RPDs or relative standard deviations within the laboratory QC limits?	✓				
R9	OI	METHOD QUANTITATION LIMITS (MQLS)					
		1) Are the MQLs for each method analyte included in the laboratory data package?	✓				
		2) Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	✓				
		3) Are unadjusted MQLs included in the laboratory data package?	✓				
R10	OI	OTHER PROBLEMS/ANOMALIES					
		1) Are all known problems/anomalies/special conditions noted in this LRC and ER?			✓		
		2) Were all necessary corrective actions performed for the reported data?	✓				
		3) Was applicable and available technology used to lower the SQL minimize the matrix interference affects on the sample results?	✓				

DHL Analytical, Inc.

Laboratory Review Checklist (continued): Supporting Data

Project Name: *fed Ex*

Date: *3/28/06*

Reviewer Name: Carlos Castro

Laboratory Work Order: *0603124*

# ¹	A ²	Description	Yes	No	NA ³	NR ⁴	ER# ⁵
S1	OI	INITIAL CALIBRATION (ICAL)					
		1) Were response factors and/or relative response factors for each analyte within OC limits?	✓				
		2) Were percent RSDs or correlation coefficient criteria met?	✓				
		3) Was the number of standards recommended in the method used for all analytes?	✓				
		4) Were all points generated between the lowest and highest standard used to calculate the curve?	✓				
		5) Are ICAL data available for all instruments used?	✓				
		6) Has the initial calibration curve been verified using an appropriate second source standard?	✓				
S2	OI	INITIAL AND CONTINUING CALIBRATION VERIFICATION (ICCV AND CCV) AND CONTINUING CALIBRATION BLANK (CCB)					
		1) Was the CCV analyzed at the method-required frequency?	✓				
		2) Were percent differences for each analyte within the method-required OC limits?	✓				
		3) Was the ICAL curve verified for each analyte?	✓				
		4) Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	✓				
S3	O	MASS SPECTRAL TUNING					
		1) Was the appropriate compound for the method used for tuning?			✓		
		2) Were ion abundance data within the method-required QC limits?			✓		
S4	O	INTERNAL STANDARDS (IS)					
		1) Were IS area counts and retention times within the method-required QC limits?			✓		
S5	OI	RAW DATA (NELAC SECTION 1 APPENDIX A GLOSSARY, & SECTION 5.12)					
		1) Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	✓				
		2) Were data associated with manual integrations flagged on the raw data?	✓				
S6	O	DUAL COLUMN CONFIRMATION					
		1) Did dual column confirmation results meet the method-required OC?	✓				
S7	O	TENTATIVELY IDENTIFIED COMPOUNDS (TICS)					
		1) If TICS were requested, were the mass spectra and TIC data subject to appropriate checks?			✓		
S8	I	INTERFERENCE CHECK SAMPLE (ICS) RESULTS					
		1) Were percent recoveries within method QC limits?			✓		
S9	I	SERIAL DILUTIONS, POST DIGESTION SPIKES, AND METHOD OF STANDARD ADDITIONS					
		1) Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			✓		
S10	OI	METHOD DETECTION LIMIT (MDL) STUDIES					
		1) Was a MDL study performed for each reported analyte?	✓				
S11	OI	PROFICIENCY TEST REPORTS					
		1) Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	✓				
S12	OI	STANDARDS DOCUMENTATION					
		1) Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	✓				
S13	OI	COMPOUND/ANALYTE IDENTIFICATION PROCEDURES					
		1) Are the procedures for compound/analyte identification documented?	✓				
S14	OI	DEMONSTRATION OF ANALYST COMPETENCY (DOC)					
		1) Was DOC conducted consistent with NELAC Chapter 5C?	✓				
S15	OI	VERIFICATION/VALIDATION DOCUMENTATION FOR METHODS (NELAC)					
		1) Are all the methods used to generate the data documented, verified, and validated, where applicable?	✓				
S16	OI	LABORATORY STANDARD OPERATING PROCEDURES (SOPS)					
		1) Are the laboratory SOPs current and on file for each method performed?	✓				

¹ Items identified by the letter "R" should be included in the laboratory data package submitted to the TCEQ in the TRRP-required reports. Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.

² O = organic analyses. I = inorganic analyses (and general chemistry, when applicable).

³ NA = Not applicable. ⁴ NR = Not Reviewed.

⁵ ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

CLIENT: Terracon
Project: Fed Ex
Lab Order: 0603124

CASE NARRATIVE

Samples were analyzed using the methods outlined in the following references:

Method SW8021B - BTEX in Air

Method SW8015B - TPH in Air

Exception Report R1-01

Samples were received and log-in performed on 3/21/06. A total of 3 samples were received. The samples arrived in good condition and were properly packaged.

DATA REPORTING

Sample reports include the Sample Quantitation Limit (SQL) and the Reporting Limit (RL) for each analyte. The computer system allows for reporting SQL with 2 significant figures and the RL with 3 significant figures. Because of rounding it may sometime appear that a "J" flagged result is lower than the SQL if the sample result is very near the SQL.

CLIENT: Terracon
Project: Fed Ex
Lab Order: 0603124**Work Order Sample Summary**

Lab Smp ID	Client Sample ID	Tag Number	Date Collected	Date Recvd
0603124-01	Influent #1		3/20/2006 11:00:00 AM	3/21/2006
0603124-02	Influent #2		3/20/2006 2:00:00 PM	3/21/2006
0603124-03	Influent #3		3/20/2006 5:30:00 PM	3/21/2006

Lab Order: 0603124
 Client: Terracon
 Project: Fed Ex

PREP DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
0603124-01A	Influent #1	1/20/2006 11:00:00 AM	Air	SW8021B	BTEX in Air	3/22/2006 3:27:09 PM	R25538
	Influent #1	1/20/2006 11:00:00 AM	Air	SW8015B	TPH Air Prep	3/24/2006 9:40:53 AM	21705
0603124-02A	Influent #2	3/20/2006 2:00:00 PM	Air	SW8021B	BTEX in Air	3/22/2006 4:03:08 PM	R25538
	Influent #2	3/20/2006 2:00:00 PM	Air	SW8015B	TPH Air Prep	3/24/2006 9:40:53 AM	21705
0603124-03A	Influent #3	3/20/2006 5:30:00 PM	Air	SW8021B	BTEX in Air	3/22/2006 4:20:58 PM	R25538
	Influent #3	3/20/2006 5:30:00 PM	Air	SW8015B	TPH Air Prep	3/24/2006 9:40:53 AM	21705

Lab Order: 0603124
 Client: Terracon
 Project: Fed Ex

ANALYTICAL DATES REPORT

Sample ID	Client Sample ID	Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
0603124-01A	Influent #1	Air	SW8021B	BTEX in Air	R25538	10	3/22/2006 3:27:09 PM	GC9_060322A
	Influent #1	Air	SW8015B	TPH Air as hexane	21705	50	3/23/2006 11:32:25 AM	GC4_060323B
0603124-02A	Influent #2	Air	SW8021B	BTEX in Air	R25538	10	3/22/2006 4:03:08 PM	GC9_060322A
	Influent #2	Air	SW8015B	TPH Air as hexane	21705	10	3/23/2006 2:21:50 PM	GC4_060323B
0603124-03A	Influent #3	Air	SW8021B	BTEX in Air	R25538	10	3/22/2006 4:20:58 PM	GC9_060322A
	Influent #3	Air	SW8015B	TPH Air as hexane	21705	10	3/23/2006 2:59:36 PM	GC4_060323B

DHL Analytical

Date: 28-Mar-06

CLIENT: Terracon
 Project: Fed Ex
 Project No: 96007145
 Lab Order: 0603124

Client Sample ID: Influent #1
 Lab ID: 0603124-01
 Collection Date: 3/20/2006 11:00:00 AM
 Matrix: AIR

Analyses	Result	SQL	RL	Qual	Units	DF	Date Analyzed
BTEX IN AIR		SW8021B					Analyst: KC
Benzene	13.5	4.00	10.0		mg/m ³	10	3/22/2006 3:27:09 PM
Ethylbenzene	22.9	10.0	30.0	J	mg/m ³	10	3/22/2006 3:27:09 PM
Toluene	31.7	10.0	30.0		mg/m ³	10	3/22/2006 3:27:09 PM
Xylenes, Total	408	15.0	45.0		mg/m ³	10	3/22/2006 3:27:09 PM
TPH AIR AS HEXANE		SW8015B					Analyst: KC
TPH: C4-C10 as Hexane	6660	400	1250		ppmV	50	3/23/2006 11:32:25 AM

Qualifiers ND - Not Detected at the SQL
 J - Analyte detected between SQL and RL
 B - Analyte detected in the associated Method Blank
 DF- Dilution Factor
 See Final Page of Report for MQLs and MDLs

S - Spike Recovery outside control limits
 C - Sample Result or QC discussed in Case Narrative
 RL - Reporting Limit (MQL adjusted for moisture and sample size)
 SQL - Sample Quantitation Limit
 E - TPH pattern: not Gas or Diesel Range Pattern

DHL Analytical

Date: 28-Mar-06

CLIENT: Terracon
 Project: Fed Ex
 Project No: 96007145
 Lab Order: 0603124

Client Sample ID: Influent #2
 Lab ID: 0603124-02
 Collection Date: 3/20/2006 2:00:00 PM
 Matrix: AIR

Analyses	Result	SQL	RL	Qual	Units	DF	Date Analyzed
BTEX IN AIR		SW8021B					Analyst: KC
Benzene	16.3	4.00	10.0		mg/m ³	10	3/22/2006 4:03:08 PM
Ethylbenzene	37.0	10.0	30.0		mg/m ³	10	3/22/2006 4:03:08 PM
Toluene	63.5	10.0	30.0		mg/m ³	10	3/22/2006 4:03:08 PM
Xylenes, Total	1010	15.0	45.0		mg/m ³	10	3/22/2006 4:03:08 PM
TPH AIR AS HEXANE		SW8015B					Analyst: KC
TPH: C4-C10 as Hexane	4160	80.0	250		ppmV	10	3/23/2006 2:21:50 PM

Qualifiers	ND - Not Detected at the SQL	S - Spike Recovery outside control limits
	J - Analyte detected between SQL and RL	C - Sample Result or QC discussed in Case Narrative
	B - Analyte detected in the associated Method Blank	RL - Reporting Limit (MQL adjusted for moisture and sample size)
	DF- Dilution Factor	SQL - Sample Quantitation Limit
	See Final Page of Report for MQLs and MDLs	E - TPH pattern not Gas or Diesel Range Pattern

DHL Analytical

Date: 28-Mar-06

CLIENT: Terracon
Project: Fed Ex
Project No: 96007145
Lab Order: 0603124

Client Sample ID: Influent #3
Lab ID: 0603124-03
Collection Date: 3/20/2006 5:30:00 PM
Matrix: AIR

Analyses	Result	SQL	RL	Qual	Units	DF	Date Analyzed
BTEX IN AIR							
		SW8021B					Analyst: KC
Benzene	7.96	4.00	10.0	J	mg/m ³	10	3/22/2006 4:20:58 PM
Ethylbenzene	12.4	10.0	30.0	J	mg/m ³	10	3/22/2006 4:20:58 PM
Toluene	22.4	10.0	30.0	J	mg/m ³	10	3/22/2006 4:20:58 PM
Xylenes, Total	330	15.0	45.0		mg/m ³	10	3/22/2006 4:20:58 PM
TPH AIR AS HEXANE							
		SW8015B					Analyst: KC
TPH: C4-C10 as Hexane	1900	80.0	250		ppmV	10	3/23/2006 2:59:36 PM

Qualifiers ND - Not Detected at the SQL
J - Analyte detected between SQL and RL
B - Analyte detected in the associated Method Blank
DF- Dilution Factor
See Final Page of Report for MQLs and MDLs

S - Spike Recovery outside control limits
C - Sample Result or QC discussed in Case Narrative
RL - Reporting Limit (MQL adjusted for moisture and sample size)
SQL - Sample Quantitation Limit
E - TPH pattern not Gas or Diesel Range Pattern

CLIENT: Terracon
 Work Order: 0603124
 Project: Fed Ex

ANALYTICAL QC SUMMARY REPORT

RunID: GC4_060323B

Sample ID	MB-21705	Batch ID:	21705	TestNo:	SW8015B	Units:	ppmV			
SampType:	MBLK	Run ID:	GC4_060323B	Analysis Date:	3/23/2006 9:59:08 AM	Prep Date:	3/24/2006			
Analyte		Result	RL	SPK value	Ref Val	%REC	Low Limit HighLimit	%RPD	RPDLimit	Qual
TPH: C4-C10 as Hexane		ND	25.0							

Sample ID	0603124-01A-DUP	Batch ID:	21705	TestNo:	SW8015B	Units:	ppmV			
SampType:	DUP	Run ID:	GC4_060323B	Analysis Date:	3/23/2006 12:15:12 P	Prep Date:	3/24/2006			
Analyte		Result	RL	SPK value	Ref Val	%REC	Low Limit HighLimit	%RPD	RPDLimit	Qual
TPH: C4-C10 as Hexane		7770	1250	0	6660			15.4	30	

Qualifiers: B Analyte detected in the associated Method Blank DF Dilution Factor
 J Analyte detected between MDL and RL MDL Method Dection Limit
 ND Not Detected at the Method Detection Limit R RPD outside accepted control limits
 RL Reporting Limit S Spike Recovery outside control limits

CLIENT: Terracon
 Work Order: 0603124
 Project: Fed Ex

ANALYTICAL QC SUMMARY REPORT

RunID: GC4_060323B

Sample ID	ICV-060323	Batch ID:	R25549	TestNo:	SW8015B	Units:	ppmV			
SampType:	ICV	Run ID:	GC4_060323B	Analysis Date:	3/23/2006 9:32:43 AM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	Low Limit	HighLimit	%RPD	RPDLimit	Qual
Hexane	44.1	0	50.00	0	88.1	85	115			

Sample ID	CCV1-060323	Batch ID:	R25549	TestNo:	SW8015B	Units:	ppmV			
SampType:	CCV	Run ID:	GC4_060323B	Analysis Date:	3/23/2006 3:42:47 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	Low Limit	HighLimit	%RPD	RPDLimit	Qual
Hexane	48.3	0	50.00	0	96.5	85	115			

Qualifiers: B Analyte detected in the associated Method Blank DF Dilution Factor
 J Analyte detected between MDL and RL MDL Method Dection Limit
 ND Not Detected at the Method Detection Limit R RPD outside accepted control limits
 RL Reporting Limit S Spike Recovery outside control limits

CLIENT: Terracon
 Work Order: 0603124
 Project: Fed Ex

ANALYTICAL QC SUMMARY REPORT

RunID: GC9_060322A

Sample ID: ICV-060322	Batch ID: R25538	TestNo: SW8021B	Units: mg/m³							
SampType: ICV	Run ID: GC9_060322A	Analysis Date: 3/22/2006 10:45:31 A	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	Low Limit	HighLimit	%RPD	RPDLimit	Qual
Benzene	51.1	1.00	50.00	0	102	85	115			
Ethylbenzene	52.7	3.00	50.00	0	105	85	115			
Toluene	52.2	3.00	50.00	0	104	85	115			
Xylenes, Total	161	4.50	150.0	0	107	85	115			

Sample ID: MB-060322	Batch ID: R25538	TestNo: SW8021B	Units: mg/m³							
SampType: MBLK	Run ID: GC9_060322A	Analysis Date: 3/22/2006 11:03:34 A	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	Low Limit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.00								
Ethylbenzene	ND	3.00								
Toluene	ND	3.00								
Xylenes, Total	ND	4.50								

Sample ID: 0603124-01A DUP	Batch ID: R25538	TestNo: SW8021B	Units: mg/m³							
SampType: DUP	Run ID: GC9_060322A	Analysis Date: 3/22/2006 3:45:11 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	Low Limit	HighLimit	%RPD	RPDLimit	Qual
Benzene	14.2	10.0	0	13.55				4.83	30	
Ethylbenzene	25.9	30.0	0	22.93				12.1	30	
Toluene	34.9	30.0	0	31.69				9.65	30	
Xylenes, Total	459	45.0	0	407.9				11.7	30	

Sample ID: CCV1-060322	Batch ID: R25538	TestNo: SW8021B	Units: mg/m³							
SampType: CCV	Run ID: GC9_060322A	Analysis Date: 3/22/2006 4:38:46 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	Low Limit	HighLimit	%RPD	RPDLimit	Qual
Benzene	25.8	1.00	25.00	0	103	85	115			
Ethylbenzene	26.0	3.00	25.00	0	104	85	115			
Toluene	26.0	3.00	25.00	0	104	85	115			
Xylenes, Total	79.7	4.50	75.00	0	106	85	115			

Qualifiers: B Analyte detected in the associated Method Blank
 J Analyte detected between MDL and RL
 ND Not Detected at the Method Detection Limit
 RL Reporting Limit
 DF Dilution Factor
 MDL Method Detection Limit
 R RPD outside accepted control limits
 S Spike Recovery outside control limits

CLIENT: Terracon
 Work Order: 0603124
 Project: Fed Ex

MQL SUMMARY REPORT

TestNo: SW8021B	MDL	MQL
Analyte	mg/m ³	mg/m ³
Benzene	0.4	1
Ethylbenzene	1	3
Toluene	1	3
Xylenes, Total	1.5	4.5

TestNo: SW8015B	MDL	MQL
Analyte	ppmV	ppmV
TPH: C4-C10 as Hexane	8	25

Qualifiers
 MQL -Method Quantitation Limit as defined by TRRP
 MDL -Method Detection Limit as defined by TRRP

Appendix C

Texas Natural Resource Conservation Commission
PETROLEUM STORAGE TANK
PRODUCT RECOVERY REPORT

Submit this form on a semi-annual basis unless an alternative schedule is directed by the TNRCC. Continue to submit this form until product is no longer observed.

Complete All Applicable Blanks.

Date: 8/2/06

GENERAL INFORMATION

LPST ID No.: 111747

Facility ID No.: 0029044

Responsible Party: Federal Express Corporation

Facility Name: Federal Express Facility

Facility Physical Address: 5811 Technicenter Drive

Facility City: Austin

County: Travis

PHASE-SEPARATED PRODUCT RECOVERY

Reporting Period: March 20, 2006

Estimated volume (gallons) remaining: Less than 20 gallons

Estimated time to recover remaining product to 0.1 foot: No wells currently exhibiting PSH above 0.1 feet

Volume of fluids (product & water) recovered during past reporting period: 2,448 gallons

Volume of phase-separated product recovered during past reporting period: 30.78 gallons

Total volume of fluids recovered to date: 17,117.27 gallons

Total volume of product recovered to date: 2533.03 gallons

Method of product recovery: continuously (automated) pulsed (automated) hand bailing
 sorbents other, describe: High Vacuum Multi-phase Extraction event

Pumping rate (for automated systems only):

Phase-separated product recovery schedule: daily bi-weekly weekly other, describe: One-time (3/20/06)

Maximum phase-separated product thickness remaining: 0.06

Indicate all monitoring wells and other locations impacted with phase-separated product: MW-6

Are the product thicknesses diminishing over time? YES or NO (check one) If no, is a new release suspected? YES or NO describe:

Is product currently being recovered in any monitor wells, trenches, etc. in which the thickness is less than or equal to 0.1 foot? YES or NO

Complete All Applicable Blanks.

LPST ID No.: 111747

Date: 8/2/06

WASTE DISPOSITION

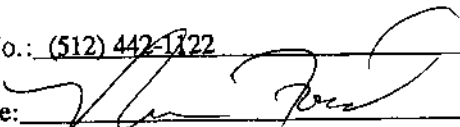
Indicate the status of all wastes generated: All recovered product and water were transported for disposal at an authorized facility (disposal manifest attached).

REPORT PREPARATION

Project Manager: Russell C. Ford PM Reg. No.: 1502 Expiration Date: 7/31/2007

Company: Terracon City: Austin State: TX Zip: 78735

Phone No.: (512) 442-1722 Fax No.: (512) 442-1181

Signature:  Date: 8/2/06

Corrective Action Specialist Rep: Hilary Johns CAS No.: 825 Expiration Date: 2/25/07

Company: Terracon City: Austin State: TX Zip: 78735

Phone No.: (512) 442-1722 Fax No.: (512) 442-1181

Signature:  Date: 8/2/06

Name of Responsible Party contact: Mr. Jamal Mansour

Telephone No.: (901) 434-8458 Fax No.: (901) 434-9235

Signature:  Date: 8/2/06

Attachments:

- Table of cumulative recovery by month
- Graph of cumulative product recovered versus time

Appendix D



SPECIAL NOTES

SERVICE ORDER

NUMBER 1653333
PAGE OF
CALL TYPE PROBLEM CODE ORDER ORIGIN

Bill To TERRACON

CUSTOMER CONTACT

PHONE NUMBER

SITE NUMBER NAME AND ADDRESS

Fedex
Hwy 183 + Technicenter
Austin TX

CALL WAS TAKEN ON AT BY

BRIM Borgess 512-963-2790

P.O. NUMBER

ROUTE ASSIGNED TECH
TRUCK @ 6:00 PM
W/A NUMBER PROMISE DATE, TIME

PROBLEM BY/OF SIZE, AS REPORTED

PlO Truck

VEHICLE NO.	TRAILER NO.	UPTIME UNIT NO.	TT	TM	ET	ARRIVE DATE	ARRIVE TIME	CLOSE DATE	CLOSE TIME	JOB COMPLETE	
406236	999177	129136	1 hr	45	3	3-20-06	5:30P	3/20-06	8:30P	YES NO	
PART / DESCRIPTION		U/M	QUANTITY	NM	SHIPPING DESCRIPTION		SERIAL #		# CONT	TYPE	
COX Fuel W/Fer/Exhaust/Heater			2448		Flammable Liquid N-22 C-Carbon/Lighter Fuel		GLYCOL	PH	BALE	SHIFTER	CO-T
					3, UN1993, PG110						

Vehicle Classification Statement
I hereby certify that I understand the use of US Filter... I have reviewed the physical facilities, administrative practices, and operating procedures and based on the review do hereby state that the site, equipment and complete installation.

Amount Received: CAR & QC
Yes No
1 Used original brand visual inspection
2 Used oil from the correct case
3 Parts checked by whom (A or B) (A or B)
4 Fuel to line operational

Authorization Signature
I agree to pay for the above services unless otherwise noted and to be bound by the terms and conditions set forth above on the reverse side of this document.
Daria Krier AGENT #14
PRINT CUSTOMER NAME TERRACON
CUSTOMER SIGNATURE / DATE

US Filter Generator Emergency Response
I hereby certify that the above information was properly obtained, understood, and used in proper conditions for the generator...
US Filter Generator, Inc.
14830 Hillwood Forest Drive, Bldg. 1488120, TX 77032
EMERGENCY CONTACT CUSTOMER SERVICE 830-875-2420
US DOT ID# 45300
EPA ID# 45300000000000000000
3/20/06
RECEIVED AT PLANT / DATE

255394

ORIGINAL

LF 479 Rev 2

**TEXAS NATURAL RESOURCE CONSERVATION COMMISSION
PETROLEUM STORAGE TANK**

LPST SITE CLOSURE REQUEST FORM

This form is to be used to request closure for Leaking Petroleum Storage Tank (LPST) cases. The soil and groundwater cleanup goals must be met prior to submitting this form. These cleanup goals should be derived from either:

- the TWC *Guidance Manual for LPST Cleanups in Texas*, January 1990 so long as these goals were achieved prior to November 8, 1995, or
- the TNRCC *Risk-Based Corrective Action for Leaking Storage Tank Sites* document, January 1994 (RG-36).

Submission of this Site Closure Request constitutes certification by the Responsible Party, Corrective Action Specialist (CAS), and Corrective Action Project Manager (CAPM) that all necessary corrective actions have been completed and final closure of the subject site is appropriate at this time. By signing this Site Closure Request, the Responsible Party, CAS, and CAPM acknowledges that no further corrective actions, with the exception of activities subsequently approved by the TNRCC, will be eligible for reimbursement after the RP's signature date. Although costs for activities such as groundwater monitoring or remediation system operation and maintenance may have been approved for an annual period, these activities should cease upon submission of the Site Closure Request as these activities will not be considered eligible for reimbursement beyond the date of the Site Closure Request. Additionally, any costs relating to site assessment or other corrective action activities will not be eligible for reimbursement if the activities are conducted after the date of the Site Closure Request, unless specifically approved by the TNRCC. If, upon review by the TNRCC, the TNRCC concurs that the site meets the conditions for final closure, the costs for closure activities necessary to restore the site to its original condition will be reviewed and approved as appropriate. If the TNRCC determines that the site does not meet the conditions for final closure, the TNRCC will request a workplan and cost proposal for the next appropriate corrective action activity necessary to proceed towards final closure unless appropriate activities have previously been approved. The only type of proposal that should be attached to the Site Closure Request is for site closure costs. Any proposals attached to the Site Closure Request for activities other than site closure will not be processed and will be withdrawn from consideration.

If any of the following apply, the site is not ready for closure and this form should not be submitted:

- The appropriate LPST cleanup goals have not been met (a proposal for the next appropriate step should be submitted instead);
- Phase-separated hydrocarbons (>0.1 feet) currently exist at the site;
- The contaminant plume is increasing in size; or
- All wastes and other material generated from the site have not been properly disposed;

Do not use this form:

- if the release was not from a regulated underground or aboveground storage tank;
- for tank removal-from-service activities not associated with an LPST site (use the *Release Determination Report Form* (TNRCC-0621) or other appropriate format);
- for situations where the second set of confirmation samples collected during tank removal-from-service activities confirms suitability for closure (use the *Release Determination Report Form* (TNRCC-0621) or other appropriate format); or
- for shutdown of remediation systems or for plugging of monitor wells when site closure is not yet appropriate.

If asked to initiate additional activities, submit a workplan and preapproval request for those activities on sites eligible for reimbursement. Please review the document entitled *Preapproval for Corrective Action Activities* (RG-111) for procedures on preapproval requests and the other PST guidance pamphlets and rules for additional information on LPST sites.

Complete all blanks and check "yes" or "no" for all inquiries. **IF A COMPLETED ASSESSMENT REPORT FORM (TNRCC-0562) WAS PREVIOUSLY SUBMITTED, YOU DO NOT NEED TO ANSWER THE QUESTIONS WITHIN THE DARK OUTLINED AREAS UNLESS THE INFORMATION HAS CHANGED.** If the question is not applicable to this site, indicate with N/A. If the answer to the question is unknown, please indicate. If space for supplemental information is needed, insert numbered footnote and provide brief supporting discussion in Section VI, Justification for Closure.

SITE CLOSURE REQUEST FORM

I. GENERAL INFORMATION

LPST ID No.: 111747 Facility ID No.: 0029044

Responsible Party: Federal Express Corporation

Responsible Party Address: 3620 Hacks Cross Boulevard, Building B City: Memphis State: TN Zip: 38125

Facility Name: Federal Express Facility

Facility Street Address: 5811 Technicenter Drive

Facility City: Austin County: Travis

What is the current use of site? (indicate all that apply):

Residence¹ School or Day Care center Commercial/Industrial¹ Recreational Agricultural

What is the anticipated future use of the site? (indicate all that apply):

Residence¹ School or Day Care center Commercial/Industrial¹ Recreational Agricultural

Adjacent property use (indicate all that apply):

Residence¹ School or Day Care Center Commercial/Industrial¹ Recreational Agricultural

Distance to nearest off-site residence from property line: 1,000 feet in Northwest direction.

Distance to nearest school or day care center from property line: 100 feet in West direction.

II. CLOSURE SCREENING INFORMATION

Based on the *Limited Site Assessment Report* form or the *Risk-Based Assessment Report Form* (TNRCC-0562), the site is currently a **Priority 4.1** site. If the site priority has changed, list the other priorities that previously pertained to this site: _____

Yes No Have non-aqueous phase liquids (NAPL) ever been present at this site (including tankpit observation wells)? If yes, is NAPL present now (thickness ≥ 0.1 feet)? Yes No Current thickness: 0.05 ft. If NAPL is currently present, stop here and do not submit this form for case closure. Initiate or continue activities necessary for the removal of all recoverable NAPL at the site.

Yes No Were all soils, recovered contaminated groundwater, and any phase-separated hydrocarbons properly disposed of, treated, recycled or reused in accordance with TNRCC requirements? If No, stop here and do not submit this form. Provide a proposal (if the site is eligible for reimbursement) to properly dispose or otherwise manage the wastes/materials or, if the site is not eligible for reimbursement, provide documentation of proper disposition of the wastes.

Yes No Do contaminant concentrations show a consistent decreasing or low static trend? If No, is the contaminant plume increasing in size? Yes No If Yes, stop here, do not submit this form, and initiate activities to control plume migration.

¹ See definition in 30 TAC 334.202

III. RELEASE ABATEMENT/REMEDIATION

Date Release Discovered: 10/1996

Substance(s) released: (check all that apply) Gasoline Alcohol-blended fuel (Type and percentage of alcohol: _____)
 Diesel Used Oil Jet Fuel (type: _____) Aviation Gasoline Other: (be specific) _____

Source of Release (specify all that apply):
 Spills/overfills Piping leaks Dispenser leaks Tank corrosion Other: _____

Yes No Has a receptor survey been conducted?
 Yes No Has a water well inventory been conducted?

Yes No Have vapor impacts to buildings or utility lines ever been associated with this release? If Yes, specify the measures taken to abate the impact and indicate the latest date that an impact was noted:

Yes No Have subsurface utilities ever been affected with NAPL or vapors by this release? If Yes, indicate the latest date that an impact was noted:

If not already provided in *Release Determination Report Form* (TNRCC-0621), or if the information has changed since submittal of the *Release Determination Report*, indicate number of tanks currently and formerly located at this site (attach pages as necessary): No changes since *Release Determination Report* submitted.

	Type (UST/AST)	Product Type	Size (approx. gal)	
Current:	_____	_____	_____	
	_____	_____	_____	
	_____	_____	_____	
	_____	_____	_____	
	_____	_____	_____	<u>Date Removed from Service</u>
Former:	_____	_____	_____	
	_____	_____	_____	
	_____	_____	_____	
	_____	_____	_____	

Yes No If the tanks were permanently removed from service, were native soil samples collected from beneath the tanks and the entire length of the piping? If No, explain why not:

Yes No Was a new UST system installed? If Yes, indicate the date, number of tanks and their contents:

Yes No Are there any open excavations at the site? If Yes, state size, location, purpose, and status for each of the excavations:

Type(s) of soil remediation and time periods the remediation method was operational (indicate all that apply):

- Excavation _____ to _____ (dates), and
 - Aboveground Bioremediation/Aeration _____ to _____ (dates), OR
 - Thermal Treatment _____ to _____ (dates), OR
 - Disposal _____ to _____ (dates).
- Soil Vapor Extraction 9/00 to 5/01 (dates).
- In-Situ Bioremediation _____ to _____ (dates).
- None

III. RELEASE ABATEMENT/REMEDATION (Continued)

Type(s) of groundwater remediation and time periods the remediation method was operational (indicate all that apply):

- Groundwater Pump and Treat _____ to _____ (dates)
 Air Sparging/SVE _____ to _____ (dates)
 In-Situ Bioremediation _____ to _____ (dates)
 Other: _____ to _____ (dates)
 None

- Yes No Were copies of all receipts and manifests to document disposition of all wastes submitted to the TNRCC? If No, attach copies to this form.

Measured total volume of NAPL recovered: 2,533 gallons.

Estimated total volume of soil treated/removed: _____ cubic yards (exclude soil cuttings removed from borings).

Estimated total volume of groundwater treated/removed: 17,117 gallons (if known).

Estimated pounds of hydrocarbons removed or treated from soil (if known):

Estimated pounds of hydrocarbons removed or treated from groundwater (if known):

Estimated percent of total contaminants removed or treated (if known):

IV. SOIL DATA VALIDATION

Are there now affected surface soils (contamination exceeding health-based target concentrations) present within 2 feet below the ground surface? Yes No Unknown

Type of surface cover over affected surface soil area:

Paved [Asphalt or Concrete] Percent of affected soils covered? Unpaved

Other: _

Is there public access to the uncovered affected surface soil area? Yes No

Total number of borings: 11 (including those completed as monitor wells)

Yes No Was the vertical and horizontal extent of soil impacts defined (to the more stringent of health-based target or groundwater protective soil concentrations horizontally and to groundwater or nondetect vertically) by the borings?

Yes No Are shallow (0-15 feet below ground surface) soils affected (contaminant levels exceed health-based target concentrations) on adjacent properties (including right-of-way properties).

Yes No Were all soil sample collection, handling, transport, and analytical procedures conducted in accordance with TNRCC and EPA requirements? If No, provide justification: _____

MAXIMUM SOIL CONCENTRATION LEVELS

Soil Contaminants	Sample Date	Sample Location	Depth (in feet below ground surface)	Analytical Method	Maximum Concentration * (mg/kg)	Target Cleanup Goals** (indicate source of target cleanup goals: 1990 or 1994 [Plan A or B] guidance)
Benzene	2/5/97	MW-6	36.5'-37.5'	8260	11.4	0.45
Toluene	2/5/97	MW-6	36.5'-37.5'	8260	56.5	466
Ethylbenzene	2/5/97	MW-6	36.5'-37.5'	8260	23.8	289
Total Xylenes	2/5/97	MW-6	36.5'-37.5'	8260	164	2,433
TPH	2/5/97	MW-6	36.5'-37.5'	1005	4,000	NA
Other Total Lead	2/5/97	MW-6	36.5'-37.5'	6020	<10	500
Other Naphthalene	10/29/96	B-1	30.5'-31.5'	8015	8.61	389
Other _____						

* Enter maximum soil analytical results for soils remaining beneath the site (take into account all available data, including information obtained during the release determination (tank removal from service, minimal site assessment, etc)).

** If Plan A cleanup goals were used, provide the potential groundwater beneficial use category and a justification of how it was determined in Section VI.

1990 cleanup goals may be used only if all activities necessary to meet those goals were completed by November 8, 1995.

*** Arsenic value risk-based derived using calculations and default values contained in RG-36.

V. GROUNDWATER DATA VALIDATION

Is groundwater at the site impacted? Yes No

Did the assessment document that groundwater was not impacted? Yes No If No or unsure, provide justification for not determining whether there is a groundwater impact: _____

Total number of monitoring wells installed: 11 Number of monitor wells remaining at the site: 11
Will any of the remaining wells be used in the future? Yes No If Yes, specify exactly which well(s) will be used: _____

If No, they must be plugged in accordance with Water Code 32.017 after obtaining approval for site closure. Do not plug the wells until you receive concurrence on site closure. Costs of well plugging may be allowable for reimbursement if all eligibility requirements are met and if the wells were installed under the direction of the TNRCC specifically to address the confirmed release at the site. Provide a proposal with this form (if the site is eligible for reimbursement) for costs of the well plugging.

Measured total dissolved solids (TDS) concentration in groundwater: 478 mg/l. From which monitor well(s) was/were the sample(s) collected? MW-3

Measured groundwater yield at the site: _____ gallons/day (as determined from well adequately screened in the impacted aquifer). Not determined.

Measured groundwater depth at the site ranges between 32 and 37 feet below the top of well casing.

Time period of groundwater monitoring at the site (dates): November, 1996 to April, 2006.

Total number of groundwater monitoring events: 21.

What type of aquifer is impacted? (unconfined, confined, semi-confined): Unconfined.

Distance from maximum plume concentration point to nearest existing downgradient well location (not monitor well):
>0.5 mile ft. in _____ direction (Input ">0.5 mile" if there is no well within 0.5 mile downgradient)

Are any water supply wells impacted or immediately threatened? Yes No
If Yes, specify type of well: Drinking water Non-drinking water

Are there any existing water wells located within the area of impacted groundwater? Yes No
If Yes, specify type of well: Drinking water Non-drinking water

Has surface water been affected? Yes No

Will the groundwater contaminants likely discharge to a surface water body? Yes No

What is the potential impact of affected groundwater discharge on surface water?
 Current impact Discharges within 500 ft. Discharges within 500 to 0.25 miles
 No potential impact

Yes No Were groundwater sample collection, handling, transport, and analytical procedures conducted and documented in accordance with TNRCC requirements? If no, provide justification: _____

V. GROUNDWATER DATA VALIDATION (Continued)

- Yes No Is the extent of groundwater contamination defined (to MCL concentrations)? If No, provide justification for not defining the plume: _____
- Yes No Have groundwater impacts from this release been detected on adjacent properties? If No, is off-site migration probable? Yes No Is there documentation that off-site migration has **not** occurred (sample results from off-site sampling point)? Yes No
- Yes No Was the static groundwater level above the top of the well screen in any monitor wells during any of the last 4 monitoring events? If Yes, provide a statement of validity regarding these samples: _____
- Yes No Have groundwater samples from all monitor wells met the target cleanup goals for the last four consecutive sampling events?
 No, however, **the concentrations are either reducing or are stable.**

MAXIMUM GROUNDWATER CONCENTRATIONS

Groundwater Contaminants	Sample Date	Sample Location	Laboratory Method	Maximum Concentration* (mg/l)	Target Cleanup Goals** (indicate source of target cleanup goals: 1990 or 1994 [Plan A or B] guidance)
Benzene	11/11/96	MW-3	8260	1.920	0.0294
Toluene	3/27/02	MW-11	8260	5.17	7.3
Ethylbenzene	3/27/02	MW-2	8260	1.04	3.65
Total Xylenes	12/27/01	MW-2	8260	10.6	73
TPH	9/24/01	MW-2	1005	189.0	None established
Other MTBE	12/27/01	MW-5	8260	2.85	0.47
Other Naphthalene	4/4/01	MW-2	8015	1.86	1.46
Other _____					

- * Enter maximum groundwater analytical results from the most recent 12 months of monitoring.
- ** 1990 cleanup goals may be used only if all activities necessary to meet those goals were completed by November 8, 1995.
- *** NA-Not Applicable. These constituents were not detected in groundwater.

*ALL
 MW-5
 4.81 ppm
 benzene 3/27/02*

VI. JUSTIFICATION FOR CLOSURE

Please provide a brief summary supporting this request for site closure, including footnoted discussions for the above entries as necessary. **Include discussions providing necessary justifications for any site conditions which deviate from the specific requirements of TNRCC rules and policies, including the document *Risk-Based Corrective Action for Leaking Storage Tank Sites*.** Provide documentation to justify case closure, including information which addresses the potential for future exposure, the existence of impervious cover or other actions which may prevent exposure or limit infiltration, the absence of receptors, etc.

The most recently conducted mobile dual-phase extraction (MDPE) event was performed on March 20, 2006 and included removal of fluids and vapor from 3 wells on site (MW-1, MW-2, and MW-6). The MDPE data report is summarized in the attached Product Recovery Report form. NAPL thickness prior to the event ranged from 0.14 feet in MW-2 to 1.37 feet in MW-6. The MDPE event was conducted for approximately 10 hours at which time it was terminated due to diminishing hydrocarbon recovery rates (see MDPE data report and influent air analytical data in attached Product Recovery Report). A total of 30.78 gallons of NAPL was removed during the event (2 gallons as liquid and 28.78 gallons as off-gas vapor). A total of 2,448 gallons of contaminated groundwater was also generated during the event and was properly disposed offsite at a permitted facility (see waste disposal manifest in attached Product Recovery Report). The wells were gauged immediately following the MDPE event and no NAPL was observed in any of the wells. Subsequent gauging events have found up to 0.12 feet of NAPL present in MW-6 with no NAPL observed in any of the other site wells (see attached fluid gauging summary table).

The fluid gauging data collected indicates that groundwater elevations at the site are near the lowest point they have been recorded since the release was discovered in 1996. NAPL was present in 5 wells (MW-1, MW-2, MW-4, MW-5, and MW-6) during the January 18, 2006 gauging event when thicknesses ranging from 0.15 feet in MW-2 to 2.12 feet measured in MW-6. It is surmised that this increase in NAPL thickness and occurrence is directly related to the lowering of water levels. This has resulted in exposing NAPL saturated silty clay lenses present in the subsurface stratigraphy, which are usually below the top of the water table, thus allowing for the NAPL to gravity drain and accumulate onto the lowered water table. As water levels rise due to recharge, these silty clay lenses become submerged and effectively trap the NAPL beneath the top of the water table. The presence of NAPL in well MW-4 was also reviewed along with the presence of any sensitive receptors within 500-feet north of this well to assess if additional NAPL delineation was warranted north of this well. Due to the transitory presence of NAPL observed in this well (first observed during 1998 and not observed after 2000 until January 2006 and subsequently not observed since the January 18, 2006 gauging event), the fact that water levels have risen at the site since January 2006 and NAPL is no longer observable in this well, its side gradient location with respect to groundwater flow direction, the relatively flat groundwater gradient at the site and based on the lack of any sensitive receptors within 500 feet north of this well, no further NAPL delineation north of this well is currently required.

The groundwater analytical data collected from the site wells indicates either stable or reducing dissolved petroleum hydrocarbon concentrations. This had been previously documented and no further groundwater monitoring is necessary to further document the stable plume conditions. Based on the results from the latest MDPE event and subsequent water level gauging, further NAPL recovery at the site does not appear to be cost effective. Additionally, it appears that the residual NAPL remaining at the site has been removed to the maximum extent practicable and that the amount remaining poses no threat to human health and the environment. Terracon recommends site closure at this time.

VII. REPORT PREPARATION

Based on the results of the site investigation and the additional information presented herein, I certify that the site investigation activities performed either by me, or under my direct supervision, including subcontracted work, were conducted in accordance with accepted industry standards/practices and further, that all such tasks were conducted in compliance with applicable TNRCC published rules, guidelines and the laws of the State of Texas. I have reviewed the information included within this report, and consider it to be complete, accurate and representative of the conditions discovered during the site investigation. I acknowledge that if I intentionally or knowingly make false statements, representations, or certifications in this report, I may be subject to administrative, civil, and/or criminal penalties. I certify that the site has met all requirements for closure and that closure is appropriate.

Project Manager: Russell C. Ford CAPM No.: 1502 Expiration date: 7/31/07
Company: Terracon
Address: 5307 Industrial Oaks Boulevard, Suite 160 City: Austin State: TX Zip: 78735
Telephone No.: (512) 442-1122 Fax No.: (512) 442-1181
Signature: _____ Date: _____

By my signature affixed below, I certify that I am the duly authorized representative of the Correction Action Specialist named and that I have personally reviewed the site investigation results and other relevant information presented herein and considered them to be in accordance with accepted standards/practices and in compliance with the applicable TNRCC published rules, guidelines and the laws of the State of Texas. Further, that the information presented herein is considered complete, accurate and representative of the conditions discovered during the site investigation. I acknowledge that if I intentionally or knowingly make false statements, representations, or certifications in this report, I may be subject to administrative, civil, and/or criminal penalties. I certify that the site has met all requirements for closure and that closure is appropriate.

Corrective Action Specialist: Hilary Johns CAS No.: 00825 Expiration date: 2/25/07
Company: Terracon
Address: 5307 Industrial Oaks Boulevard, Suite 160 City: Austin State: TX Zip: 78735
Telephone No.: (512) 442-1122 Fax No.: (512) 442-1181
Signature: _____ Date: _____

By my signature affixed below, I certify that I have reviewed this report for accuracy and completeness of information regarding points of contact and the facility and storage tank system history and status. I acknowledge that if I intentionally or knowingly make false statements, representations, or certifications in this report related to the contact information, and the facility and storage tank system history and status information, I may be subject to administrative, civil, and/or criminal penalties. I attest that I have reviewed this report for accuracy and completeness. I understand that I am responsible for addressing this matter. I certify that the site has met all requirements for closure and that closure is appropriate.

Name of Responsible Party contact: Mr. Jamal Mansour
Telephone No.: (901) 434-8458 Fax No.: (901) 434-9235
Signature: Jamal Mansour Date: 8/2/06

THE FOLLOWING ITEMS MUST BE SUBMITTED WITH THIS FORM IF NOT PREVIOUSLY SUBMITTED:

- A site map illustrating the locations of the entire UST and/or AST system (including piping, dispensers, observation wells, etc.), all soil borings and monitoring wells and all other sampling points, subsurface utilities, and surface water within 500 feet.
- A copy of the latest groundwater gradient map (if monitor wells were completed).
- Summary tables of all soil, groundwater and surface water analytical results, including samples collected from any tank removal from service activities, tank system repair activities, and those collected from borings and monitor wells. The tables must clearly identify the sample number, date of collection, sampling locations, depths (if applicable), and analytical results.
- Copies of any manifests or other waste receipts, and any other documents necessary for case closure.

LPST-111747-RP

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION
PETROLEUM STORAGE TANK
CORRESPONDENCE IDENTIFICATION SHEET

Date: December 28, 2006
Site Name: Federal Express Corporation
Site Address: 5811 Technicenter Drive, Austin, TX

THz

LPST ID No.: 111747
Facility ID No.: 0029044

FSC
↓

This checklist **must** accompany all correspondence submitted to the RPR Section and should be affixed to the front of your submittal as a cover page. Please check the appropriate box for the type of correspondence which you have submitted to the RPR Section. Check all boxes that apply if you are submitting more than one type of correspondence. If you cannot find an appropriate category, please complete the "other" section.

PROPOSALS		
<input type="checkbox"/> Initial Abatement (1)	<input type="checkbox"/> Tank Removal (2)	<input type="checkbox"/> Excavation (3)
<input type="checkbox"/> Waste Treatment (4)	<input type="checkbox"/> Site Assessment (5)	<input type="checkbox"/> Aquifer Testing (6)
<input type="checkbox"/> VES/Sparge Testing (7)	<input type="checkbox"/> Qtrly. GW Monitoring (8)	<input type="checkbox"/> CAP Prep. (9)
<input type="checkbox"/> GW Extrac./Treatment (10)	<input type="checkbox"/> Soil Vapor Extrac. (11)	<input type="checkbox"/> Operation & Main. (12)
<input type="checkbox"/> Site Closure (13)	<input type="checkbox"/> Plan A Risk Ass. (14)	<input type="checkbox"/> Plan B Risk Ass. (15)
<input type="checkbox"/> Semi-annual GW Mon. (16)*	<input type="checkbox"/> Annual GW Mon. (18)	<input type="checkbox"/> Product Recovery (19)
<input type="checkbox"/> Other proposal _____		

REPORTING FORMS	
<input type="checkbox"/> Assessment Report Form (TNRCC-0562)	<input type="checkbox"/> Release Report Form (TNRCC-0621)
<input type="checkbox"/> Product Recovery Report Form (TNRCC-0016)	<input type="checkbox"/> Monitoring Event Summary and Status Report (TNRCC-0013)
<input type="checkbox"/> Site Closure Request Form (TNRCC-0028)	<input checked="" type="checkbox"/> Final Site Closure Report Form (TNRCC-0038)
<input type="checkbox"/> Other form _____	

REPORTS		
<input type="checkbox"/> Tank Closure/Removal	<input type="checkbox"/> Plan A Risk Assessment	<input type="checkbox"/> Annual Groundwater Monitoring
<input type="checkbox"/> O&M/Performance Mon.	<input type="checkbox"/> Plan B Risk Assessment	<input type="checkbox"/> CAP Installation/Modification
<input type="checkbox"/> Property Divestiture/Phase I ESA	<input type="checkbox"/> Corrective Action Plan (CAP)	<input type="checkbox"/> Aquifer/Pilot Test Results

MISCELLANEOUS	
<input type="checkbox"/> Off-site access assistance	<input type="checkbox"/> Deadline Extension Request
<input type="checkbox"/> Tank tightness test results	<input type="checkbox"/> Request for State-Lead
<input type="checkbox"/> Request for LPST Waste Code	<input type="checkbox"/> Class V ReInjection Request
<input type="checkbox"/> Notice to Owner/Operator for CAS Services	<input type="checkbox"/> Petroleum-Substance Waste Manifest
<input type="checkbox"/> Underground Storage Tank Registration Form	<input type="checkbox"/> Aboveground Storage Tank Registration Form
<input type="checkbox"/> Other (anything that does not fit into one of the categories above) _____	

DARCY ENVIRONMENTAL GROUP

JAN 10 2007

* The proposal for semi-annual monitoring and annual report (Proposal Activity 17) has been discontinued. For semi-annual monitoring, use Proposal Activity 16.

Received

JAN 04 2007

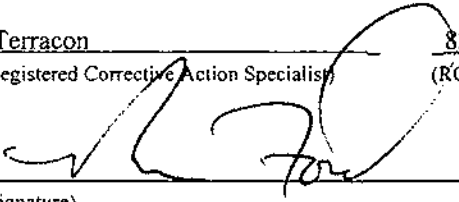
TCEQ/PST-RPR

I attest that all work has been conducted in accordance with accepted industry standards/practices and adhered to TNRCC guidance and rules. I certify that I am aware that misrepresentation of any of the above claims is a violation of 30 TAC 334.453(b)(1)(E) and that this violation may result in the disciplinary actions set forth in 30 TAC 334.453 and or 334.463 and 334.465.

If a proposal is attached for preapproval, has the proposed work, in part or in whole, already been performed or in progress? Yes No

If yes, what work? _____

Terracon 825 2/25/07
(Registered Corrective Action Specialist) (RCAS Reg. No.) (Expiration date)


(Signature)

12/28/06
(Date)

(512) 442-1122
(Telephone #)

(512) 442-1181
(FAX #)

Russell C. Ford 1502 7/31/07
(Project Manager) (CAPM Reg. No.) (Expiration date)


(Signature)

12/28/06
(Date)

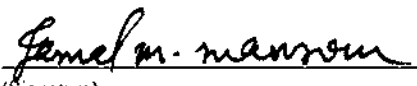
(512) 442-1122
(Telephone #)

(512) 442-1181
(FAX #)

By signature below, I certify that documents checked above are included.

Mr. Jamal Mansour
(Name of Responsible Party Contact)

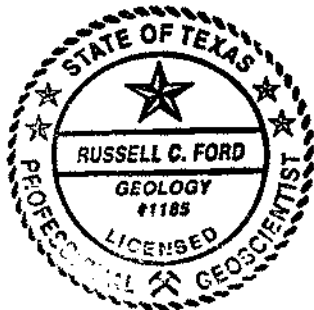
Federal Express Corporation
(Company)


(Signature)

1/2/07
(Date)

(901) 434-8458
(Telephone #)

(901) 434-9235
(FAX #)



**Texas Natural Resource Conservation Commission
PETROLEUM STORAGE TANK
FINAL SITE CLOSURE REPORT**

Use this form to provide information on LPST site closure activities after site closure has been authorized. To request authorization for site closure, complete and submit the *Site Closure Request* form (TNRCC-0028).

Complete All Applicable Blanks.

Date: 12/28/2006

GENERAL INFORMATION

LPST ID No.: 111747 Facility ID No: 0029044

Responsible Party: Federal Express Corporation

RP Address: 3620 Hacks Cross Road, Building B, Memphis State: TN Zip: 38125-7113

Facility Name: Federal Express Facility

Facility Address: 5811 Technicenter Drive

Facility City: Austin, Texas County: Travis

CLOSURE ACTIVITY

Was a remediation system installed? **YES** **NO** If yes, provide a description : A soil vapor extraction system with a thermal vapor incinerator were installed in September 2000 and were operated until May 2001.

Was this system removed? **YES** **NO** If no, explain why not: _____

What is the intended future use/disposition and location of the system: Continued use as a commercial/ industrial facility.

List the components of the remedial system removed: Soil vapor extraction blower, thermal incinerator, and above grade piping.

List any of the remedial system components remaining at the site: None

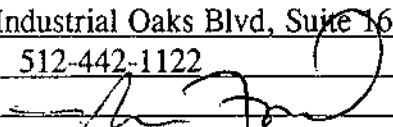
Provide a description of site restoration activities: Decommission of the remediation system and site monitoring wells plugging activities were performed on November 8th and 9th, 2006. The above grade components and piping of the system were removed, and the surface was completed in accordance with the surrounding grade. All monitoring wells were plugged in accordance Texas Water Development Board regulations by a State of Texas licensed driller.

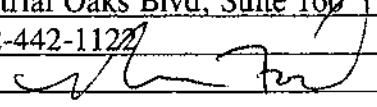
Total number of monitoring wells installed at the site (both on and off site): 11 Out of that number, how many monitoring wells have been plugged: 11
Are there any remaining monitoring wells that have not been plugged? YES NO
If Yes, were the wells installed under the direction of the TNRCC specifically to address the confirmed release at this site? YES NO
Attach copies of the signed State of Texas Well Plugging Reports for all wells that will no longer be utilized.

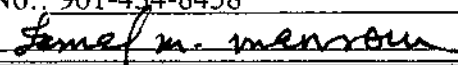
For any monitoring wells not plugged, indicate intended use: _____

Have all wastes or other materials been properly disposed of, treated or recycled? YES NO If yes, attach documentation, if no, describe current status. Please note that site closure cannot be issued until all wastes and other materials have been properly disposed: _____

REPORT PREPARATION

Project Manager: Russel C. Ford CAPM No.: 1502 Expiration date: 7/31/2007
Company: Terracon Consultants Inc.
Address: 5307 Industrial Oaks Blvd, Suite 160 City: Austin State: Texas Zip: 78735
Telephone No.: 512-442-1122 Fax No.: 512-442-1181
Signature:  Date: 12/21/06

Corrective Action Specialist: Hillary Johns CAS No.: 00825 Expiration date: 2/25/2007
Company: Terracon Consultants Inc.
Address: 5307 Industrial Oaks Blvd, Suite 160 City: Austin State: Texas Zip: 78735
Telephone No.: 512-442-1122 Fax No.: 512-442-1181
Signature:  Date: 12/22/06

Name of Responsible Party contact: Jamal Mansour
Telephone No.: 901-434-8458 Fax No.: 901-434-9235
Signature:  Date: 1/2/07

ATTACHMENTS:

- Documentation of actual closure activities
- Documentation of waste disposal, treatment or recycling (if not previously submitted)
- State of Texas Plugging Reports

Project No. 96007145
Date Photos Taken: November December 2006



Photo 1 MW-1



Photo 2 MW-2



Photo 3 MW-3



Photo 4 MW-4



Photo 5 MW-5



Photo 6 MW-6



Photo 7 MW-7



Photo 8 MW-8



Photo 9 MW-9



Photo 10 MW-10



Photo 11 MW-11



Photo 12 Former System Compound Area



Please type or print (Form designed for use on letter/12 -pitch typewriter)

INSTRUCTIONS ON REVERSE SIDE

PETROLEUM-SUBSTANCE WASTE MANIFEST		1 Generator's LPST ID No or ST ID No.	2 Page 1 of
3 Generator's Name, Contact Person, and Mailing Address <i>Federal Express Corporation 3620 Hacks Cross Pl. Bldg B Memphis Tennessee</i>		<i>LPST # 111247</i>	<i>1</i>
4 Generator's Phone <i>(512) 442 1122</i> Generator's Fax ()		A State Manifest Document No.	
5 Generator's Facility Name, Contact Person, and Physical Address <i>FED EX SHIPPING FACILITY 5811 TECUMSEH CENTER DR AUSTIN, TX</i>		B Generator's Facility ID No <i>#0029044</i>	
6 Generator's Facility Phone <i>(512) 442 1122</i> Generator's Fax <i>(512) 442-1161</i>		C Generator's Tank Owner ID No	
7 Transporter 1 Company Name and Address <i>GEOTRANNICS 1113 Roland Ln Kyle TX 78640</i>		D Transporter's Phone <i>(512) 782 7070</i> Contact Person: <i>R. Bullock</i>	
8 Transporter 2 Company Name and Address		E Transporter's Phone Contact Person:	
9 Designated Facility Name and Site Address <i>Alamo Petroleum Exchange Highway 77 S. Giddings TX</i>		F Facility's Phone <i>(817) 502-5085</i> Contact Person: <i>C STAMPORT</i>	
10 Facility ID Number <i># 41654</i>			
11. Waste Description (including Proper Class, and ID)	12. Containers	13. Total Quantity	14. Units 15. Waste Code
a. <i>Poured Moulding Wall Groundwater</i>	<i>3 DR</i>	<i>165</i>	<i>gals</i> <i>P.</i>
b. <i>Alamo Petroleum Exchange Groundwater</i>	<i>1 DR</i>	<i>1 DR</i>	<i>gal</i> <i>HA</i>
G Additional Description for Materials Listed Above <i>NON-HAZARDOUS Class II</i>			
16. Special Handling Instructions and Additional Information			
GENERATOR'S CERTIFICATION: I hereby declare the contents of this consignment are fully and accurately described above by shipping name and are classified, packed, marked, and labeled, and are in all respect in proper condition for transport by highway according to applicable federal and state regulations			
17 Printed/Typed Name <i>ABC TRANCON</i>	Signature <i>[Signature]</i>	Date <i>12/21/06</i>	
18 Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name <i>GEOTRANNICS</i>	Signature <i>[Signature]</i>	Date <i>12/21/06</i>	
19. Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name	Signature	Date	
20. Discrepancy Indication Space			
21 Facility Owner/Operator Printed/Typed Name <i>Alamo Petroleum</i>	Certification of receipt of petroleum-substance wastes covered by this manifest except as noted in Item 20 Signature <i>Charlie Stampert</i>		Date <i>12-21-06</i>

STATE OF TEXAS PLUGGING REPORT for Tracking #35268

Owner:	Federal Express Corp.	Owner Well #:	MW-1
Address:	3620 Hacks Crossroad Bldg. B Memphis , TN 38125	Grid #:	58-43-8
Well Location:	5811 Technicenter Austin , TX 78721	Latitude:	30° 16' 39" N
Well County:	Travis	Longitude:	097° 40' 22" W
		GPS Brand Used:	No Data
Well Type:	Monitor		

HISTORICAL DATA ON WELL TO BE PLUGGED

Original Well Drifter:	No Data
Driller's License Number of Original Well Driller:	No Data
Date Well Drilled:	No Data
Well Report Tracking Number:	No Data
Diameter of Well:	48 inches
Total Depth of Well:	40 feet
Date Well Plugged:	11/9/2006
Person Actually Performing Plugging Operation:	Benito Hinojosa
License Number of Plugging Operator:	3127
Plugging Method:	Pour in 3/8 bentonite chips when standing water in well is less than 100 feet in depth, cement top 2 feet.
Plugging Variance #:	No Data
Casing Left Data:	1st Interval: 4" inches diameter, From 3 ft to 40 ft 2nd Interval: 0 inches diameter, From 0 ft to 0 ft 3rd Interval: 0 inches diameter, From 0 ft to 0 ft
Cement/Bentonite Plugs Placed in Well:	1st Interval: From 0 ft to 2 ft; Sack(s)/type of cement used: 1 Cement 2nd Interval: From 2 ft to 40 ft; Sack(s)/type of cement used: 1 Bentonite 3rd Interval: No Data 4th Interval: No Data 5th Interval: No Data
Certification Data:	The plug installer certified that the plug installer plugged this well (or the well was plugged under the plug installer's direct supervision) and that each and all of the statements herein are true and correct. The plug installer understood that failure to complete the required items will result in the log(s) being returned for completion and resubmittal.
Company information:	Hinojosa Services 1100 Regal Row Ste. J Austin , TX 78102
Plug Installer License Number:	3127

• Licensed Plug Installer **Benito Hinojosa**
Signature:
Registered Plug Installer **No Data**
Apprentice Signature:
Apprentice Registration **No Data**
Number:
Plugging Method **No Data**
Comments:

Please include the plugging report's tracking number (Tracking #35268) on your written request.

Texas Department of Licensing & Regulation
P.O. Box 12157
Austin, TX 78711
(512) 463-7880

STATE OF TEXAS PLUGGING REPORT for Tracking #35270

Owner:	Federal Express Corp.	Owner Well #:	MW-2
Address:	3620 Hacks Crossroad Bldg. B Memphis , TN 38125	Grid #:	58-43-8
Well Location:	5811 Technicenter Austin , TX 78721	Latitude:	30° 16' 40" N
Well County:	Travis	Longitude:	097° 40' 21" W
		GPS Brand Used:	No Data
Well Type:	Monitor		

HISTORICAL DATA ON WELL TO BE PLUGGED

Original Well Driller:	No Data
Driller's License Number of Original Well Driller:	No Data
Date Well Drilled:	No Data
Well Report Tracking Number:	No Data
Diameter of Well:	48 inches
Total Depth of Well:	40 feet
Date Well Plugged:	11/11/2006
Person Actually Performing Plugging Operation:	Benito Hinojosa
License Number of Plugging Operator:	3127
Plugging Method:	Pour in 3/8 bentonite chips when standing water in well is less than 100 feet in depth, cement top 2 feet.
Plugging Variance #:	No Data
Casing Left Data:	1st Interval: 4 inches diameter, From 5 ft to 40 ft 2nd Interval: 0 inches diameter, From 0 ft to 0 ft 3rd Interval: 0 inches diameter, From 0 ft to 0 ft
Cement/Bentonite Plugs Placed in Well:	1st Interval: From 0 ft to 2 ft; Sack(s)/type of cement used: 1 Cement 2nd Interval: From 2 ft to 40 ft; Sack(s)/type of cement used: 1Bentonite 3rd Interval: No Data 4th Interval: No Data 5th Interval: No Data
Certification Data:	The plug installer certified that the plug installer plugged this well (or the well was plugged under the plug installer's direct supervision) and that each and all of the statements herein are true and correct. The plug installer understood that failure to complete the required items will result in the log(s) being returned for completion and resubmittal.
Company Information:	Hinojosa Services 1100 Regal Row Ste. J Austin , TX 78102
Plug Installer License Number:	3127

Licensed Plug Installer Signature: **Benito Hinojosa**

Registered Plug Installer Apprentice Signature: **No Data**

Apprentice Registration Number: **No Data**

Plugging Method Comments: **No Data**

Please include the plugging report's tracking number (Tracking #35270) on your written request.

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STATE OF TEXAS PLUGGING REPORT for Tracking #35271

Owner:	Federal Express Corp.	Owner Well #:	MW-3
Address:	3620 Hacks Crossroad Bldg. B Memphis , TN 38125	Grid #:	58-43-8
Well Location:	5811 Technicenter Austin , TX 78721	Latitude:	30° 16' 40" N
Well County:	Travis	Longitude:	097° 40' 21" W
		GPS Brand Used:	No Data
Well Type:	Monitor		

HISTORICAL DATA ON WELL TO BE PLUGGED

Original Well Driller:	No Data
Driller's License Number of Original Well Driller:	No Data
Date Well Drilled:	No Data
Well Report Tracking Number:	No Data
Diameter of Well:	48 inches
Total Depth of Well:	40 feet
Date Well Plugged:	11/9/2006
Person Actually Performing Plugging Operation:	Benito Hinojosa
License Number of Plugging Operator:	3127
Plugging Method:	Pour in 3/8 bentonite chips when standing water in well is less than 100 feet in depth, cement top 2 feet.
Plugging Variance #:	No Data
Casing Left Data:	1st Interval: 4 inches diameter, From 3 ft to 40 ft 2nd Interval: 0 inches diameter, From 0 ft to 0 ft 3rd Interval: 0 inches diameter, From 0 ft to 0 ft
Cement/Bentonite Plugs Placed in Well:	1st Interval: From 0 ft to 2 ft; Sack(s)/type of cement used: 1 Cement 2nd Interval: From 2 ft to 40 ft; Sack(s)/type of cement used: 1 Bentonite 3rd Interval: No Data 4th Interval: No Data 5th Interval: No Data
Certification Data:	The plug installer certified that the plug installer plugged this well (or the well was plugged under the plug installer's direct supervision) and that each and all of the statements herein are true and correct. The plug installer understood that failure to complete the required items will result in the log(s) being returned for completion and resubmittal.
Company Information:	Hinojosa Services 1100 Regal Row Ste. J Austin , TX 78102
Plug Installer License Number:	3127

Licensed Plug Installer **Benito Hinojosa**
Signature:
Registered Plug Installer **No Data**
Apprentice Signature:
Apprentice Registration **No Data**
Number:
Plugging Method **No Data**
Comments:

Please include the plugging report's tracking number (Tracking #35271) on your written request.

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STATE OF TEXAS PLUGGING REPORT for Tracking #35272

Owner:	Federal Express Corp.	Owner Well #:	MW-4
Address:	3620 Hacks Crossroad Bldg. B Memphis , TN 38125	Grid #:	58-43-8
Well Location:	5811 Technicenter Austin , TX 78721	Latitude:	30° 16' 40" N
Well County:	Travis	Longitude:	097° 40' 21" W
		GPS Brand Used:	No Data
Well Type:	Monitor		

HISTORICAL DATA ON WELL TO BE PLUGGED

Original Well Driller:	No Data
Driller's License Number of Original Well Driller:	No Data
Date Well Drilled:	No Data
Well Report Tracking Number:	No Data
Diameter of Well:	48 inches
Total Depth of Well:	40 feet
Date Well Plugged:	11/9/2006
Person Actually Performing Plugging Operation:	Benito Hinojosa
License Number of Plugging Operator:	3127
Plugging Method:	Pour in 3/8 bentonite chips when standing water in well is less than 100 feet in depth, cement top 2 feet.
Plugging Variance #:	No Data
Casing Left Data:	1st Interval: 4 inches diameter, From 2 ft to 40 ft 2nd Interval: 0 inches diameter, From 0 ft to 0 ft 3rd Interval: 0 inches diameter, From 0 ft to 0 ft
Cement/Bentonite Plugs Placed in Well:	1st Interval: From 0 ft to 2 ft; Sack(s)/type of cement used: 1 Cement 2nd Interval: From 2 ft to 40 ft; Sack(s)/type of cement used: 1 Bentonite 3rd Interval: No Data 4th Interval: No Data 5th Interval: No Data
Certification Data:	The plug installer certified that the plug installer plugged this well (or the well was plugged under the plug installer's direct supervision) and that each and all of the statements herein are true and correct. The plug installer understood that failure to complete the required items will result in the log(s) being returned for completion and resubmittal.
Company Information:	Hinojosa Services 1100 Regal Row Ste. J Austin , TX 78102
Plug Installer License Number:	3127

Licensed Plug Installer Signature: **Benito Hinojosa**
Registered Plug Installer Apprentice Signature: **No Data**
Apprentice Registration Number: **No Data**
Plugging Method Comments: **No Data**

Please include the plugging report's tracking number (Tracking #35272) on your written request.

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STATE OF TEXAS PLUGGING REPORT for Tracking #35273

Owner:	Federal Express Corp.	Owner Well #:	MW-5
Address:	3620 Hacks Crossroad Bldg. B Memphis , TN 38125	Grid #:	58-43-8
Well Location:	5811 Technicenter Austin , TX 78721	Latitude:	30° 16' 40" N
Well County:	Travis	Longitude:	097° 40' 21" W
		GPS Brand Used:	No Data
<hr/>			
Well Type:	Monitor		

HISTORICAL DATA ON WELL TO BE PLUGGED

Original Well Driller:	No Data
Driller's License Number of Original Well Driller:	No Data
Date Well Drilled:	No Data
Well Report Tracking Number:	No Data
Diameter of Well:	48 inches
Total Depth of Well:	40' feet
<hr/>	
Date Well Plugged:	11/9/2006
Person Actually Performing Plugging Operation:	Benito Hinojosa
License Number of Plugging Operator:	3127
Plugging Method:	Pour in 3/8 bentonite chips when standing water in well is less than 100 feet in depth, cement top 2 feet.
Plugging Variance #:	No Data
Casing Left Data:	1st Interval: 4 inches diameter, From 2 ft to 40 ft 2nd Interval: 0 inches diameter, From 0 ft to 0 ft 3rd Interval: 0 inches diameter, From 0 ft to 0 ft
Cement/Bentonite Plugs Placed in Well:	1st Interval: From 0 ft to 2 ft; Sack(s)/type of cement used: 1 Cement 2nd Interval: From 2 ft to 40 ft; Sack(s)/type of cement used: 1 Bentonite 3rd Interval: No Data 4th Interval: No Data 5th Interval: No Data
Certification Data:	The plug installer certified that the plug installer plugged this well (or the well was plugged under the plug installer's direct supervision) and that each and all of the statements herein are true and correct. The plug installer understood that failure to complete the required items will result in the log(s) being returned for completion and resubmittal.
Company Information:	Hinojosa Services 1100 Regal Row Ste. J Austin , TX 78102
Plug Installer License Number:	3127

Licensed Plug Installer Signature: **Benito Hinojosa**
Registered Plug Installer Apprentice Signature: **No Data**
Apprentice Registration Number: **No Data**
Plugging Method Comments: **No Data**

Please include the plugging report's tracking number (Tracking #35273) on your written request.

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STATE OF TEXAS PLUGGING REPORT for Tracking #35274

Owner:	Federal Express Corp.	Owner Well #:	MW-6
Address:	3620 Hacks Crossroad Bldg. B Memphis , TN 38125	Grid #:	58-43-8
Well Location:	5811 Technicenter Austin , TX 78721	Latitude:	30° 16' 39" N
Well County:	Travis	Longitude:	097° 40' 22" W
		GPS Brand Used:	No Data
Well Type:	Monitor		

HISTORICAL DATA ON WELL TO BE PLUGGED

Original Well Driller:	No Data
Driller's License Number of Original Well Driller:	No Data
Date Well Drilled:	No Data
Well Report Tracking Number:	No Data
Diameter of Well:	48 inches
Total Depth of Well:	40 feet
Date Well Plugged:	11/9/2006
Person Actually Performing Plugging Operation:	Benito Hinojosa
License Number of Plugging Operator:	3127
Plugging Method:	Pour in 3/8 bentonite chips when standing water in well is less than 100 feet in depth, cement top 2 feet.
Plugging Variance #:	No Data
Casing Left Data:	1st interval: 4 inches diameter, From 2 ft to 40 ft 2nd interval: 0 inches diameter, From 0 ft to 0 ft 3rd interval: 0 inches diameter, From 0 ft to 0 ft
Cement/Bentonite Plugs Placed in Well:	1st interval: From 0 ft to 2 ft; Sack(s)/type of cement used: 1 Cement 2nd interval: From 2 ft to 40 ft; Sack(s)/type of cement used: 1 Bentonite 3rd interval: No Data 4th interval: No Data 5th interval: No Data
Certification Data:	The plug installer certified that the plug installer plugged this well (or the well was plugged under the plug installer's direct supervision) and that each and all of the statements herein are true and correct. The plug installer understood that failure to complete the required items will result in the log(s) being returned for completion and resubmittal.
Company Information:	Hinojosa Services 1100 Regal Row Ste. J Austin , TX 78102
Plug Installer License Number:	3127

Licensed Plug Installer **Benito Hinojosa**
Signature:

Registered Plug Installer **No Data**
Apprentice Signature:

Apprentice Registration **No Data**
Number:

Plugging Method **No Data**
Comments:

Please include the plugging report's tracking number (Tracking #35274) on your written request.

Texas Department of Licensing & Regulation
P.O. Box 12157
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STATE OF TEXAS PLUGGING REPORT for Tracking #35275

Owner:	Federal Express Corp.	Owner Well #:	MW-7
Address:	3620 Hacks Crossroad Bldg. B Memphis , TN 38125	Grid #:	58-43-8
Well Location:	5811 Technicenter Austin , TX 78721	Latitude:	30° 16' 38" N
Well County:	Travis	Longitude:	097° 40' 22" W
		GPS Brand Used:	No Data
Well Type:	Monitor		

HISTORICAL DATA ON WELL TO BE PLUGGED

Original Well Driller:	No Data
Driller's License Number of Original Well Driller:	No Data
Date Well Drilled:	No Data
Well Report Tracking Number:	No Data
Diameter of Well:	48 inches
Total Depth of Well:	40 feet
Date Well Plugged:	11/9/2006
Person Actually Performing Plugging Operation:	Benito Hinojosa
License Number of Plugging Operator:	3127
Plugging Method:	Pour in 3/8 bentonite chips when standing water in well is less than 100 feet in depth, cement top 2 feet.
Plugging Variance #:	No Data
Casing Left Data:	1st Interval: 4 inches diameter, From 2 ft to 40 ft 2nd Interval: 0 inches diameter, From 0 ft to 0 ft 3rd Interval: 0 inches diameter, From 0 ft to 0 ft
Cement/Bentonite Plugs Placed in Well:	1st Interval: From 0 ft to 2 ft; Sack(s)/type of cement used: 1 Cement 2nd Interval: From 2 ft to 40 ft; Sack(s)/type of cement used: 1 Bentonite 3rd Interval: No Data 4th Interval: No Data 5th Interval: No Data
Certification Data:	The plug installer certified that the plug installer plugged this well (or the well was plugged under the plug installer's direct supervision) and that each and all of the statements herein are true and correct. The plug installer understood that failure to complete the required items will result in the log(s) being returned for completion and resubmittal.
Company Information:	Hinojosa Services 1100 Regal Row Ste. J Austin , TX 78102
Plug Installer License Number:	3127

Licensed Plug Installer **Benito Hinojosa**
Signature:
Registered Plug Installer **No Data**
Apprentice Signature:
Apprentice Registration **No Data**
Number:
Plugging Method **No Data**
Comments:

Please include the plugging report's tracking number (Tracking #35275) on your written request.

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P.O. Box 12157
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(512) 463-7880

STATE OF TEXAS PLUGGING REPORT for Tracking #35276

Owner:	Federal Express Corp.	Owner Well #:	MW-8
Address:	3620 Hacks Crossroad Bldg. B Memphis , TN 38125	Grid #:	58-43-8
Well Location:	5811 Technicenter Austin , TX 78721	Latitude:	30° 16' 38" N
Well County:	Travis	Longitude:	097° 40' 20" W
		GPS Brand Used:	No Data
Well Type:	Monitor		

HISTORICAL DATA ON WELL TO BE PLUGGED

Original Well Driller:	No Data
Driller's License Number of Original Well Driller:	No Data
Date Well Drilled:	No Data
Well Report Tracking Number:	No Data
Diameter of Well:	24 inches
Total Depth of Well:	40 feet
Date Well Plugged:	11/9/2006
Person Actually Performing Plugging Operation:	Benito Hinojosa
License Number of Plugging Operator:	3127
Plugging Method:	Pour in 3/8 bentonite chips when standing water in well is less than 100 feet in depth, cement top 2 feet.
Plugging Variance #:	No Data
Casing Left Data:	1st Interval: 4 inches diameter, From 2 ft to 37 ft 2nd Interval: 0 inches diameter, From 0 ft to 0 ft 3rd Interval: 0 inches diameter, From 0 ft to 0 ft
Cement/Bentonite Plugs Placed in Well:	1st Interval: From 0 ft to 2 ft; Sack(s)/type of cement used: 1 Cement 2nd Interval: From 2 ft to 37 ft; Sack(s)/type of cement used: 1 Bentonite 3rd Interval: No Data 4th Interval: No Data 5th Interval: No Data
Certification Data:	The plug installer certified that the plug installer plugged this well (or the well was plugged under the plug installer's direct supervision) and that each and all of the statements herein are true and correct. The plug installer understood that failure to complete the required items will result in the log(s) being returned for completion and resubmittal.
Company Information:	Hinojosa Services 1100 Regal Row Ste. J Austin , TX 78102
Plug Installer License Number:	3127

Licensed Plug Installer **Benito Hinojosa**
Signature:
Registered Plug Installer **No Data**
Apprentice Signature:
Apprentice Registration **No Data**
Number:
Plugging Method **No Data**
Comments:

Please include the plugging report's tracking number (Tracking #35276) on your written request.

Texas Department of Licensing & Regulation
P.O. Box 12157
Austin, TX 78711
(512) 463-7880

STATE OF TEXAS PLUGGING REPORT for Tracking #35277

Owner:	Federal Express Corp.	Owner Well #:	MW-9
Address:	3620 Hacks Crossroad Bldg. B Memphis , TN 38125	Grid #:	58-43-8
Well Location:	5811 Technicenter Austin , TX 78721	Latitude:	30° 16' 40" N
Well County:	Travis	Longitude:	097° 40' 24" W
		GPS Brand Used:	No Data
Well Type:	Monitor		

HISTORICAL DATA ON WELL TO BE PLUGGED

Original Well Driller:	No Data
Driller's License Number of Original Well Driller:	No Data
Date Well Drilled:	No Data
Well Report Tracking Number:	No Data
Diameter of Well:	24 inches
Total Depth of Well:	40 feet
Date Well Plugged:	11/9/2006
Person Actually Performing Plugging Operation:	Benito Hinojosa
License Number of Plugging Operator:	3127
Plugging Method:	Pour in 3/8 bentonite chips when standing water in well is less than 100 feet in depth, cement top 2 feet.
Plugging Variance #:	No Data
Casing Left Data:	1st Interval: 24 inches diameter, From 2 ft to 40 ft 2nd Interval: 0 inches diameter, From 0 ft to 0 ft 3rd Interval: 0 inches diameter, From 0 ft to 0 ft
Cement/Bentonite Plugs Placed in Well:	1st Interval: From 0 ft to 2 ft; Sack(s)/type of cement used: 1 Cement 2nd Interval: From 2 ft to 40 ft; Sack(s)/type of cement used: 1 Bentonite 3rd Interval: No Data 4th Interval: No Data 5th Interval: No Data
Certification Data:	The plug installer certified that the plug installer plugged this well (or the well was plugged under the plug installer's direct supervision) and that each and all of the statements herein are true and correct. The plug installer understood that failure to complete the required items will result in the log(s) being returned for completion and resubmittal.
Company Information:	Hinojosa Services 1100 Regal Row Ste. J Austin , TX 78102
Plug Installer License Number:	3127

Licensed Plug Installer **Benito Hinojosa**
Signature:
Registered Plug Installer **No Data**
Apprentice Signature:
Apprentice Registration **No Data**
Number:
Plugging Method **No Data**
Comments:

Please include the plugging report's tracking number (Tracking #35277) on your written request.

Texas Department of Licensing & Regulation
P.O. Box 12157
Austin, TX 78711
(512) 463-7880

STATE OF TEXAS PLUGGING REPORT for Tracking #35278

Owner:	Federal Express Corp.	Owner Well #:	MW-10
Address:	3620 Hacks Crossroad Bldg. B Memphis , TN 38125	Grid #:	58-43-8
Well Location:	5811 Technicenter Austin , TX 78721	Latitude:	30° 16' 39" N
Well County:	Travis	Longitude:	097° 40' 24" W
		GPS Brand Used:	No Data
Well Type:	Monitor		

HISTORICAL DATA ON WELL TO BE PLUGGED

Original Well Driller:	No Data
Driller's License Number of Original Well Driller:	No Data
Date Well Drilled:	No Data
Well Report Tracking Number:	No Data
Diameter of Well:	24 inches
Total Depth of Well:	40' feet
Date Well Plugged:	11/9/2006
Person Actually Performing Plugging Operation:	Benito Hinojosa
License Number of Plugging Operator:	3127
Plugging Method:	Pour in 3/8 bentonite chips when standing water in well is less than 100 feet in depth, cement top 2 feet.
Plugging Variance #:	No Data
Casing Left Data:	1st Interval: 4 inches diameter, From 2 ft to 40 ft 2nd Interval: 0 inches diameter, From 0 ft to 0 ft 3rd Interval: 0 inches diameter, From 0 ft to 0 ft
Cement/Bentonite Plugs Placed in Well:	1st Interval: From 0 ft to 2 ft; Sack(s)/type of cement used: 1 Cement 2nd Interval: From 2 ft to 40 ft; Sack(s)/type of cement used: 1 Bentonite 3rd Interval: No Data 4th Interval: No Data 5th Interval: No Data
Certification Data:	The plug installer certified that the plug installer plugged this well (or the well was plugged under the plug installer's direct supervision) and that each and all of the statements herein are true and correct. The plug installer understood that failure to complete the required items will result in the log(s) being returned for completion and resubmittal.
Company Information:	Hinojosa Services 1100 Regal Row Ste. J Austin , TX 78102
Plug Installer License Number:	3127

Licensed Plug Installer **Benito Hinojosa**
Signature:
Registered Plug Installer **No Data**
Apprentice Signature:
Apprentice Registration **No Data**
Number:
Plugging Method **No Data**
Comments:

Please include the plugging report's tracking number (Tracking #35278) on your written request.

Texas Department of Licensing & Regulation
P.O. Box 12157
Austin, TX 78711
(512) 463-7880

STATE OF TEXAS PLUGGING REPORT for Tracking #35279

Owner:	Federal Express Corp.	Owner Well #:	MW-11
Address:	3620 Hacks Crossroad Bldg. B Memphis , TN 38125	Grid #:	58-43-8
Well Location:	5811 Technicenter Austin , TX 78721	Latitude:	30° 16' 41" N
Well County:	Travis	Longitude:	097° 40' 22" W
		GPS Brand Used:	No Data
<hr/>			
Well Type:	Monitor		

HISTORICAL DATA ON WELL TO BE PLUGGED

Original Well Driller:	No Data
Driller's License Number of Original Well Driller:	No Data
Date Well Drilled:	No Data
Well Report Tracking Number:	No Data
Diameter of Well:	48" inches
Total Depth of Well:	40' feet
<hr/>	
Date Well Plugged:	11/9/2006
Person Actually Performing Plugging Operation:	Benito Hinojosa
License Number of Plugging Operator:	3127
Plugging Method:	Pour in 3/8 bentonite chips when standing water in well is less than 100 feet in depth, cement top 2 feet.
Plugging Variance #:	No Data
Casing Left Data:	1st Interval: 24 inches diameter, From 2 ft to 40 ft 2nd Interval: 0 inches diameter, From 0 ft to 0 ft 3rd Interval: 0 inches diameter, From 0 ft to 0 ft
Cement/Bentonite Plugs Placed in Well:	1st interval: From 0 ft to 2 ft; Sack(s)/type of cement used: 1 Cement 2nd Interval: From 2 ft to 40 ft; Sack(s)/type of cement used: 1 Bentonite 3rd interval: No Data 4th Interval: No Data 5th interval: No Data
Certification Data:	The plug installer certified that the plug installer plugged this well (or the well was plugged under the plug installer's direct supervision) and that each and all of the statements herein are true and correct. The plug installer understood that failure to complete the required items will result in the log(s) being returned for completion and resubmittal.
Company Information:	Hinojosa Services 1100 Regal Row Ste. J Austin , TX 78102
Plug Installer License Number:	3127

LPST 111 747

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION
PETROLEUM STORAGE TANK
CORRESPONDENCE IDENTIFICATION SHEET

Date: May 6, 2005
Site Name: Federal Express Corporation
Site Address: 5811 Technicenter Drive, Austin, TX

LPST ID No.: 111747
Facility ID No.: 0029044

KGE

This checklist **must** accompany all correspondence submitted to the RPR Section and should be affixed to the front of your submittal as a cover page. Please check the appropriate box for the type of correspondence which you have submitted to the RPR Section. Check all boxes that apply if you are submitting more than one type of correspondence. If you cannot find an appropriate category, please complete the "other" section.

MONIT ANNUAL
MPR
SCR

PROPOSALS		
<input type="checkbox"/> Initial Abatement (1)	<input type="checkbox"/> Tank Removal (2)	<input type="checkbox"/> Excavation (3)
<input type="checkbox"/> Waste Treatment (4)	<input type="checkbox"/> Site Assessment (5)	<input type="checkbox"/> Aquifer Testing (6)
<input type="checkbox"/> VES/Sparge Testing (7)	<input type="checkbox"/> Qtrly. GW Monitoring (8)	<input type="checkbox"/> CAP Prep. (9)
<input type="checkbox"/> GW Extrac./Treatment (10)	<input type="checkbox"/> Soil Vapor Extrac. (11)	<input type="checkbox"/> Operation & Main. (12)
<input type="checkbox"/> Site Closure (13)	<input type="checkbox"/> Plan A Risk Ass. (14)	<input type="checkbox"/> Plan B Risk Ass. (15)
<input type="checkbox"/> Semi-annual GW Mon. (16)*	<input type="checkbox"/> Annual GW Mon. (18)	<input type="checkbox"/> Product Recovery (19)
<input type="checkbox"/> Other proposal _____		

REPORTING FORMS	
<input type="checkbox"/> Assessment Report Form (TNRCC-0562)	<input type="checkbox"/> Release Report Form (TNRCC-0621)
<input checked="" type="checkbox"/> Product Recovery Report Form (TNRCC-0016)	<input type="checkbox"/> Monitoring Event Summary and Status Report (TNRCC-0013)
<input checked="" type="checkbox"/> Site Closure Request Form (TNRCC-0028)	<input type="checkbox"/> Final Site Closure Report Form (TNRCC-0038)
<input type="checkbox"/> Other form _____	

REPORTS		
<input type="checkbox"/> Tank Closure/Removal	<input type="checkbox"/> Plan A Risk Assessment	<input checked="" type="checkbox"/> Annual Groundwater Monitoring
<input type="checkbox"/> O&M/Performance Mon.	<input type="checkbox"/> Plan B Risk Assessment	<input type="checkbox"/> CAP Installation/Modification
<input type="checkbox"/> Property Divestiture/Phase I ESA	<input type="checkbox"/> Corrective Action Plan (CAP)	<input type="checkbox"/> Aquifer/Pilot Test Results

MISCELLANEOUS	
<input type="checkbox"/> Off-site access assistance	<input type="checkbox"/> Deadline Extension Request
<input type="checkbox"/> Tank tightness test results	<input type="checkbox"/> Request for State-Lead
<input type="checkbox"/> Request for LPST Waste Code	<input type="checkbox"/> Class V ReInjection Request
<input type="checkbox"/> Notice to Owner/Operator for CAS Services	<input type="checkbox"/> Petroleum-Substance Waste Manifest
<input type="checkbox"/> Underground Storage Tank Registration Form	<input type="checkbox"/> Aboveground Storage Tank Registration Form
<input type="checkbox"/> Other (anything that does not fit into one of the categories above) _____	

* The proposal for semi-annual monitoring and annual report (Proposal Activity 17) has been discontinued. For semi-annual monitoring, use Proposal Activity 16.

Received

JUL 19 2005

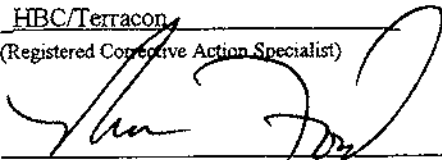
TCEQ/PST-RPR

I attest that all work has been conducted in accordance with accepted industry standards/practices and adhered to TNRCC guidance and rules. I certify that I am aware that misrepresentation of any of the above claims is a violation of 30 TAC 334.453(b)(1)(E) and that this violation may result in the disciplinary actions set forth in 30 TAC 334.453 and or 334.463 and 334.465.

If a proposal is attached for preapproval, has the proposed work, in part or in whole, already been performed or in progress?

If yes, what work? _____

HBC/Terracon 825 2/25/06
(Registered Corrective Action Specialist) (RCAS Reg. No.) (Expiration date)

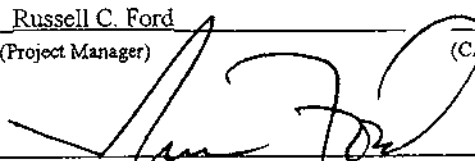

(Signature)

7/18/05
(Date)

(512) 442-1122
(Telephone #)

(512) 442-1181
(FAX #)

Russell C. Ford 1502 7/16/05
(Project Manager) (CAPM Reg. No.) (Expiration date)


(Signature)

7/18/05
(Date)

(512) 442-1122
(Telephone #)

(512) 442-1181
(FAX #)

By signature below, I certify that documents checked above are included.

Mr. Tim Alexander
(Name of Responsible Party Contact)

Federal Express Corporation
(Company)


(Signature)

7/15/05
(Date)

901-434-8462
(Telephone #)

(901) 434-9235
(FAX #)

Terracon

Consulting Engineers & Scientists

Terracon Consultants, Inc.
5307 Industrial Oaks Boulevard
Suite 160
Austin, Texas 78735
Phone 512.442.1122
Fax 512.442.1181
www.terracon.com

Texas Commission on Environmental Quality
2004-2005 Annual Groundwater Monitoring Report
Federal Express Corporation
5811 Technicenter Drive
Austin, Travis County, Texas
LPST No. 111747

Prepared for:

Federal Express Corporation
3620 Hacks Cross Road, Building B
Memphis, TN 38125-7113



A handwritten signature in black ink, appearing to read "Russell C. Ford".

Russell C. Ford, CAPM
Senior Project Manager

Prepared by:

HBC/Terracon
5307 Industrial Oaks Boulevard, Suite 160
Austin, Texas 78735

May 6, 2005

Received
JUL 19 2005
TCEQ/PST-RPR

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TABLES, GRAPHS AND MAPS

APPENDICES

- Appendix A – Laboratory Reports
- Appendix B – MDPE Report
- Appendix C – Product Recovery Report (TNRCC-0025)
- Appendix D – Waste Disposal Manifest
- Appendix E – Site Closure Request Form (TNRCC-0028)



**2004-2005 Annual Groundwater Monitoring Report
Federal Express Corporation
5811 Technicenter Drive
Austin, Travis County, Texas
LPST No. 111747**

I. REPORT SUMMARY

HBC/Terracon (HBC) performed groundwater monitoring at the Federal Express Corporation Facility, located at 5811 Technicenter Drive in Austin, Texas. This report represents data from one groundwater monitoring event conducted on March 23, 2005. In addition, results from a mobile dual phase extraction (MDPE) event conducted on March 17, 2005 are presented within this report. The report is presented in the format suggested by the Texas Commission on Environmental Quality (TCEQ) Regulatory Guidance publication *Groundwater Monitoring and Reporting* (RG-43).

Groundwater Monitoring

HBC collected and analyzed groundwater samples from the on-site monitor wells, in general accordance with the TCEQ Corrective Action Response Form (CARF) dated October 22, 2004. The groundwater sampling event occurred on March 23, 2005.

Groundwater samples were not collected from monitor well MW-6 due to the presence of non-aqueous phase liquids (NAPL) in this well (0.05 feet measured on day of sampling).

Each groundwater sample was analyzed by DHL Analytical in Round Rock, Texas, for methyl tertiary butyl ether (MTBE) using EPA method SW 8021B, and benzene, toluene, ethylbenzene, and xylenes (BTEX) using EPA method SW 8021B. Additionally, the groundwater samples collected from monitor wells MW-2, MW-4, and MW-5 were analyzed for total petroleum hydrocarbons (TPH) using Texas method 1005.

Tables summarizing the analytical data are attached. Copies of the laboratory reports, including chain-of-custody forms, are included in Appendix A. As seen in the data summary tables, laboratory analysis indicates either stable or reducing petroleum hydrocarbon concentrations in the site wells. Well MW-7 exhibited no detectable TPH or BTEX concentrations, which is consistent with historical results. Laboratory data indicated that groundwater samples collected from wells MW-8 through MW-10 have exhibited decreasing TPH and BTEX concentrations over time. The hydrocarbon concentrations from MW-11 showed a slight increase as compared to the most previous results in 2004, however, the concentrations detected are well below the historic highs observed in 2002. TPH and total BTEX concentrations from wells MW-1, MW-2, MW-3, MW-4, and MW-5, which are all located closest to the source area, have remained

relatively stable. This most recent analytical data generally confirms the previous data which also indicated that the dissolved hydrocarbon plume is stable or decreasing.

The fluid gauging data collected indicates that groundwater elevations at the site are near the highest point they have been since late 2001. NAPL was not observed in any site wells until the March 3, 2005 gauging event when a thickness of 0.34 feet was observed in monitor well MW-6. Subsequent measurements collected following the March 17, 2005 MDPE event indicated NAPL thicknesses of 0.05 feet in well MW-6. A Fluid Gauging Data Summary table is included with this report.

MDPE Event

HBC contracted with EnVac Environmental Services to conduct a MDPE event on March 17, 2005. A copy of the MDPE report is included in Appendix B. The event was conducted at wells MW-1, MW-5 and MW-6. Submersible pumps were utilized to extract groundwater from these three wells to drawdown the water table during the MDPE event. The event resulted in the extraction of approximately 16 gallons of NAPL in vapor form and 10 gallons of NAPL in liquid form. A Petroleum Storage Tank Product Recovery Report (TCEQ-0025) is included in Appendix C. A total of 2 air samples were collected during the event and analyzed for TPH using EPA method SW 8015B and BTEX using EPA method SW 8021B. A copy of the laboratory report is included in Appendix A.

26 gallon
recovered

Prior to initiation of the event the presence of NAPL was measured in well MW-6 with 0.50 feet present. Subsequent to the event, NAPL thickness of 0.00 feet was observed in the well. The MDPE event was terminated after 12 hours due to the high volume of groundwater being generated and diminishing hydrocarbon recovery rate observed during the test.

Disposition of Waste

A total of 9,600 gallons of affected groundwater were generated during the groundwater sampling event and the MDPE event. The water was transported for disposal at an authorized facility. A copy of the waste manifest for the water is included in Appendix D. All recovered NAPL was destroyed using the onboard thermal oxidizer.

II. CHRONOLOGY OF EVENTS

Date Completed	Brief Description	Brief Summary of Results
10/96	Release of about 6,700 gallons from UST discovered. Permanent removal of UST performed and report submitted to TNRCC by HBC.	Elevated hydrocarbon concentrations present in tank pit soil samples.
5/97	Site assessment conducted and Assessment Report submitted to TNRCC by HBC. Total of 11 monitor wells on site and adjacent off site property.	NAPL present in 3 wells (MW-1, MW-2, MW-6)
6/97	Soil Vapor Extraction (SVE) pilot test conducted and results submitted to TNRCC.	Results from SVE test indicate site conditions favorable for SVE recovery system.
10/97	Corrective Action Plan prepared and submitted by HBC. Plan detailed the installation of a SVE remediation system using 3 recovery wells with destruction of the vapors using an internal combustion (IC) engine.	Plan was approved by TNRCC in February 1998.
5/98 to 1/99	SVE system installed and operated. System experienced significant operation and maintenance problems.	System operated as designed initially, however, destruction rates began to drop significantly after about 90 days of operation and system was removed from operation in January of 1999.
7/16/98	Groundwater sampling event conducted by HBC during operation of SVE system. Total of 5 samples collected.	NAPL present in wells MW-1 through MW-6.
11/19/98	Groundwater sampling event conducted by HBC during operation of SVE system. Total of 5 samples collected.	NAPL present in wells MW-1 through MW-6.
3/24/00	Operation, Monitoring, and Performance (OMP) report for initial SVE system submitted along with proposal to replace IC vapor destruction unit with thermal destruction flare and restart the SVE system.	Proposal for new system approved by TNRCC on 8/22/00.
10/2/00-5/9/01	New SVE system installed and operated. System operated total of 188 days. Utilized 3 recovery wells (MW-1, MW-2, and MW-6) with extracted vapors destroyed thermally (flare unit).	SVE removed approximately 400 gallons of NAPL. NAPL removed entirely from 4 of 6 wells and NAPL thickness reduced from almost 2 feet to less than 0.5 feet.
10/5/00	First semi-annual sampling event by HBC (5 groundwater samples). Samples collected following startup of SVE system.	NAPL present in wells MW-1, MW-2, MW-3, MW-4, MW-5 and MW-6.

Date Completed	Brief Description	Brief Summary of Results
4/4/01	Second semi-annual sampling event performed by HBC (9 groundwater samples). Samples collected near the end of the SVE system operation.	NAPL present in wells MW-5 and MW-6.
5/29/01	OMP Report submitted to TNRCC along with proposals for annual groundwater monitoring and passive skimming of NAPL in wells MW-5 and MW-6.	Proposals for groundwater monitoring and passive skimming approved by TNRCC on 7/13/01.
9/24/01	First quarterly groundwater sampling event performed by HBC. Samples collected from 9 on-site monitor wells.	NAPL observed in monitor wells MW-5 and MW-6. Groundwater data shows reduction in most wells.
12/27/01	Second quarterly groundwater sampling event performed by HBC. Samples collected from 10 on-site monitor wells.	NAPL observed in monitor well MW-6. Groundwater data shows reduction in most wells.
3/27/02	Third quarterly groundwater sampling event performed by HBC. Sample collected from 10 on-site monitor wells.	NAPL observed in monitor well MW-6. Groundwater data shows reduction in most wells. Slight increase observed in MW-11.
6/17/02	Fourth quarterly groundwater sampling event performed by HBC. Samples collected from 10 on-site monitor wells.	NAPL observed in monitor well MW-6. Groundwater data shows reduction in most wells. Concentrations from MW-11 back to within historical levels.
10/11/03	High Vacuum Multi-Phase Extraction event.	0.77 gallons of NAPL removed from wells MW-5 and MW-6.
10/22/03	Quarterly groundwater monitoring event conducted by HBC. Samples collected from 8 monitor wells.	NAPL observed in MW-2, MW-5, and MW-6. Dissolved phase concentrations relatively stable across site.
1/27/04	Quarterly groundwater monitoring event conducted by HBC. Samples collected from 8 monitor wells.	NAPL observed in MW-1, MW-5, and MW-6. Dissolved phase concentrations relatively stable across site.
3/5/04	Fluid gauging conducted by HBC.	NAPL thickness in MW-1, MW-5, and MW-6 decrease drastically since January event.
3/19/04	Annual groundwater monitoring report, product recovery report and proposal for MDPE event submitted.	Analytical data indicate dissolved phase hydrocarbon plume is stable or decreasing. Based on slight rebound in NAPL levels observed, MDPE event proposed.

Date Completed	Brief Description	Brief Summary of Results
5/18/04	MDPE event conducted by EnVac under HBC supervision.	MDPE event conducted for approximately 8 hours, at which point it is terminated due to diminishing hydrocarbon recovery rates. Approximately 8 gallons of NAPL recovered as off-gas vapor.
5/28/04	Fluid gauging conducted by HBC.	No NAPL detected
6/8/04	Fluid gauging conducted by HBC.	No NAPL detected
6/16/04	Fluid gauging conducted by HBC.	No NAPL detected
7/28/04	Product recovery report submitted along with request for site closure.	Report submitted documenting 5/18/04 MDPE event and requesting site closure based on dissolved phase plume stability and lack of measurable NAPL.
9/17/04	Proposal for additional MDPE event and groundwater sampling	Submitted proposal for additional MDPE event based on TCEQ review of 7/28/04 report.
11/10/04	Fluid gauging conducted by HBC.	No NAPL detected
12/2/04	Fluid gauging conducted by HBC.	No NAPL detected
3/3/05	Fluid gauging conducted by HBC.	NAPL detected in well MW-6 (0.34')
3/17/05	MDPE event conducted by EnVac under HBC supervision.	MDPE event conducted on well MW-6. Water table depressed using submersible pump and then MDPE conducted for approximately hours. Total of gallons of NAPL recovered. Event terminated due to diminishing hydrocarbon recovery rates.
3/22/05	Groundwater monitoring event conducted by HBC. Samples collected from 10 monitor wells.	Samples collected from 10 wells. NAPL (0.05') detected in well MW-6 and well was not sampled
4/29/05	Fluid gauging conducted by HBC.	NAPL present in well MW-6 (0.05').
5/6/05	Annual groundwater monitoring report, product recovery report and request for closure submitted.	Report submitted documenting 3/17/05 MDPE event and requesting site closure based on dissolved phase plume stability and NAPL thickness below 0.10'.

III. TABLES, GRAPHS AND MAPS

The following tables, graphs and maps are attached:

- Table of analytical results
- Table of groundwater gauging data
- Groundwater elevation maps (3/3/05; 3/22/05; 4/29/05)
- Hydrocarbon distribution map (3/23/05)

IV. CONCLUSIONS AND RECOMMENDATIONS

Based on results of the groundwater monitoring and MDPE event, HBC makes the following conclusions and recommendations:

- Based on groundwater monitoring data collected at the site it appears the dissolved-phase hydrocarbon plume is stable or decreasing. This had been previously documented and no further groundwater monitoring is necessary to further document the stable plume conditions.
- Based on the results from the latest MDPE event and subsequent water level gauging, further NAPL recovery at the site does not appear to be cost effective. Additionally, it appears that the residual NAPL remaining at the site has been removed to the maximum extent practicable and that the amount remaining poses no threat to human health and the environment. HBC recommends site closure at this time. A copy of the Site Closure request Form (TNRCC-0028) is included in Appendix E.

V. QUALITY ASSURANCE/QUALITY CONTROL

The following sampling protocol was employed by HBC personnel during each sampling event:

- Each monitor well was visually inspected to ensure well integrity.
- The water level indicator was thoroughly decontaminated before and after each use.
- Each monitor well was purged of at least three well volumes or to dryness using a new, disposable bailer.
- Subsequent to sufficient recharge, groundwater samples were collected using new, disposable bailers.
- Monitor wells were sampled from least to most contaminated.

- TPH and BTEX/MTBE samples were stored in 40-milliliter VOA vials with no headspace, and preserved with hydrochloric acid. Holding time for preserved samples is 14 days.
- All samples were properly labeled, sealed with custody tape, placed in a cooler with ice, and hand delivered along with chain-of-custody documentation to DHL Analytical in Round Rock, Texas.
- Samples were analyzed using the following approved methods:
 - BTEX/MTBE - EPA SW 8021B
 - TPH - Texas 1005

FEDERAL EXPRESS CORPORATION

5811 Technicenter Drive, Austin, TX

LPST # 111747

FLUID GAUGING DATA SUMMARY

not cumulative

DATE	MW-1			MW-2			MW-3			MW-4		
	DTW	NAPL	GWE	DTW	NAPL	GWE	DTW	NAPL	GWE	DTW	NAPL	GWE
9/24/2001	29.68	0.00	529.42	31.01	0.00	529.21	31.89	0.00	529.06	31.30	0.00	528.89
12/27/2001	27.79	0.00	531.31	29.13	0.00	531.09	30.01	0.00	530.94	29.33	0.00	530.86
3/27/2002	29.31	0.00	529.79	30.64	0.00	529.58	31.51	0.00	529.44	30.80	0.00	529.39
6/17/2002	30.56	0.00	528.54	31.98	0.00	528.24	32.80	0.00	528.15	32.06	0.00	528.13
10/22/2003	31.23	0.00	527.87	32.58	0.01	527.65	33.47	0.00	527.48	32.72	0.00	527.47
1/27/2004	32.25	0.51	527.23	33.18	0.00	527.04	34.02	0.00	526.93	33.43	0.00	526.76
3/5/2004	31.41	0.00	527.69	32.79	0.00	527.43	NA	NA	NA	NA	NA	NA
5/18/2004*	28.76	0.48	530.70	30.28	0.00	529.94	31.09	0.00	529.86	30.39	0.00	529.80
5/18/2004**	31.49	0.00	527.61	NA	NA	NA	33.42	0.00	527.53	NA	NA	NA
5/28/2004	31.05	0.00	528.05	32.51	0.00	527.71	33.35	0.00	527.60	32.68	0.00	527.51
6/8/2004	31.01	0.00	528.09	32.50	0.00	527.72	33.35	0.00	527.60	32.58	0.00	527.61
6/16/2004	31.11	0.00	527.99	32.21	0.00	528.01	32.95	0.00	528.00	32.22	0.00	527.97
11/10/2004	32.40	0.00	526.70	32.77	0.00	527.45	32.50	0.00	528.45	31.95	0.00	528.24
12/2/2004	28.64	0.00	530.46	29.67	0.00	530.55	30.55	0.00	530.40	29.80	0.00	530.39
3/3/2005*	29.15	0.00	529.95	30.59	0.00	529.63	31.40	0.00	529.55	30.65	0.00	529.54
3/22/2005**	28.96	0.00	530.14	30.33	0.00	529.89	31.24	0.00	529.71	30.40	0.00	529.79
4/29/2005	29.45	0.00	529.65	30.79	0.00	529.43	31.65	0.00	529.30	30.90	0.00	529.29

MDPE apts successful

Notes:

- 1) All measurements in feet
- 2) DTW-depth to water below top of surface casing
- 3) NAPL-non-aqueous phase liquid thickness
- 4) GWE-groundwater elevation (corrected for NAPL using 0.75 specific gravity) in feet above mean sea level
- 5) NA-No groundwater gauging data collected
- 6) * Denotes prior to MDPE event
- 7) ** Denotes immediately after MDPE event

FEDERAL EXPRESS CORPORATION

5811 Technicenter Drive, Austin, TX
 LPST # 111747

FLUID GAUGING DATA SUMMARY

5/2001 System Off



DATE	MW-5			MW-6			MW-7			MW-8		
	DTW	NAPL	GWE	DTW	NAPL	GWE	DTW	NAPL	GWE	DTW	NAPL	GWE
9/24/2001	34.36	0.05	528.88	33.79	0.15	529.19	29.68	0.00	528.90	29.29	0.00	528.90
12/27/2001	32.32	0.00	530.88	31.86	0.08	531.07	27.74	0.00	530.84	27.25	0.00	530.94
3/27/2002	33.88	0.00	529.32	33.39	0.06	529.53	29.15	0.00	529.43	28.72	0.00	529.47
6/17/2002	35.06	0.00	528.14	34.30	0.01	528.58	30.43	0.00	528.15	30.00	0.00	528.19
10/22/2003	35.75	0.02	527.47	35.21	0.02	527.68	31.11	0.00	527.47	30.64	0.00	527.55
1/27/2004	36.42	0.12	526.87	37.08	1.51	526.92	31.69	0.00	526.89	31.30	0.00	526.89
3/5/2004	35.93	0.00	527.27	35.44	0.09	527.50	NA	NA	NA	NA	NA	NA
5/18/2004*	32.90	0.39	530.59	33.09	0.14	529.89	27.97	0.00	530.61	27.55	0.00	530.64
5/18/2004**	35.09	0.00	528.11	35.36	0.00	527.51	NA	NA	NA	NA	NA	NA
5/28/2004	35.65	0.00	527.55	35.11	0.00	527.76	31.00	0.00	527.58	30.63	0.00	527.56
6/8/2004	35.65	0.00	527.55	35.04	0.00	527.83	31.01	0.00	527.57	30.65	0.00	527.54
6/16/2004	35.21	0.00	527.99	34.71	0.00	528.16	30.65	0.00	527.93	30.21	0.00	527.98
11/10/2004	35.95	0.00	527.25	32.50	0.00	530.37	30.35	0.00	528.23	29.90	0.00	528.29
12/2/2004	32.85	0.00	530.35	32.33	0.00	530.54	28.24	0.00	530.34	27.72	0.00	530.47
3/3/2005*	33.75	0.00	529.45	33.41	0.34	529.72	29.05	0.00	529.53	28.69	0.00	529.50
3/22/2005**	33.49	0.00	529.71	33.35	0.05	529.56	28.80	0.00	529.78	28.42	0.00	529.77
4/29/2005	33.98	0.00	529.22	33.81	0.05	529.10	29.29	0.00	529.29	28.92	0.00	529.27

Must be
 double for ammonium
 for quarterly monitoring events

Notes:

- 1) All measurements in feet
- 2) DTW-depth to water below top of surface casing
- 3) NAPL-non-aqueous phase liquid thickness
- 4) GWE-groundwater elevation (corrected for NAPL using 0.75 specific gravity) in feet above mean sea level
- 5) NA-No groundwater gauging data collected
- 6) * Denotes prior to MDPE event
- 7) ** Denotes immediately after MDPE event

FEDERAL EXPRESS CORPORATION

5811 Technicenter Drive, Austin, TX
 LPST # 111747

FLUID GAUGING DATA SUMMARY

DATE	MW-9			MW-10			MW-11		
	DTW	NAPL	GWE	DTW	NAPL	GWE	DTW	NAPL	GWE
9/24/2001	34.70	0.00	529.21	34.29	0.00	528.70	34.49	0.00	529.14
12/27/2001	32.80	0.00	531.11	32.22	0.00	530.77	32.55	0.00	531.08
3/27/2002	34.32	0.00	529.59	33.70	0.00	529.29	34.10	0.00	529.53
6/17/2002	35.48	0.00	528.43	34.90	0.00	528.09	35.24	0.00	528.39
10/22/2003	36.19	0.00	527.72	35.58	0.00	527.41	36.00	0.00	527.63
1/27/2004	36.78	0.00	527.13	36.23	0.00	526.76	36.62	0.00	527.01
3/5/2004	NA	NA	NA	NA	NA	NA	NA	NA	NA
5/18/2004*	32.98	0.00	530.93	32.32	0.00	530.67	32.75	0.00	530.88
5/18/2004**	NA	NA	NA	NA	NA	NA	NA	NA	NA
5/28/2004	36.02	0.00	527.89	35.51	0.00	527.48	35.80	0.00	527.83
6/8/2004	36.03	0.00	527.88	35.45	0.00	527.54	35.88	0.00	527.75
6/16/2004	35.60	0.00	528.31	35.11	0.00	527.88	35.42	0.00	528.21
11/10/2004	32.85	0.00	531.06	32.85	0.00	530.14	32.15	0.00	531.48
12/2/2004	32.30	0.00	531.61	32.64	0.00	530.35	32.70	0.00	530.93
3/3/2005*	34.14	0.00	529.77	33.59	0.00	529.40	34.95	0.00	528.68
3/22/2005**	33.95	0.00	529.96	33.37	0.00	529.62	33.70	0.00	529.93
4/29/2005	34.24	0.00	529.67	33.45	0.00	529.54	34.19	0.00	529.44

Notes:

- 1) All measurements in feet
- 2) DTW-depth to water below top of surface casing
- 3) NAPL-non-aqueous phase liquid thickness
- 4) GWE-groundwater elevation (corrected for NAPL using 0.75 specific gravity) in feet above mean sea level
- 5) NA-No groundwater gauging data collected
- 6) * Denotes prior to MDPE event
- 7) ** Denotes immediately after MDPE event

FEDERAL EXPRESS CORPORATION

5811 Technicenter Drive, Austin, TX

LPST # 111747

GROUNDWATER ANALYTICAL DATA SUMMARY

(all concentrations in mg/L)

MW-1										
DATE	PAH	TDS	TPH (C6-C12)	TPH (C12-C28)	TPH (C28-C35)	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
11/11/1996										NAPL
7/16/1998										NAPL
10/5/2000										NAPL
4/4/2001	NA	NA	14.1(C6-C10)	43.0(>C10-C28)	NA	0.480	1.240	0.226	6.010	0.113
9/24/2001	NA	NA	55.40	6.67	<4.84	0.253	0.685	0.196	6.990	0.062
12/27/2001	NA	NA	12.90	<4.85	<4.85	0.129	0.364	0.105	2.380	0.054
3/27/2002	NA	NA	5.82	2.88	<1.95	0.045	0.107	0.041	0.952	0.040
6/17/2002	NA	NA	4.81	<1.94	<1.94	0.036	0.108	0.039	0.954	<0.080
10/22/2003	NA	NA	23.50	4.41	<1.98	0.025	0.109	0.066	1.790	0.067
1/28/2004										NAPL
3/23/2005	NA	NA	NA	NA	NA	0.190	0.835	0.175	9.180	0.192

MW-2										
DATE	PAH	TDS	TPH (C6-C12)	TPH (C12-C28)	TPH (C28-C35)	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
11/11/1996										NAPL
7/16/1998										NAPL
10/5/2000										NAPL
4/4/2001	1.877*	NA	55.2(C6-C10)	109(>C10-C28)	NA	0.045	2.330	0.175	8.610	0.313
9/24/2001	0.636**	NA	149.00	40.50	<4.72	0.265	2.180	0.442	6.400	0.458
12/27/2001	1.669***	NA	104.00	24.70	<4.87	0.036	2.480	0.927	10.600	0.249
3/27/2002	0.525****	NA	35.60	7.59	<1.94	0.032	0.804	1.040	8.740	0.197
6/17/2002	0.356*****	NA	24.0	4.2	<1.95	0.055	0.486	0.934	8.010	<0.020
10/22/2003										NAPL
1/28/2004			217.0	142.0	<1.98	0.0269	0.194	0.438	5.240	0.163
3/23/2005	NA	NA	18.6	1.2 (J)	<0.67	0.0350	0.104	0.513	7.500	0.242

PAHS

*-Benzo(a)anthracene-0.0001, Benzo(b)fluoranthene-0.0007, Benzoperylene-0.0006, Benzo(k)fluoranthene-0.0007, Chrysene-0.0009, Fluoranthene-0.002, Naphthalene-1.86, Phenanthrene-0.01, Pyrene-0.002

**-Acenaphthene-0.004, Anthracene-0.0009, Benzo(a)anthracene-0.0001, Benzo(b)fluoranthene-0.0001, Benzoperylene-0.0001, Benzo(c)pyrene-0.0002, Chrysene-0.0001, Fluoranthene-0.0001, Fluorene-0.007, Naphthalene-0.618, Phenanthrene-0.001, Pyrene-0.001

***-Acenaphthene-0.017, Fluoranthene-0.002, Fluorene-0.038, Naphthalene-1.60, Phenanthrene-0.014, Pyrene-0.006

****-Acenaphthene-0.0002, Fluorene-0.001, Naphthalene-0.322, Phenanthrene-0.0005

*****-Acenaphthene-0.0004, Fluorene-0.0007, Naphthalene-0.353, Phenanthrene-0.0003

FEDERAL EXPRESS CORPORATION

5811 Technicenter Drive, Austin, TX

LPST # 111747

GROUNDWATER ANALYTICAL DATA SUMMARY

(all concentrations in mg/L)

MW-3										
DATE	PAH	TDS	TPH (C6-C12)	TPH (C12-C28)	TPH (C28-C35)	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
11/11/1996	NA	478	10(Total)	NA	NA	1.920	2.250	0.313	2.880	1.150
7/16/1998	NAPL									
10/5/2000	NAPL									
4/4/2001	NA	NA	7.22(C6-C10)	13.3(>C10-C28)	NA	0.219	0.162	0.111	0.888	0.024
9/24/2001	NA	NA	19.70	<4.75	<4.75	0.241	0.072	0.114	0.906	0.056
12/27/2001	NA	NA	<4.85	<4.85	<4.85	0.096	0.023	0.027	0.266	0.017
3/27/2002	NA	NA	2.05	<1.96	<1.96	0.135	0.015	0.045	0.151	0.034
6/17/2002	NA	NA	3.48	<2.0	<2.0	0.121	0.015	0.051	0.222	0.028
10/22/2003	NA	NA	3.07	0.88	<1.97	0.220	0.053	0.099	0.381	0.097
1/28/2004	NA	NA	6.50	1.70	<2.02	0.310	0.176	0.135	0.631	0.140
3/23/2005	NA	NA	NA	NA	NA	0.120	0.024	0.049	0.177	0.047

MW-4										
DATE	PAH	TDS	TPH (C6-C12)	TPH (C12-C28)	TPH (C28-C35)	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
2/18/1997	NA	NA	<0.50(Total)	NA	NA	0.004	<0.001	<0.001	<0.001	<0.001
7/16/1998	NAPL									
10/5/2000	NAPL									
4/4/2001	NA	NA	14.6(C6-C10)	43.1(>C10-C28)	NA	0.174	0.656	0.419	2.630	0.320
9/24/2001	NA	NA	20.90	<4.73	<4.73	1.030	1.770	0.364	3.460	0.155
12/27/2001	NA	NA	18.50	5.15	<4.84	1.290	2.780	0.596	6.370	0.216
3/27/2002	NA	NA	20.40	4.48	<1.93	1.270	3.510	0.408	5.500	0.420
6/17/2002	NA	NA	11.00	2.64	<1.96	0.551	1.100	0.246	2.570	<0.020
10/22/2003	NA	NA	23.10	3.27	<1.95	0.125	0.343	0.121	1.160	0.321
1/28/2004	NA	NA	47.40	19.20	<1.99	0.577	2.940	0.735	8.050	0.574
3/22/2005	NA	NA	88.40	9.19	1.3 (J)	0.220	2.000	0.868	8.810	0.754

FEDERAL EXPRESS CORPORATION

5811 Technicenter Drive, Austin, TX
 LPST # 111747

GROUNDWATER ANALYTICAL DATA SUMMARY

(all concentrations in mg/L)

MW-5										
DATE	PAH	TDS	TPH (C6-C12)	TPH (C12-C28)	TPH (C28-C35)	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
2/18/1997	0.0006*	NA	3.9(Total)	NA	NA	0.520	0.811	0.096	1.070	0.449
7/16/1998						NAPL				
10/5/2000						NAPL				
4/4/2001						NAPL				
9/24/2001						NAPL				
12/27/2001	NA	NA	28.60	5.88	<4.81	3.57	3.98	0.62	6.07	2.85
3/27/2002	NA	NA	10.30	3.61	<1.99	2.90	2.29	0.40	2.36	2.04
6/17/2002	NA	NA	16.50	2.47	<1.93	3.09	2.74	0.50	3.21	2.13
10/22/2003						NAPL				
1/28/2004						NAPL				
3/22/2005	NA	NA	21	<0.67	<0.67	4.81	3.86	0.43	5.38	3.19

increase

MW-6
not
sampled

MW-7										
DATE	PAH	TDS	TPH (C6-C12)	TPH (C12-C28)	TPH (C28-C35)	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
2/18/1997	NA	NA	<0.5(Total)	NA	NA	<0.001	<0.001	<0.001	<0.001	<0.01
7/16/1998	NA	NA	<5.1(C6-C10)	<5.1(>C10-C28)	NA	<0.001	<0.001	<0.001	<0.002	<0.02
11/19/1998	NA	NA	<4.4(C6-C10)	<4.4(>C10-C28)	NA	<0.005	<0.005	<0.005	<0.005	<0.005
10/5/2000	NA	NA	<5(C6-C10)	<5(>C10-C28)	NA	<0.005	<0.005	<0.005	<0.005	<0.005
4/4/2001	NA	NA	<6.44(C6-C10)	<6.44(>C10-C28)	NA	<0.002	<0.004	<0.004	<0.004	<0.004
9/24/2001	NA	NA	<4.78	<4.78	<4.78	<0.002	<0.004	<0.004	<0.004	<0.004
12/27/2001	NA	NA	<4.84	<4.84	<4.84	<0.002	<0.004	<0.004	<0.004	<0.004
3/27/2002	NA	NA	<1.98	<1.98	<1.98	<0.002	<0.004	<0.004	<0.004	<0.004
6/17/2002	NA	NA	<1.95	<1.95	<1.95	<0.002	<0.004	<0.004	<0.004	<0.004
10/22/2003	NA	NA	NA	NA	NA	<0.0008	<0.002	<0.002	<0.003	<0.002
1/28/2004	NA	NA	NA	NA	NA	<0.0008	<0.002	<0.002	<0.003	<0.002
3/22/2005	NA	NA	NA	NA	NA	<0.0008	<0.002	<0.002	<0.003	<0.002

*-Fluorene detected at 0.006 mg/L.

FEDERAL EXPRESS CORPORATION

5811 Technicenter Drive, Austin, TX

LPST # 111747

GROUNDWATER ANALYTICAL DATA SUMMARY

(all concentrations in mg/L)

MW-8										
DATE	PAH	TDS	TPH (C6-C12)	TPH (C12-C28)	TPH (C28-C35)	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
2/18/1997	NA	NA	<0.05(Total)	NA	NA	0.005	0.003	<0.001	0.004	<0.01
7/20/1998	NA	NA	<4.9(C6-C10)	<4.9(>C10-C28)	NA	0.034	0.004	0.007	0.020	<0.02
11/19/1998	NA	NA	<6(C6-C10)	<6(>C10-C28)	NA	<0.005	<0.005	<0.005	<0.005	<0.005
10/5/2000	NA	NA	<5(C6-C10)	<5(>C10-C28)	NA	0.007	<0.005	<0.005	<0.005	<0.005
4/4/2001	NA	NA	<4.67(C6-C10)	<4.67(>C10-C28)	NA	0.029	0.005	<0.004	0.011	0.004
9/24/2001	NA	NA	<4.89	<4.89	<4.89	0.014	0.010	<0.004	0.114	0.006
12/27/2001	NA	NA	<4.90	<4.90	<4.90	0.011	<0.004	<0.004	<0.004	0.006
3/27/2002	NA	NA	<1.97	<1.97	<1.97	0.015	<0.004	<0.004	0.020	0.012
6/17/2002	NA	NA	<1.95	<1.95	<1.95	<0.002	<0.004	<0.004	<0.004	<0.004
10/22/2003	NA	NA	NA	NA	NA	<0.0008	<0.002	<0.002	<0.003	<0.002
1/28/2004	NA	NA	NA	NA	NA	<0.0008	<0.002	<0.002	<0.003	<0.002
3/23/2005	NA	NA	NA	NA	NA	0.020	0.0053 (J)	0.008	0.044	0.012

MW-9										
DATE	PAH	TDS	TPH (C6-C12)	TPH (C12-C28)	TPH (C28-C35)	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
3/24/1997	NA	NA	1.2(Total)	NA	NA	0.106	0.120	0.008	0.135	0.038
7/16/1998	NA	NA	<5.3(C6-C10)	<5.3(>C10-C28)	NA	<0.001	<0.001	<0.001	0.002	0.035
11/19/1998	NA	NA	<4.1(C6-C10)	<4.1(>C10-C28)	NA	0.012	<0.005	<0.005	<0.005	0.178
10/5/2000	0.002*	NA	<5(C6-C10)	<5(>C10-C28)	NA	0.149	<0.005	<0.005	<0.005	0.225
4/4/2001	NA	NA	<5.5(C6-C10)	<5.5(>C10-C28)	NA	0.154	<0.004	<0.004	<0.004	0.454
9/24/2001	NA	NA	<4.95	<4.95	<4.95	0.005	<0.004	<0.004	<0.004	0.129
12/27/2001	NA	NA	<4.87	<4.87	<4.87	<0.002	<0.004	<0.004	<0.004	0.060
3/27/2002	NA	NA	<1.98	<1.98	<1.98	<0.002	<0.004	<0.004	<0.004	0.034
6/17/2002	NA	NA	<1.95	<1.95	<1.95	<0.002	<0.004	<0.004	<0.004	0.074
10/22/2003	NA	NA	NA	NA	NA	<0.0008	<0.002	<0.002	<0.003	<0.002
1/28/2004	NA	NA	NA	NA	NA	<0.0008	<0.002	<0.002	<0.003	0.128
3/22/2005	NA	NA	NA	NA	NA	<0.0008	<0.002	<0.002	<0.003	0.012

*-Naphthalene detected at 0.002 mg/L

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5811 Technicenter Drive, Austin, TX

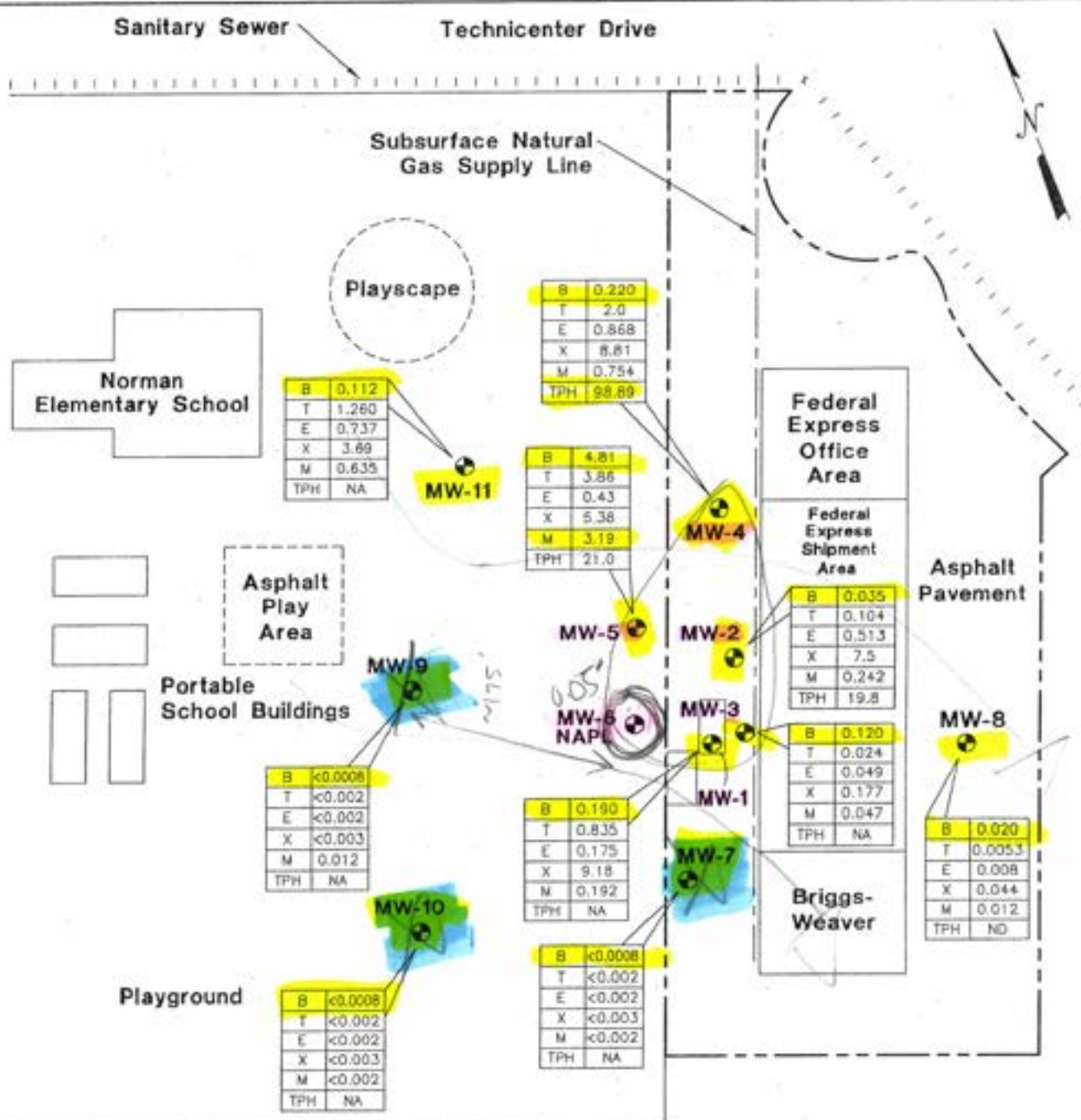
LPST # 111747

GROUNDWATER ANALYTICAL DATA SUMMARY

(all concentrations in mg/L)

MW-10										
DATE	PAH	TDS	TPH (C6-C12)	TPH (C12-C28)	TPH (C28-C35)	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
3/24/1997	NA	NA	<0.5(Total)	NA	NA	<0.001	<0.001	<0.001	<0.001	<0.01
7/16/1998	NA	NA	<4.8(C6-C10)	<4.8(>C10-C28)	NA	<0.001	<0.001	<0.001	0.002	<0.02
11/19/1998	NA	NA	<4.7(C6-C10)	<4.7(>C10-C28)	NA	<0.005	<0.005	<0.005	<0.005	<0.005
10/5/2000	NA	NA	<5(C6-C10)	<5(>C10-C28)	NA	<0.005	<0.005	<0.005	<0.005	<0.005
4/4/2001	NA	NA	<4.89(C6-C10)	<4.89(>C10-C28)	NA	<0.002	<0.004	<0.004	<0.004	<0.004
9/24/2001	NA	NA	<4.84	<4.84	<4.84	<0.002	<0.004	<0.004	<0.004	<0.004
12/27/2001	NA	NA	<4.81	<4.81	<4.81	<0.002	<0.004	<0.004	<0.004	<0.004
3/27/2002	NA	NA	<1.97	<1.97	<1.97	<0.002	<0.004	<0.004	<0.004	<0.004
6/17/2002	NA	NA	<1.95	<1.95	<1.95	<0.002	<0.004	<0.004	<0.004	<0.004
10/22/2003	NA	NA	NA	NA	NA	<0.0008	<0.002	<0.002	<0.003	0.116
1/28/2004	NA	NA	NA	NA	NA	<0.0008	<0.002	<0.002	<0.003	<0.002
3/22/2005	NA	NA	NA	NA	NA	<0.0008	<0.002	<0.002	<0.003	<0.002

MW-11										
DATE	PAH	TDS	TPH (C6-C12)	TPH (C12-C28)	TPH (C28-C35)	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
3/24/1997	NA	NA	<0.50(Total)	NA	NA	<0.001	<0.001	<0.001	<0.001	<0.01
7/16/1998	NA	NA	<5(C6-C10)	<5(>C10-C28)	NA	0.053	0.009	0.003	0.012	0.026
11/19/1998	NA	NA	25.3(C6-C10)	<4.4(>C10-C28)	NA	1.850	2.200	0.036	2.210	<0.005
10/5/2000	NA	NA	<5(C6-C10)	<5(>C10-C28)	NA	<0.005	<0.005	<0.005	<0.005	<0.005
4/4/2001	NA	NA	<5.28(C6-C10)	<5.28(>C10-C28)	NA	1.770	3.570	0.399	2.600	0.525
9/24/2001	NA	NA	9.67	<4.79	<4.79	1.620	3.080	0.625	2.480	0.134
12/27/2001	NA	NA	<4.85	<4.85	<4.85	0.071	0.085	0.088	0.142	0.040
3/27/2002	NA	NA	16.10	3.88	<1.96	1.010	5.170	0.894	4.350	0.409
6/17/2002	NA	NA	11.00	2.09	<1.96	0.952	3.550	0.523	2.390	<0.020
10/22/2003	NA	NA	4.78	<1.95	<1.95	0.049	0.616	0.209	0.774	0.239
1/28/2004	NA	NA	3.51	<2.0	<2.0	0.0416	0.336	0.116	0.475	0.145
3/22/2005	NA	NA	NA	NA	NA	0.1120	1.260	0.737	3.690	0.635



B	0.112
T	1.260
E	0.737
X	3.69
M	0.635
TPH	NA

B	0.220
T	2.0
E	0.868
X	8.81
M	0.754
TPH	98.89

B	4.81
T	3.86
E	0.43
X	5.38
M	3.19
TPH	21.0

Federal Express Office Area

Federal Express Shipment Area

B	0.035
T	0.104
E	0.513
X	7.5
M	0.242
TPH	19.8

Asphalt Pavement

Portable School Buildings

B	<0.0008
T	<0.002
E	<0.002
X	<0.003
M	0.012
TPH	NA

B	0.190
T	0.835
E	0.175
X	9.18
M	0.192
TPH	NA

B	0.120
T	0.024
E	0.049
X	0.177
M	0.047
TPH	NA

B	0.020
T	0.0053
E	0.008
X	0.044
M	0.012
TPH	ND

Playground

B	<0.0008
T	<0.002
E	<0.002
X	<0.003
M	<0.002
TPH	NA

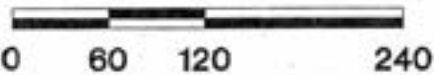
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E	<0.002
X	<0.003
M	<0.002
TPH	NA

LEGEND

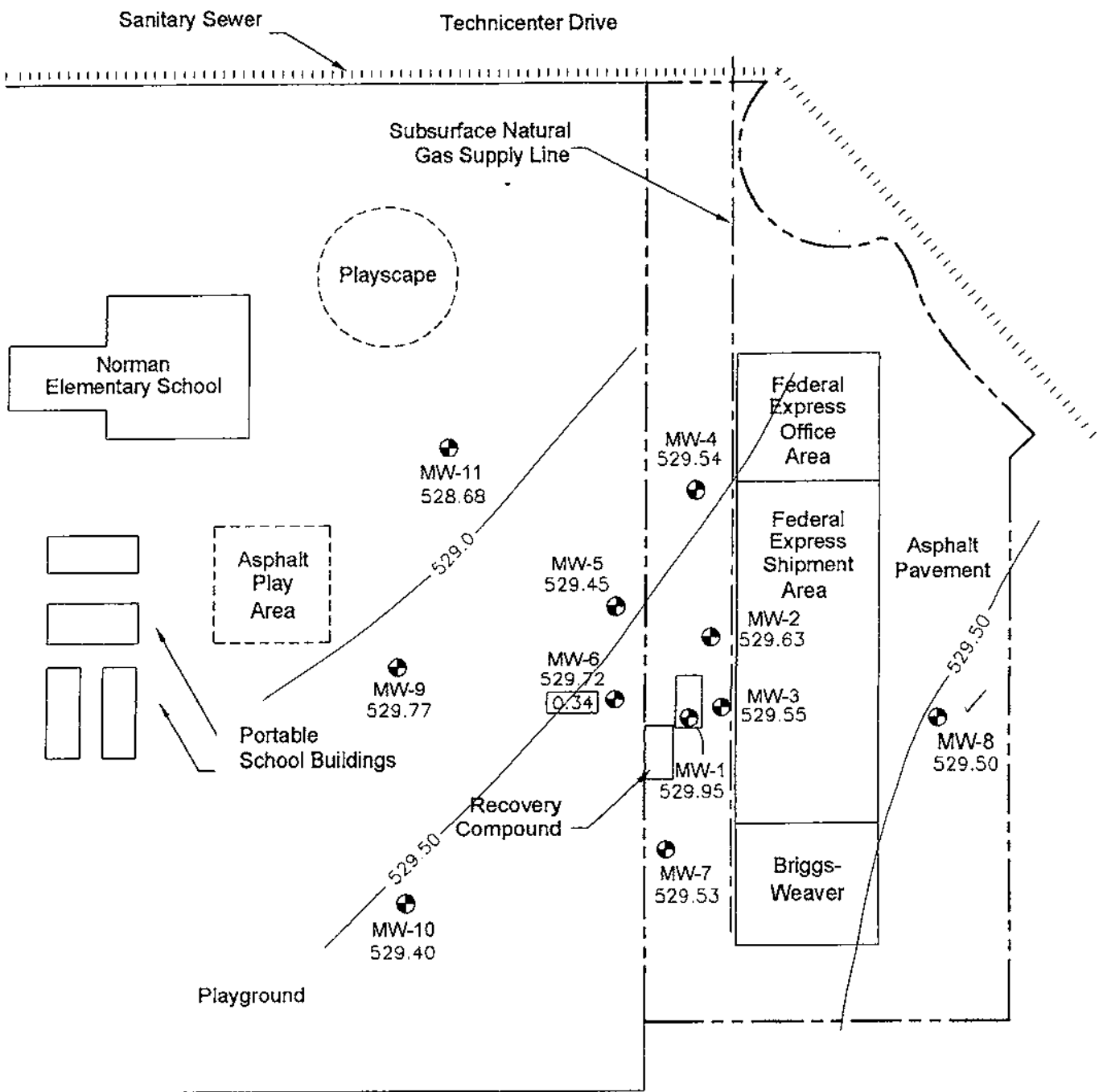
- Monitoring Well Locations
- B** Benzene
- T** Toluene
- E** Ethylbenzene
- X** Xylenes
- M** MTBE
- TPH** Total Petroleum Hydrocarbons

* All concentrations in mg/L



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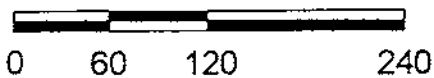
Terracon
Hydrocarbon Distribution
 (3/23/05)
 Federal Express
 Austin, Texas
 Terracon Project No. 96007145



LEGEND

-  Monitoring Well Locations
- 529.77 Groundwater Elevation (Ft. MSL)
-  NAPL Thickness (Ft.)
- 529— Groundwater Elevation Contour (Ft. MSL)

SCALE-FEET



Terracon

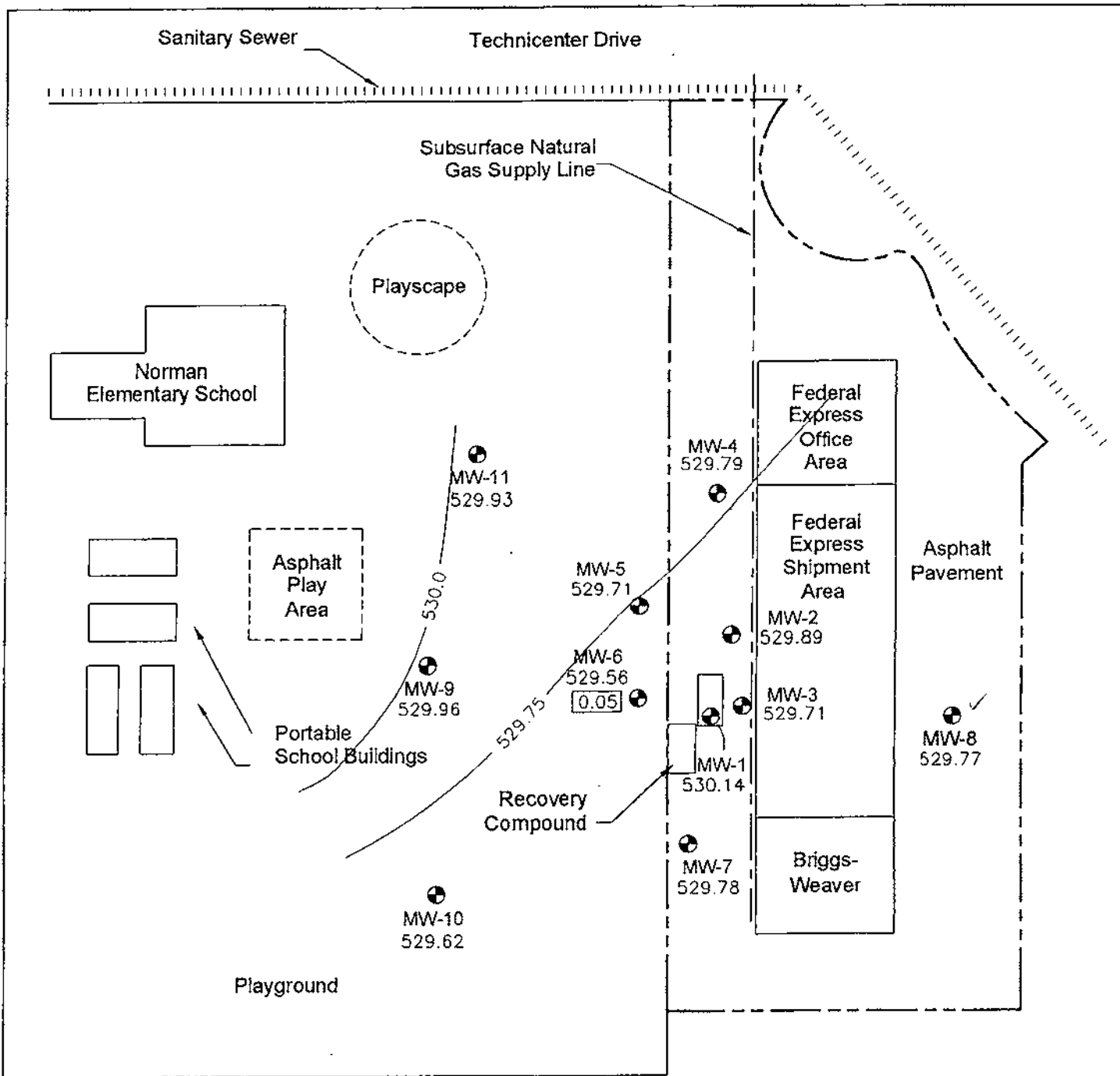
Groundwater Elevation Map

(3/03/05)

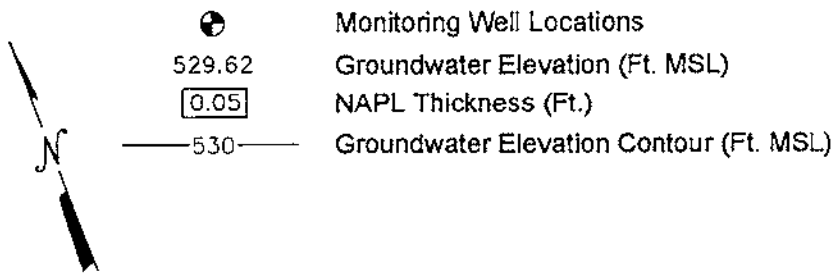
Federal Express

Austin, Texas

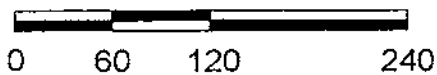
Terracon Project No. 96007145



LEGEND



SCALE- FEET



Terracon
Groundwater Elevation Map

(3/22/05)

Federal Express
 Austin, Texas

Terracon Project No. 96007145

Sanitary Sewer

Technicenter Drive

Subsurface Natural Gas Supply Line

Playscape

Norman Elementary School

Federal Express Office Area

Federal Express Shipment Area

Asphalt Pavement

Asphalt Play Area

Portable School Buildings

Briggs-Weaver

MW-11
529.44

MW-4
529.29

MW-5
529.22

MW-2
529.43

MW-9
529.67

MW-6
529.10

MW-3
529.30

MW-8
529.27

Recovery Compound

MW-1
529.65

MW-10
529.54

MW-7
529.29

Playground

LEGEND



Monitoring Well Locations

530.70

Groundwater Elevation (Ft. MSL)

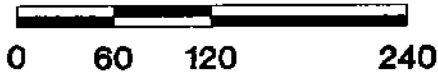
0.05

NAPL Thickness (Ft.)

—530—

Groundwater Elevation Contour (Ft. MSL)

SCALE-FEET



Terracon

Groundwater Elevation Map

(4/29/05)

Federal Express
Austin, Texas

Terracon Project No. 96007145

Appendix A



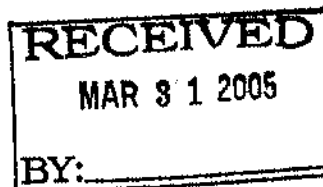
March 25, 2005

Russ Ford
HBC/Terracon
5307 Industrial Oaks Blvd., Suite 160
Austin, Texas 78735

TEL: (512) 442-1122
FAX (512) 442-1181

RE: Fed Ex

Dear Russ Ford:



Order No.: 0503162

DHL Analytical received 2 samples on 3/18/2005 for the analyses presented in the following report.

There were no problems with the analyses and all data met requirements of NELAC except where noted in the Case Narrative. All non-NELAC methods will be identified accordingly in the case narrative and all estimated uncertainties of test results are within method or EPA specifications.

If you have any questions regarding these tests results, please feel free to call. Thank you for using DHL Analytical.

Sincerely,

A handwritten signature in black ink, appearing to read "John DuPont".

John DuPont
General Manager



TABLE OF CONTENTS

This report for HBC Engineering: Fed Ex (DHL Work Order 0503162) contains the following information:

ITEM	Page
• Cover Page	1
• Table of Contents	2
• Original chain of custody, fedex slip (if used), log-in checklist	3-4
• Data Package Signature Page	5
• Laboratory Review Checklist	6-7
• Case Narrative	8
• Work Order Summary	9
• Preparation Dates Report	10
• Analytical Dates Report	11
• Sample Results	12-13
• QC Summary Report	14-15
• MQL Summary Report	16
• Total Number of Pages	16

March 25, 2005

Approved: _____


John DuPont

DHL Analytical

Sample Receipt Checklist

Client Name HBC/Terracon

Date Received: 3/18/05

Work Order Number 0503162

Received by CAC

Checklist completed by Martin West 3-18-05
Signature Date

Reviewed by JD 3/18/05
Initials Date

Carrier name: Hand Delivered

- Shipping container/cooler in good condition? Yes No Not Present
- Custody seals intact on shipping container/cooler? Yes No Not Present
- Custody seals intact on sample bottles? Yes No Not Present
- Chain of custody present? Yes No
- Chain of custody signed when relinquished and received? Yes No
- Chain of custody agrees with sample labels? Yes No
- Samples in proper container/bottle? Yes No
- Sample containers intact? Yes No
- Sufficient sample volume for indicated test? Yes No
- All samples received within holding time? Yes No
- Container/Temp Blank temperature in compliance? Yes No
- Water - VOA vials have zero headspace? Yes No VOA vials submitted Yes No
- Water - pH acceptable upon receipt? Yes No NotApplicable

Adjusted? _____ Checked by _____

Any No response must be detailed in the comments section below.

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action Taken: _____

Laboratory Data Package Signature Page

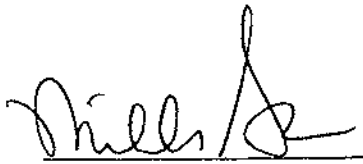
This data package consists of:

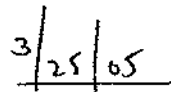
This signature page, the laboratory review checklist, and the following reportable data:

- R1 Field chain-of-custody documentation;
 - R2 Sample identification cross-reference;
 - R3 Test reports (analytical data sheets) for each environmental sample that includes:
 - a) Items consistent with NELAC 5.13
 - b) dilution factors,
 - c) preparation methods,
 - d) cleanup methods, and
 - e) if required for the project, tentatively identified compounds (TICs).
 - R4 Surrogate recovery data including:
 - a) Calculated recovery (%R), and
 - b) The laboratory's surrogate QC limits.
 - R5 Test reports/summary forms for blank samples;
 - R6 Test reports/summary forms for laboratory control samples (LCSs) including:
 - a) LCS spiking amounts,
 - b) Calculated %R for each analyte, and
 - c) The laboratory's LCS QC limits.
 - R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - a) Samples associated with the MS/MSD clearly identified,
 - b) MS/MSD spiking amounts,
 - c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
 - d) Calculated %Rs and relative percent differences (RPDs), and
 - e) The laboratory's MS/MSD QC limits
 - R8 Laboratory analytical duplicate (if applicable) recovery and precision:
 - a) the amount of analyte measured in the duplicate,
 - b) the calculated RPD, and
 - c) the laboratory's QC limits for analytical duplicates.
 - R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix;
 - R10 Other problems or anomalies.
- The Exception Report for every "No" or "Not Reviewed (NR)" item in laboratory review checklist.

Release Statement: I am responsible for the release of this laboratory data package. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By me signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratory in the Laboratory Review Checklist, and no information or data have been knowingly withheld that would affect the quality of the data.

Scott Schroeder – Project Manager
Michelle Green – QA Manager
John DuPont – General Manager


Signature


Date

DHL Analytical, Inc.

Laboratory Review Checklist: Reportable Data

Project Name: felex	Date: 3/25/05
Reviewer Name: Carlos Castro	Laboratory Work Order: 0503162
Prep Batch Number(s): See Prep Dates Report	Run Batch: See Analytical Dates Report

# ¹	A ²	Description	Yes	No	NA ³	NR ⁴	ER# ⁵
R1	OI	CHAIN-OF-CUSTODY (C-O-C)					
		1) Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	✓				R1-01
		2) Were all departures from standard conditions described in an exception report?			✓		
R2	OI	SAMPLE AND QUALITY CONTROL (QC) IDENTIFICATION					
		1) Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	✓				
		2) Are all laboratory ID numbers cross-referenced to the corresponding QC data?	✓				
R3	OI	TEST REPORTS					
		1) Were all samples prepared and analyzed within holding times?	✓				
		2) Other than those results < MQL, were all other raw values bracketed by calibration standards?	✓				
		3) Were calculations checked by a peer or supervisor?	✓				
		4) Were all analyte identifications checked by a peer or supervisor?	✓				
		5) Were sample quantitation limits reported for all analytes not detected?	✓				
		6) Were all results for soil and sediment samples reported on a dry weight basis?				✓	
		7) Were % moisture (or solids) reported for all soil and sediment samples?				✓	
		8) If required for the project, TICs reported?			✓		
R4	O	SURROGATE RECOVERY DATA					
		1) Were surrogates added prior to extraction?			✓		
		2) Were surrogate percent recoveries in all samples within the laboratory QC limits?			✓		
R5	OI	TEST REPORTS/SUMMARY FORMS FOR BLANK SAMPLES					
		1) Were appropriate type(s) of blanks analyzed?	✓				
		2) Were blanks analyzed at the appropriate frequency?	✓				
		3) Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	✓				
		4) Were blank concentrations < MQL?	✓				
R6	OI	LABORATORY CONTROL SAMPLES (LCS)					
		1) Were all COCs included in the LCS?			✓		
		2) Was each LCS taken through the entire analytical procedure, (prep and cleanup steps)?			✓		
		3) Were LCSs analyzed at the required frequency?			✓		
		4) Were LCS (and LCSD, if applicable) %Rs & RPD recovery within the laboratory QC limits?			✓		
		5) Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?			✓		
R7	OI	MATRIX SPIKE (MS) AND MATRIX SPIKE DUPLICATE (MSD) DATA					
		1) Were the project/method specified analytes included in the MS and MSD?			✓		
		2) Were MS/MSD analyzed at the appropriate frequency?			✓		
		3) Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?			✓		
		4) Were MS/MSD RPDs within laboratory QC limits?			✓		
R8	OI	ANALYTICAL DUPLICATE DATA					
		1) Were appropriate analytical duplicates analyzed for each matrix?	✓				
		2) Were analytical duplicates analyzed at the appropriate frequency?	✓				
		3) Were RPDs or relative standard deviations within the laboratory QC limits?	✓				
R9	OI	METHOD QUANTITATION LIMITS (MQLS)					
		1) Are the MQLs for each method analyte included in the laboratory data package?	✓				
		2) Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	✓				
		3) Are unadjusted MQLs included in the laboratory data package?	✓				
R10	OI	OTHER PROBLEMS/ANOMALIES					
		1) Are all known problems/anomalies/special conditions noted in this LRC and ER?			✓		
		2) Were all necessary corrective actions performed for the reported data?	✓				
		3) Was applicable and available technology used to lower the SQL minimize the matrix interference affects on the sample results?	✓				

DHL Analytical, Inc.

Laboratory Review Checklist (continued): Supporting Data

Project Name: *tel Ex*

Date: *3/25/05*

Reviewer Name: Carlos Castro

Laboratory Work Order: *0503162*

# ¹	A ²	Description	Yes	No	NA ³	NR ⁴	ER# ⁵
S1	OI	INITIAL CALIBRATION (ICAL)					
		1) Were response factors and/or relative response factors for each analyte within OC limits?	✓				
		2) Were percent RSDs or correlation coefficient criteria met?	✓				
		3) Was the number of standards recommended in the method used for all analytes?	✓				
		4) Were all points generated between the lowest and highest standard used to calculate the curve?	✓				
		5) Are ICAL data available for all instruments used?	✓				
		6) Has the initial calibration curve been verified using an appropriate second source standard?	✓				
S2	OI	INITIAL AND CONTINUING CALIBRATION VERIFICATION (ICCV AND CCV) AND CONTINUING CALIBRATION BLANK (CCB)					
		1) Was the CCV analyzed at the method-required frequency?	✓				
		2) Were percent differences for each analyte within the method-required OC limits?	✓				
		3) Was the ICAL curve verified for each analyte?	✓				
		4) Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	✓				
S3	O	MASS SPECTRAL TUNING					
		1) Was the appropriate compound for the method used for tuning?			✓		
		2) Were ion abundance data within the method-required QC limits?			✓		
S4	O	INTERNAL STANDARDS (IS)					
		1) Were IS area counts and retention times within the method-required QC limits?			✓		
S5	OI	RAW DATA (NELAC SECTION 1 APPENDIX A GLOSSARY, & SECTION 5.12)					
		1) Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	✓				
		2) Were data associated with manual integrations flagged on the raw data?	✓				
S6	O	DUAL COLUMN CONFIRMATION					
		1) Did dual column confirmation results meet the method-required OC?	✓				
S7	O	TENTATIVELY IDENTIFIED COMPOUNDS (TICS)					
		1) If TICS were requested, were the mass spectra and TIC data subject to appropriate checks?			✓		
S8	I	INTERFERENCE CHECK SAMPLE (ICS) RESULTS					
		1) Were percent recoveries within method QC limits?			✓		
S9	I	SERIAL DILUTIONS, POST DIGESTION SPIKES, AND METHOD OF STANDARD ADDITIONS					
		1) Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			✓		
S10	OI	METHOD DETECTION LIMIT (MDL) STUDIES					
		1) Was a MDL study performed for each reported analyte?	✓				
S11	OI	PROFICIENCY TEST REPORTS					
		1) Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	✓				
S12	OI	STANDARDS DOCUMENTATION					
		1) Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	✓				
S13	OI	COMPOUND/ANALYTE IDENTIFICATION PROCEDURES					
		1) Are the procedures for compound/analyte identification documented?	✓				
S14	OI	DEMONSTRATION OF ANALYST COMPETENCY (DOC)					
		1) Was DOC conducted consistent with NELAC Chapter 5C?	✓				
S15	OI	VERIFICATION/VALIDATION DOCUMENTATION FOR METHODS (NELAC)					
		1) Are all the methods used to generate the data documented, verified, and validated, where applicable?	✓				
S16	OI	LABORATORY STANDARD OPERATING PROCEDURES (SOPS)					
		1) Are the laboratory SOPs current and on file for each method performed?	✓				

1 Items identified by the letter "R" should be included in the laboratory data package submitted to the TCEQ in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.

2 O = organic analyses; I = inorganic analyses (and general chemistry, when applicable)

3 NA = Not applicable; 4 NR = Not Reviewed

5 ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked)

CLIENT: HBC/Terracon
Project: Fed Ex
Lab Order: 0503162

CASE NARRATIVE

Samples were analyzed using the methods outlined in the following references:

Method SW8021B - Volatiles in Air by GC

Method SW8015B - TPH in Air

Exception Report R1-01

Samples were received and log-in performed on 3/18/05. A total of 2 samples were received. The samples arrived in good condition and were properly packaged.

DATA REPORTING

Sample reports include the Sample Quantitation Limit (SQL) and the Reporting Limit (RL) for each analyte. The computer system allows for reporting SQL with 2 significant figures and the RL with 3 significant figures. Because of rounding it may sometime appear that a "J" flagged result is lower than the SQL if the sample result is very near the SQL.

CLIENT: HBC/Terracon
Project: Fed Ex
Lab Order: 0503162

Work Order Sample Summary

Lab Sam ID	Client Sample ID	Tag Number	Collection Date	Date Recved
0503162-01	Influent 1		3/17/2005 10:00:00 P	3/18/2005
0503162-02	Influent 2		3/18/2005 9:20:00 AM	3/18/2005

Lab Order: 0503162
Client: HBC/Terracon
Project: Fed Ex

PREP DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch I
0503162-01A	Influent 1	3/17/2005 10:00:00 PM	Air	SW8015B	TPH Air Prep	3/18/2005 6:47:42 PM	18671
0503162-02A	Influent 2	3/18/2005 9:20:00 AM	Air	SW8015B	TPH Air Prep	3/18/2005 6:47:42 PM	18671
	Influent 2	3/18/2005 9:20:00 AM	Air	SW8021B	BTEX in Air	3/18/2005 12:50:39 P	R21433

Lab Order: 0503162
Client: HBC/Terracon
Project: Fed Ex

ANALYTICAL DATES REPORT

Sample ID	Client Sample ID	Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
0503162-01A	Influent 1	Air	SW8015B	TPH Air as hexane	18671	1	3/18/2005 8:22:10 PM	GC4_050318A
0503162-02A	Influent 2	Air	SW8015B	TPH Air as hexane	18671	1	3/18/2005 8:43:41 PM	GC4_050318A
	Influent 2	Air	SW8021B	BTEX in Air	R21433	1	3/18/2005 12:50:39 PM	GC9_050318A

DHL Analytical

Date: 25-Mar-05

CLIENT: HBC/Terracon
 Project Name: Fed Ex
 Project No: 96007145
 Lab Order: 0503162

Client Sample ID: Influent 1
 Lab ID: 0503162-01
 Collection Date: 3/17/2005 10:00:00 PM
 Matrix: AIR

Analyses	Result	SQL	RL	Qual	Units	DF	Date Analyzed
TPH AIR AS HEXANE		SW8015B					Analyst: DEW
TPH: C4-C10 as Hexane	50.8	8.0	25.0		ppmV	1	3/18/2005 8:22:10 PM

Qualifiers: ND - Not Detected at the SQL
 J - Analyte detected between SQL and RL
 B - Analyte detected in the associated Method Blank
 DF- Dilution Factor
 See Final Page of Report for MQLs and MDLs

S - Spike Recovery outside control limits
 C - Sample Result or QC discussed in Case Narrative
 E - TPH pattern not Gas or Diesel Range Pattern
 SQL - Sample Quantitation Limit
 RL - Reporting Limit (MQL adjusted for moisture and sample size)

DHL Analytical

Date: 25-Mar-05

CLIENT: HBC/Terracon
 Project Name: Fed Ex
 Project No: 96007145
 Lab Order: 0503162

Client Sample ID: Influent 2
 Lab ID: 0503162-02
 Collection Date: 3/18/2005 9:20:00 AM
 Matrix: AIR

Analyses	Result	SQL	RL	Qual	Units	DF	Date Analyzed
VOLATILES IN AIR BY GC		SW8021B		Analyst DEW			
Benzene	0.574	0.10	0.200		ppmV	1	3/18/2005 12:50:39 PM
Ethylbenzene	ND	0.20	0.600		ppmV	1	3/18/2005 12:50:39 PM
Toluene	1.06	0.20	0.700		ppmV	1	3/18/2005 12:50:39 PM
Xylenes, Total	1.46	0.20	0.600		ppmV	1	3/18/2005 12:50:39 PM
TPH AIR AS HEXANE		SW8015B		Analyst DEW			
TPH: C4-C10 as Hexane	59.2	8.0	25.0		ppmV	1	3/18/2005 8:43:41 PM

Qualifiers:
 ND - Not Detected at the SQL
 J - Analyte detected between SQL and RL
 B - Analyte detected in the associated Method Blank
 DF- Dilution Factor
 See Final Page of Report for MQLs and MDLs

S - Spike Recovery outside control limits
 C - Sample Result or QC discussed in Case Narrative
 E - TPH pattern not Gas or Diesel Range Pattern
 SQL - Sample Quantitation Limit
 RL - Reporting Limit (MQL adjusted for moisture and sample size)

CLIENT: HBC/Terracon
 Work Order: 0503162
 Project: Fed Ex

ANALYTICAL QC SUMMARY REPORT

RunID: GC4_050318A

Sample ID: MB-18671	Batch ID: 18671	TestNo: SW8015B	Units: ppm V
SampType: MBLK	Run ID: GC4_050318A	Analysis Date 3/18/2005 8:00:44 PM	Prep Date: 3/18/2005

Analyte	Result	RL	SPK value	SPK Ref	%REC	Low Limit	HighLimit	%RPD	RPDLimit	Qual
TPH: C4-C10 as Hexane	ND	25								

Sample ID: 0503162-02A DUP	Batch ID: 18671	TestNo: SW8015B	Units: ppm V
SampType: DUP	Run ID: GC4_050318A	Analysis Date 3/18/2005 9:05:15 PM	Prep Date: 3/18/2005

Analyte	Result	RL	SPK value	SPK Ref	%REC	Low Limit	HighLimit	%RPD	RPDLimit	Qual
TPH: C4-C10 as Hexane	62.39	25	0	59.19	0	0	0	5.26	30	

Sample ID: CCV1-050318	Batch ID: R21434	TestNo: SW8015B	Units: ppm V
SampType: CCV	Run ID: GC4_050318A	Analysis Date 3/18/2005 9:14:40 PM	Prep Date:

Analyte	Result	RL	SPK value	SPK Ref	%REC	Low Limit	HighLimit	%RPD	RPDLimit	Qual
Hexane	49.44	0	50	0	98.9	85	115	0		

Sample ID: ICV-050318	Batch ID: R21434	TestNo: SW8015B	Units: ppm V
SampType: ICV	Run ID: GC4_050318A	Analysis Date 3/18/2005 7:31:59 PM	Prep Date:

Analyte	Result	RL	SPK value	SPK Ref	%REC	Low Limit	HighLimit	%RPD	RPDLimit	Qual
Hexane	50.44	0	50	0	101	85	115	0		

Qualifiers ND - Not Detected at the Method Detection Limit
 J - Analyte detected below quantitation limits
 S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits
 B - Analyte detected in the associated Method Bla

CLIENT: HBC/Terracon
 Work Order: 0503162
 Project: Fed Ex

ANALYTICAL QC SUMMARY REPORT

RunID: GC9_050318A

Sample ID: MB-050318	Batch ID: R21433	TestNo: SW8021B	Units: ppm V							
SampType: MBLK	Run ID: GC9_050318A	Analysis Date 3/18/2005 12:32:54 PM	Prep Date:							
Analyte	Result	RL	SPK value	SPK Ref	%REC	Low Limit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.2								
Ethylbenzene	ND	0.6								
Toluene	ND	0.7								
Xylenes, Total	ND	0.6								

Sample ID: 0503162-02A DUP	Batch ID: R21433	TestNo: SW8021B	Units: ppm V							
SampType: DUP	Run ID: GC9_050318A	Analysis Date 3/18/2005 1:08:15 PM	Prep Date:							
Analyte	Result	RL	SPK value	SPK Ref	%REC	Low Limit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.5729	0.2	0	0.5736	0	0	0	0.129	30	
Ethylbenzene	0.2021	0.6	0	0	0	0	0	0	30	
Toluene	1.085	0.7	0	1.063	0	0	0	2.02	30	
Xylenes, Total	1.516	0.6	0	1.463	0	0	0	3.57	30	

Sample ID: CCV1-050318	Batch ID: R21433	TestNo: SW8021B	Units: ppm V							
SampType: CCV	Run ID: GC9_050318A	Analysis Date 3/18/2005 1:25:49 PM	Prep Date:							
Analyte	Result	RL	SPK value	SPK Ref	%REC	Low Limit	HighLimit	%RPD	RPDLimit	Qual
Benzene	8.23	0.2	7.85	0	105	85	115	0		
Ethylbenzene	5.795	0.6	5.75	0	101	85	115	0		
Toluene	6.804	0.7	6.65	0	102	85	115	0		
Xylenes, Total	17.52	0.6	17.25	0	102	85	115	0		

Sample ID: ICV-050318	Batch ID: R21433	TestNo: SW8021B	Units: ppm V							
SampType: ICV	Run ID: GC9_050318A	Analysis Date 3/18/2005 11:57:30 AM	Prep Date:							
Analyte	Result	RL	SPK value	SPK Ref	%REC	Low Limit	HighLimit	%RPD	RPDLimit	Qual
Benzene	15.53	0.2	15.7	0	98.9	85	115	0		
Ethylbenzene	11.56	0.6	11.5	0	101	85	115	0		
Toluene	13.19	0.7	13.3	0	99.2	85	115	0		
Xylenes, Total	34.78	0.6	34.5	0	101	85	115	0		

Qualifiers
 ND - Not Detected at the Method Detection Limit
 J - Analyte detected below quantitation limits
 S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits
 B - Analyte detected in the associated Method Bla

CLIENT: HBC/Terracon
 Work Order: 0503162
 Project: Fed Ex

SQL SUMMARY REPORT

TestNo: SW8021B	MDL	SQL
Analyte	ppm V	ppmV
Benzene	0.1	0.2
Ethylbenzene	0.2	0.6
Toluene	0.2	0.7
Xylenes, Total	0.2	0.6

TestNo: SW8015B	MDL	SQL
Analyte	ppm V	ppmV
TPH: C4-C10 as Hexane	8	25

Qualifiers
 SQL -Method Quantitation Limit as defined by TRRP
 MDL -Method Detection Limit as defined by TRRP



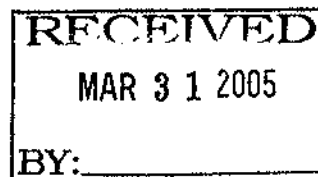
March 29, 2005

Russ Ford
HBC/Terracon
5307 Industrial Oaks Blvd., Suite 160
Austin, Texas 78735

TEL: (512) 442-1122
FAX (512) 442-1181

RE: Federal Express

Dear Russ Ford:



Order No.: 0503190

DHL Analytical received 10 samples on 3/23/2005 for the analyses presented in the following report.

There were no problems with the analyses and all data met requirements of NELAC except where noted in the Case Narrative. All non-NELAC methods will be identified accordingly in the case narrative and all estimated uncertainties of test results are within method or EPA specifications.

If you have any questions regarding these tests results, please feel free to call. Thank you for using DHL Analytical.

Sincerely,

A handwritten signature in black ink, appearing to read "John DuPont".

John DuPont

General Manager



TABLE OF CONTENTS

This report for HBC Engineering: Federal Express (DHL Work Order 0503190) contains the following information:

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March 29, 2005

Approved: _____

A handwritten signature in black ink, appearing to read "John DuPont", written over a horizontal line.

John DuPont

DHL Analytical

Sample Receipt Checklist

Client Name **HBC/Terracon**

Date Received: **3/23/05**

Work Order Number **0503190**

Received by **RW**

Checklist completed by Ryan Weller 3-23-05
Signature Date

Reviewed by YMA 3/23/05
Initials Date

Carrier name: Hand Delivered

- | | | | |
|---|---|---|---|
| Shipping container/cooler in good condition? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | Not Present <input type="checkbox"/> |
| Custody seals intact on shipping container/cooler? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | Not Present <input checked="" type="checkbox"/> |
| Custody seals intact on sample bottles? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | Not Present <input checked="" type="checkbox"/> |
| Chain of custody present? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| Chain of custody signed when relinquished and received? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| Chain of custody agrees with sample labels? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| Samples in proper container/bottle? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| Sample containers intact? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| Sufficient sample volume for indicated test? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| All samples received within holding time? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| Container/Temp Blank temperature in compliance? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| Water - VOA vials have zero headspace? | No VOA vials submitted <input type="checkbox"/> | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |
| Water - pH acceptable upon receipt? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | NotApplicable <input checked="" type="checkbox"/> |

Adjusted? _____ Checked by _____

Any No response must be detailed in the comments section below.

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action Taken: _____

Laboratory Data Package Signature Page

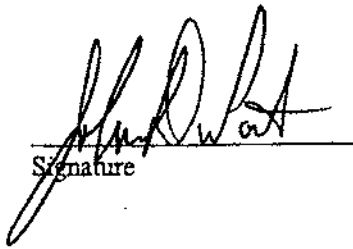
This data package consists of:

This signature page, the laboratory review checklist, and the following reportable data:

- R1 Field chain-of-custody documentation;
 - R2 Sample identification cross-reference;
 - R3 Test reports (analytical data sheets) for each environmental sample that includes:
 - a) Items consistent with NELAC 5.13
 - b) dilution factors,
 - c) preparation methods,
 - d) cleanup methods, and
 - e) if required for the project, tentatively identified compounds (TICs).
 - R4 Surrogate recovery data including:
 - a) Calculated recovery (%R), and
 - b) The laboratory's surrogate QC limits.
 - R5 Test reports/summary forms for blank samples;
 - R6 Test reports/summary forms for laboratory control samples (LCSs) including:
 - a) LCS spiking amounts,
 - b) Calculated %R for each analyte, and
 - c) The laboratory's LCS QC limits.
 - R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - a) Samples associated with the MS/MSD clearly identified,
 - b) MS/MSD spiking amounts,
 - c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
 - d) Calculated %Rs and relative percent differences (RPDs), and
 - e) The laboratory's MS/MSD QC limits
 - R8 Laboratory analytical duplicate (if applicable) recovery and precision:
 - a) the amount of analyte measured in the duplicate,
 - b) the calculated RPD, and
 - c) the laboratory's QC limits for analytical duplicates.
 - R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix;
 - R10 Other problems or anomalies.
- The Exception Report for every "No" or "Not Reviewed (NR)" item in laboratory review checklist.

Release Statement: I am responsible for the release of this laboratory data package. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By me signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratory in the Laboratory Review Checklist, and no information or data have been knowingly withheld that would affect the quality of the data.

Scott Schroeder – Project Manager.
Michelle Green – QA Manager
John DuPont – General Manager


Signature

3/29/05
Date

DHL Analytical, Inc.

Laboratory Review Checklist: Reportable Data

Project Name: <i>Federal Express</i>	Date: <i>3-29-05</i>
Reviewer Name: Michelle Green	Laboratory Work Order: <i>0503196</i>
Prep Batch Number(s): See Prep Dates Report	Run Batch: See Analytical Dates Report

#1	A ²	Description	Yes	No	NA ³	NR ⁴	ER# ⁵
		CHAIN-OF-CUSTODY (C-O-C)					
R1	OI	1) Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	✓				R1-01
		2) Were all departures from standard conditions described in an exception report?			✓		
R2	OI	SAMPLE AND QUALITY CONTROL (QC) IDENTIFICATION					
		1) Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	✓				
		2) Are all laboratory ID numbers cross-referenced to the corresponding QC data?	✓				
R3	OI	TEST REPORTS					
		1) Were all samples prepared and analyzed within holding times?	✓				
		2) Other than those results < MQL, were all other raw values bracketed by calibration standards?	✓				
		3) Were calculations checked by a peer or supervisor?	✓				
		4) Were all analyte identifications checked by a peer or supervisor?	✓				
		5) Were sample quantitation limits reported for all analytes not detected?	✓				
		6) Were all results for soil and sediment samples reported on a dry weight basis?			✓		
		7) Were % moisture (or solids) reported for all soil and sediment samples?			✓		
		8) If required for the project, TICs reported?			✓		
R4	O	SURROGATE RECOVERY DATA					
		1) Were surrogates added prior to extraction?	✓				
		2) Were surrogate percent recoveries in all samples within the laboratory QC limits?		✓			R4-02
R5	OI	TEST REPORTS/SUMMARY FORMS FOR BLANK SAMPLES					
		1) Were appropriate type(s) of blanks analyzed?	✓				
		2) Were blanks analyzed at the appropriate frequency?	✓				
		3) Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	✓				
		4) Were blank concentrations < MQL?	✓				
R6	OI	LABORATORY CONTROL SAMPLES (LCS)					
		1) Were all COCs included in the LCS?	✓				
		2) Was each LCS taken through the entire analytical procedure, (prep and cleanup steps)?	✓				
		3) Were LCSs analyzed at the required frequency?	✓				
		4) Were LCS (and LCSD, if applicable) %Rs & RPD recovery within the laboratory QC limits?	✓				
		5) Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?	✓				
R7	OI	MATRIX SPIKE (MS) AND MATRIX SPIKE DUPLICATE (MSD) DATA					
		1) Were the project/method specified analytes included in the MS and MSD?	✓				
		2) Were MS/MSD analyzed at the appropriate frequency?	✓				
		3) Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	✓				
		4) Were MS/MSD RPDs within laboratory QC limits?	✓				
R8	OI	ANALYTICAL DUPLICATE DATA					
		1) Were appropriate analytical duplicates analyzed for each matrix?			✓		
		2) Were analytical duplicates analyzed at the appropriate frequency?			✓		
		3) Were RPDs or relative standard deviations within the laboratory QC limits?			✓		
R9	OI	METHOD QUANTITATION LIMITS (MQLS)					
		1) Are the MQLs for each method analyte included in the laboratory data package?	✓				
		2) Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	✓				
		3) Are unadjusted MQLs included in the laboratory data package?	✓				
R10	OI	OTHER PROBLEMS/ANOMALIES					
		1) Are all known problems/anomalies/special conditions noted in this LRC and ER?	✓				
		2) Were all necessary corrective actions performed for the reported data?	✓				
		3) Was applicable and available technology used to lower the SQL minimize the matrix interference affects on the sample results?	✓				

DHL Analytical, Inc.

Laboratory Review Checklist (continued): Supporting Data

Project Name: *Federal Express*

Date: *3-29-05*

Reviewer Name: Michelle Green

Laboratory Work Order: *0503190*

# ¹	A ²	Description	Yes	No	NA ³	NR ⁴	ER# ⁵
S1	OI	INITIAL CALIBRATION (ICAL)					
		1) Were response factors and/or relative response factors for each analyte within QC limits?	✓				
		2) Were percent RSDs or correlation coefficient criteria met?	✓				
		3) Was the number of standards recommended in the method used for all analytes?	✓				
		4) Were all points generated between the lowest and highest standard used to calculate the curve?	✓				
		5) Are ICAL data available for all instruments used?	✓				
		6) Has the initial calibration curve been verified using an appropriate second source standard?	✓				
S2	OI	INITIAL AND CONTINUING CALIBRATION VERIFICATION (ICCV AND CCV) AND CONTINUING CALIBRATION BLANK (CCB)					
		1) Was the CCV analyzed at the method-required frequency?	✓				
		2) Were percent differences for each analyte within the method-required QC limits?	✓				
		3) Was the ICAL curve verified for each analyte?	✓				
		4) Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	✓				
S3	O	MASS SPECTRAL TUNING					
		1) Was the appropriate compound for the method used for tuning?	✓				
		2) Were ion abundance data within the method-required QC limits?	✓				
S4	O	INTERNAL STANDARDS (IS)					
		1) Were IS area counts and retention times within the method-required QC limits?	✓				
S5	OI	RAW DATA (NELAC SECTION 1 APPENDIX A GLOSSARY, & SECTION 5.12)					
		1) Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	✓				
		2) Were data associated with manual integrations flagged on the raw data?	✓				
S6	O	DUAL COLUMN CONFIRMATION					
		1) Did dual column confirmation results meet the method-required QC?	✓				
S7	O	TENTATIVELY IDENTIFIED COMPOUNDS (TICS)					
		1) If TICS were requested, were the mass spectra and TIC data subject to appropriate checks?			✓		
S8	I	INTERFERENCE CHECK SAMPLE (ICS) RESULTS					
		1) Were percent recoveries within method QC limits?			✓		
S9	I	SERIAL DILUTIONS, POST DIGESTION SPIKES, AND METHOD OF STANDARD ADDITIONS					
		1) Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			✓		
S10	OI	METHOD DETECTION LIMIT (MDL) STUDIES					
		1) Was a MDL study performed for each reported analyte?	✓				
S11	OI	PROFICIENCY TEST REPORTS					
		1) Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	✓				
S12	OI	STANDARDS DOCUMENTATION					
		1) Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	✓				
S13	OI	COMPOUND/ANALYTE IDENTIFICATION PROCEDURES					
		1) Are the procedures for compound/analyte identification documented?	✓				
S14	OI	DEMONSTRATION OF ANALYST COMPETENCY (DOC)					
		1) Was DOC conducted consistent with NELAC Chapter 5C?	✓				
S15	OI	VERIFICATION/VALIDATION DOCUMENTATION FOR METHODS (NELAC)					
		1) Are all the methods used to generate the data documented, verified, and validated, where applicable?	✓				
S16	OI	LABORATORY STANDARD OPERATING PROCEDURES (SOPS)					
		1) Are the laboratory SOPs current and on file for each method performed?	✓				

1 Items identified by the letter "R" should be included in the laboratory data package submitted to the PCBQ in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.

2 O = organic analyses; I = inorganic analyses (and general chemistry, when applicable).

3 NA = Not applicable. 4 NR = Not Reviewed.

5 ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked)

CLIENT: HBC/Terracon
Project: Federal Express
Lab Order: 0503190

CASE NARRATIVE

Samples were analyzed using the methods outlined in the following references:

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition.

Method SW8021B - Volatile Organic by GC

Method TX1005 - Total Petroleum Hydrocarbons

DHL Analytical is not NELAC accredited for TPH analysis in water.

Exception Report R1-01

Samples were received and log-in performed on 3/23/05. A total of 10 samples were received. The samples arrived in good condition and were properly packaged.

Exception Report R4-02

For TPH analysis the surrogate recovery for samples MW-4 and MW-2 were above control limits for 1-Chlorooctane. This is due to the surrogate co-eluting with the sample. No further corrective actions were taken.

DATA REPORTING

Sample reports include the Sample Quantitation Limit (SQL) and the Reporting Limit (RL) for each analyte. The computer system allows for reporting SQL with 2 significant figures and the RL with 3 significant figures. Because of rounding it may sometimes appear that a "J" flagged result is lower than the SQL if the sample result is very near the SQL.

CLIENT: HBC/Terracon
Project: Federal Express
Lab Order: 0503190

Work Order Sample Summary

Lab Sam I	Client Sample ID	Tag Number	Collection Date	Date Recved
0503190-01	MW-10		3/22/2005 2:45:00 P	3/23/2005
0503190-02	MW-11		3/22/2005 3:00:00 P	3/23/2005
0503190-03	MW-9		3/22/2005 3:15:00 P	3/23/2005
0503190-04	MW-5		3/22/2005 3:25:00 P	3/23/2005
0503190-05	MW-7		3/22/2005 3:45:00 P	3/23/2005
0503190-06	MW-4		3/22/2005 4:15:00 P	3/23/2005
0503190-07	MW-3		3/23/2005 1:30:00 P	3/23/2005
0503190-08	MW-2		3/23/2005 1:45:00 P	3/23/2005
0503190-09	MW-1		3/23/2005 2:00:00 P	3/23/2005
0503190-10	MW-8		3/23/2005 2:15:00 P	3/23/2005

Lab Order: 0503190
 Client: HBC/Terracon
 Project: Federal Express

PREP DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
0503190-01A	MW-10	3/22/2005 2:45:00 PM	Aqueous	SW5030B	Purge and Trap Water GC	3/24/2005 8:49:00 AM	18640
0503190-02A	MW-11	3/22/2005 3:00:00 PM	Aqueous	SW5030B	Purge and Trap Water GC	3/24/2005 8:49:00 AM	18640
	MW-11	3/22/2005 3:00:00 PM	Aqueous	SW5030B	Purge and Trap Water GC	3/24/2005 8:49:00 AM	18640
0503190-03A	MW-9	3/22/2005 3:15:00 PM	Aqueous	SW5030B	Purge and Trap Water GC	3/24/2005 8:49:00 AM	18640
0503190-04A	MW-5	3/22/2005 3:25:00 PM	Aqueous	SW5030B	Purge and Trap Water GC	3/24/2005 8:49:00 AM	18640
0503190-04B	MW-5	3/22/2005 3:25:00 PM	Aqueous	TX1005	TX1005 Water Prep	3/28/2005 9:24:52 AM	18722
0503190-05A	MW-7	3/22/2005 3:45:00 PM	Aqueous	SW5030B	Purge and Trap Water GC	3/24/2005 8:49:00 AM	18640
0503190-06A	MW-4	3/22/2005 4:15:00 PM	Aqueous	SW5030B	Purge and Trap Water GC	3/24/2005 8:49:00 AM	18640
	MW-4	3/22/2005 4:15:00 PM	Aqueous	SW5030B	Purge and Trap Water GC	3/24/2005 8:49:00 AM	18640
	MW-4	3/22/2005 4:15:00 PM	Aqueous	SW5030B	Purge and Trap Water GC	3/24/2005 8:49:00 AM	18640
0503190-06B	MW-4	3/22/2005 4:15:00 PM	Aqueous	TX1005	TX1005 Water Prep	3/28/2005 9:24:52 AM	18722
0503190-07A	MW-3	3/23/2005 1:30:00 PM	Aqueous	SW5030B	Purge and Trap Water GC	3/24/2005 8:49:00 AM	18640
	MW-3	3/23/2005 1:30:00 PM	Aqueous	SW5030B	Purge and Trap Water GC	3/24/2005 8:49:00 AM	18640
0503190-08A	MW-2	3/23/2005 1:45:00 PM	Aqueous	SW5030B	Purge and Trap Water GC	3/24/2005 8:49:00 AM	18640
	MW-2	3/23/2005 1:45:00 PM	Aqueous	SW5030B	Purge and Trap Water GC	3/24/2005 8:49:00 AM	18640
	MW-2	3/23/2005 1:45:00 PM	Aqueous	SW5030B	Purge and Trap Water GC	3/24/2005 8:49:00 AM	18640
0503190-08B	MW-2	3/23/2005 1:45:00 PM	Aqueous	TX1005	TX1005 Water Prep	3/28/2005 9:24:52 AM	18722
0503190-09A	MW-1	3/23/2005 2:00:00 PM	Aqueous	SW5030B	Purge and Trap Water GC	3/24/2005 8:49:00 AM	18640
	MW-1	3/23/2005 2:00:00 PM	Aqueous	SW5030B	Purge and Trap Water GC	3/24/2005 8:49:00 AM	18640
0503190-10A	MW-8	3/23/2005 2:15:00 PM	Aqueous	SW5030B	Purge and Trap Water GC	3/24/2005 8:49:00 AM	18640
	MW-8	3/23/2005 2:15:00 PM	Aqueous	SW5030B	Purge and Trap Water GC	3/24/2005 8:49:00 AM	18640

Lab Order: 0503190
 Client: HBC/Terracon
 Project: Federal Express

ANALYTICAL DATA REPORT

Sample ID	Client Sample ID	Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
0503190-01A	MW-10	Aqueous	SW8021B	BTEX\MTBE Water	18640	1	3/24/2005 12:19:15 PM	GC9_050324A
0503190-02A	MW-11	Aqueous	SW8021B	BTEX\MTBE Water	18640	5	3/24/2005 6:18:49 PM	GC9_050324A
	MW-11	Aqueous	SW8021B	BTEX\MTBE Water	18640	20	3/24/2005 2:41:20 PM	GC9_050324A
0503190-03A	MW-9	Aqueous	SW8021B	BTEX\MTBE Water	18640	1	3/24/2005 1:30:13 PM	GC9_050324A
0503190-04A	MW-5	Aqueous	SW8021B	BTEX\MTBE Water	18640	50	3/24/2005 2:59:04 PM	GC9_050324A
0503190-04B	MW-5	Aqueous	TX1005	Tx1005 TPH Water	18722	1	3/28/2005 3:27:46 PM	GC12_050328B
0503190-05A	MW-7	Aqueous	SW8021B	BTEX\MTBE Water	18640	1	3/24/2005 1:47:54 PM	GC9_050324A
0503190-06A	MW-4	Aqueous	SW8021B	BTEX\MTBE Water	18640	5	3/24/2005 6:01:01 PM	GC9_050324A
	MW-4	Aqueous	SW8021B	BTEX\MTBE Water	18640	50	3/24/2005 5:07:32 PM	GC9_050324A
	MW-4	Aqueous	SW8021B	BTEX\MTBE Water	18640	200	3/24/2005 3:16:51 PM	GC9_050324A
0503190-06B	MW-4	Aqueous	TX1005	Tx1005 TPH Water	18722	1	3/28/2005 3:33:24 PM	GC12_050328B
0503190-07A	MW-3	Aqueous	SW8021B	BTEX\MTBE Water	18640	50	3/24/2005 3:53:25 PM	GC9_050324A
	MW-3	Aqueous	SW8021B	BTEX\MTBE Water	18640	1	3/24/2005 5:25:25 PM	GC9_050324A
0503190-08A	MW-2	Aqueous	SW8021B	BTEX\MTBE Water	18640	50	3/24/2005 4:11:11 PM	GC9_050324A
	MW-2	Aqueous	SW8021B	BTEX\MTBE Water	18640	1	3/24/2005 5:43:14 PM	GC9_050324A
	MW-2	Aqueous	SW8021B	BTEX\MTBE Water	18640	10	3/24/2005 6:36:37 PM	GC9_050324A
0503190-08B	MW-2	Aqueous	TX1005	Tx1005 TPH Water	18722	1	3/28/2005 3:39:00 PM	GC12_050328B
0503190-09A	MW-1	Aqueous	SW8021B	BTEX\MTBE Water	18640	1	3/24/2005 2:05:40 PM	GC9_050324A
	MW-1	Aqueous	SW8021B	BTEX\MTBE Water	18640	100	3/24/2005 4:49:40 PM	GC9_050324A
0503190-10A	MW-8	Aqueous	SW8021B	BTEX\MTBE Water	18640	1	3/24/2005 3:35:38 PM	GC9_050324A
	MW-8	Aqueous	SW8021B	BTEX\MTBE Water	18640	1	3/24/2005 2:23:31 PM	GC9_050324A

DHL Analytical

Date: 29-Mar-05

CLIENT: HBC/Terracon
 Project Name: Federal Express
 Project No: 96007145
 Lab Order: 0503190

Client Sample ID: MW-10
 Lab ID: 0503190-01
 Collection Date: 3/22/2005 2:45:00 PM
 Matrix: AQUEOUS

Analyses	Result	SQL	RL	Qual	Units	DF	Date Analyzed
VOLATILES IN WATER BY GC		SW8021B		Analyst: DEW			
Methyl tert-butyl ether	ND	2.0	6.00		µg/L	1	3/24/2005 12:19:15 PM
Benzene	ND	0.80	2.00		µg/L	1	3/24/2005 12:19:15 PM
Toluene	ND	2.0	6.00		µg/L	1	3/24/2005 12:19:15 PM
Ethylbenzene	ND	2.0	6.00		µg/L	1	3/24/2005 12:19:15 PM
Xylenes, Total	ND	3.0	9.00		µg/L	1	3/24/2005 12:19:15 PM
Surr: Tetrachloroethene	94.9	0	71-109		%REC	1	3/24/2005 12:19:15 PM

Qualifiers:
 ND - Not Detected at the SQL
 J - Analyte detected between SQL and RL
 B - Analyte detected in the associated Method Blank
 DF- Dilution Factor
 See Final Page of Report for MQLs and MDLs

S - Spike Recovery outside control limits
 C - Sample Result or QC discussed in Case Narrative
 E - TPH pattern not Gas or Diesel Range Pattern
 SQL - Sample Quantitation Limit
 RL - Reporting Limit (MQL adjusted for moisture and sample size)

DHL Analytical

Date: 29-Mar-05

CLIENT: HBC/Terracon
 Project Name: Federal Express
 Project No: 96007145
 Lab Order: 0503190

Client Sample ID: MW-11
 Lab ID: 0503190-02
 Collection Date: 3/22/2005 3:00:00 PM
 Matrix: AQUEOUS

Analyses	Result	SQL	RL	Qual	Units	DF	Date Analyzed
VOLATILES IN WATER BY GC		SW8021B		Analyst: DEW			
Methyl tert-butyl ether	635	10	30.0		µg/L	5	3/24/2005 6:18:49 PM
Benzene	112	4.0	10.0		µg/L	5	3/24/2005 6:18:49 PM
Toluene	1260	40	120		µg/L	20	3/24/2005 2:41:20 PM
Ethylbenzene	737	10	30.0		µg/L	5	3/24/2005 6:18:49 PM
Xylenes, Total	3690	60	180		µg/L	20	3/24/2005 2:41:20 PM
Surr: Tetrachloroethene	92.5	0	71-109		%REC	5	3/24/2005 6:18:49 PM
Surr: Tetrachloroethene	94.0	0	71-109		%REC	20	3/24/2005 2:41:20 PM

Qualifiers: ND - Not Detected at the SQL
 J - Analyte detected between SQL and RL
 B - Analyte detected in the associated Method Blank
 DF - Dilution Factor
 See Final Page of Report for MQLs and MDLs

S - Spike Recovery outside control limits
 C - Sample Result or QC discussed in Case Narrative
 E - TPH pattern not Gas or Diesel Range Pattern
 SQL - Sample Quantitation Limit
 RL - Reporting Limit (MQL adjusted for moisture and sample size)

DHL Analytical

Date: 29-Mar-05

CLIENT: HBC/Tetracon
 Project Name: Federal Express
 Project No: 96007145
 Lab Order: 0503190

Client Sample ID: MW-9
 Lab ID: 0503190-03
 Collection Date: 3/22/2005 3:15:00 PM
 Matrix: AQUEOUS

Analyses	Result	SQL	RL	Qual	Units	DF	Date Analyzed
VOLATILES IN WATER BY GC		SW8021B		Analyst: DEW			
Methyl tert-butyl ether	12.2	2.0	6.00		µg/L	1	3/24/2005 1:30:13 PM
Benzene	ND	0.80	2.00		µg/L	1	3/24/2005 1:30:13 PM
Toluene	ND	2.0	6.00		µg/L	1	3/24/2005 1:30:13 PM
Ethylbenzene	ND	2.0	6.00		µg/L	1	3/24/2005 1:30:13 PM
Xylenes, Total	ND	3.0	9.00		µg/L	1	3/24/2005 1:30:13 PM
Surr: Tetrachloroethene	92.5	0	71-109		%REC	1	3/24/2005 1:30:13 PM

Qualifiers:
 ND - Not Detected at the SQL
 J - Analyte detected between SQL and RL
 B - Analyte detected in the associated Method Blank
 DF - Dilution Factor
 See Final Page of Report for MQLs and MDLs

S - Spike Recovery outside control limits
 C - Sample Result or QC discussed in Case Narrative
 E - TPH pattern not Gas or Diesel Range Pattern
 SQL - Sample Quantitation Limit
 RL - Reporting Limit (MQL adjusted for moisture and sample size)

Page 3 of 10

DHL Analytical

Date: 29-Mar-05

CLIENT: HBC/Terracon
 Project Name: Federal Express
 Project No: 96007145
 Lab Order: 0503190

Client Sample ID: MW-5
 Lab ID: 0503190-04
 Collection Date: 3/22/2005 3:25:00 PM
 Matrix: AQUEOUS

Analyses	Result	SQL	RL	Qual	Units	DF	Date Analyzed
TOTAL PETROLEUM HYDROCARBONS (TPH)		TX1005		Analyst: AJR			
T/R Hydrocarbons: C6-C12	20.6	0.67	1.92		mg/L	1	3/28/2005 3:27:46 PM
T/R Hydrocarbons: >C12-C28	ND	0.67	1.92		mg/L	1	3/28/2005 3:27:46 PM
T/R Hydrocarbons: >C28-C35	ND	0.67	1.92		mg/L	1	3/28/2005 3:27:46 PM
T/R Hydrocarbons: C6-C35	20.6	0.67	1.92		mg/L	1	3/28/2005 3:27:46 PM
Surr: 1-Chlorooctane	143	0	87-147		%REC	1	3/28/2005 3:27:46 PM
Surr: Octacosane	110	0	80-140		%REC	1	3/28/2005 3:27:46 PM
VOLATILES IN WATER BY GC		SW8021B		Analyst: DEW			
Methyl tert-butyl ether	3190	100	300		µg/L	50	3/24/2005 2:59:04 PM
Benzene	4810	40	100		µg/L	50	3/24/2005 2:59:04 PM
Toluene	3860	100	300		µg/L	50	3/24/2005 2:59:04 PM
Ethylbenzene	434	100	300		µg/L	50	3/24/2005 2:59:04 PM
Xylenes, Total	5380	150	450		µg/L	50	3/24/2005 2:59:04 PM
Surr: Tetrachloroethene	98.4	0	71-109		%REC	50	3/24/2005 2:59:04 PM

Qualifiers:
 ND - Not Detected at the SQL
 J - Analyte detected between SQL and RL
 B - Analyte detected in the associated Method Blank
 DF - Dilution Factor
 See Final Page of Report for MQLs and MDLs

S - Spike Recovery outside control limits
 C - Sample Result or QC discussed in Case Narrative
 E - TPH pattern not Gas or Diesel Range Pattern
 SQL - Sample Quantitation Limit
 RL - Reporting Limit (MQL adjusted for moisture and sample size)

DHL Analytical

Date: 29-Mar-05

CLIENT: HBC/Terracon
 Project Name: Federal Express
 Project No: 96007145
 Lab Order: 0503190

Client Sample ID: MW-7
 Lab ID: 0503190-05
 Collection Date: 3/22/2005 3:45:00 PM
 Matrix: AQUEOUS

Analyses	Result	SQL	RL	Qual	Units	DF	Date Analyzed
VOLATILES IN WATER BY GC		SW8021B		Analyst: DEW			
Methyl tert-butyl ether	ND	2.0	6.00		µg/L	1	3/24/2005 1:47:54 PM
Benzene	ND	0.80	2.00		µg/L	1	3/24/2005 1:47:54 PM
Toluene	ND	2.0	6.00		µg/L	1	3/24/2005 1:47:54 PM
Ethylbenzene	ND	2.0	6.00		µg/L	1	3/24/2005 1:47:54 PM
Xylenes, Total	ND	3.0	9.00		µg/L	1	3/24/2005 1:47:54 PM
Surr: Tetrachloroethene	94.7	0	71-109		%REC	1	3/24/2005 1:47:54 PM

Qualifiers: ND - Not Detected at the SQL
 J - Analyte detected between SQL and RL
 B - Analyte detected in the associated Method Blank
 DF- Dilution Factor
 See Final Page of Report for MQLs and MDLs

S - Spike Recovery outside control limits
 C - Sample Result or QC discussed in Case Narrative
 E - TPH pattern not Gas or Diesel Range Pattern
 SQL - Sample Quantitation Limit
 RL - Reporting Limit (MQL adjusted for moisture and sample size)

DHL Analytical

Date: 29-Mar-05

CLIENT: HBC/Terracon
 Project Name: Federal Express
 Project No: 96007145
 Lab Order: 0503190

Client Sample ID: MW-4
 Lab ID: 0503190-06
 Collection Date: 3/22/2005 4:15:00 PM
 Matrix: AQUEOUS

Analyses	Result	SQL	RL	Qual	Units	DF	Date Analyzed
TOTAL PETROLEUM HYDROCARBONS (TPH)		TX1005		Analyst: AJR			
T/R Hydrocarbons: C6-C12	88.4	0.68	1.95		mg/L	1	3/28/2005 3:33:24 PM
T/R Hydrocarbons: >C12-C28	9.19	0.68	1.95		mg/L	1	3/28/2005 3:33:24 PM
T/R Hydrocarbons: >C28-C35	1.3	0.68	1.95	J	mg/L	1	3/28/2005 3:33:24 PM
T/R Hydrocarbons: C6-C35	98.9	0.68	1.95		mg/L	1	3/28/2005 3:33:24 PM
Surr: 1-Chlorooctane	404	0	87-147	S	%REC	1	3/28/2005 3:33:24 PM
Surr: Octacosane	113	0	80-140		%REC	1	3/28/2005 3:33:24 PM
VOLATILES IN WATER BY GC		SW8021B		Analyst: DEW			
Methyl tert-butyl ether	754	10	30.0		µg/L	5	3/24/2005 6:01:01 PM
Benzene	220	4.0	10.0		µg/L	5	3/24/2005 6:01:01 PM
Toluene	2000	100	300		µg/L	50	3/24/2005 5:07:32 PM
Ethylbenzene	868	10	30.0		µg/L	5	3/24/2005 6:01:01 PM
Xylenes, Total	8810	150	450		µg/L	50	3/24/2005 5:07:32 PM
Surr: Tetrachloroethene	91.0	0	71-109		%REC	5	3/24/2005 6:01:01 PM
Surr: Tetrachloroethene	95.2	0	71-109		%REC	50	3/24/2005 5:07:32 PM

Qualifiers:
 ND - Not Detected at the SQL
 J - Analyte detected between SQL and RL
 B - Analyte detected in the associated Method Blank
 DF- Dilution Factor
 See Final Page of Report for MQLs and MDLs

S - Spike Recovery outside control limits
 C - Sample Result or QC discussed in Case Narrative
 E - TPH pattern not Gas or Diesel Range Pattern
 SQL - Sample Quantitation Limit
 RL - Reporting Limit (MQL adjusted for moisture and sample size)

DHL Analytical

Date: 29-Mar-05

CLIENT: HBC/Terracon
 Project Name: Federal Express
 Project No: 96007145
 Lab Order: 0503190

Client Sample ID: MW-3
 Lab ID: 0503190-07
 Collection Date: 3/23/2005 1:30:00 PM
 Matrix: AQUEOUS

Analyses	Result	SQL	RL	Qual	Units	DF	Date Analyzed
VOLATILES IN WATER BY GC		SW8021B		Analyst: DEW			
Methyl tert-butyl ether	47.4	2.0	6.00		µg/L	1	3/24/2005 5:25:25 PM
Benzene	120	0.80	2.00		µg/L	1	3/24/2005 5:25:25 PM
Toluene	23.7	2.0	6.00		µg/L	1	3/24/2005 5:25:25 PM
Ethylbenzene	48.5	2.0	6.00		µg/L	1	3/24/2005 5:25:25 PM
Xylenes, Total	177	3.0	9.00		µg/L	1	3/24/2005 5:25:25 PM
Surr: Tetrachloroethene	94.1	0	71-109		%REC	1	3/24/2005 5:25:25 PM

Qualifiers:
 ND - Not Detected at the SQL
 J - Analyte detected between SQL and RL
 B - Analyte detected in the associated Method Blank
 DF - Dilution Factor
 See Final Page of Report for MQLs and MDLs

S - Spike Recovery outside control limits
 C - Sample Result or QC discussed in Case Narrative
 E - TPH pattern not Gas or Diesel Range Pattern
 SQL - Sample Quantitation Limit
 RL - Reporting Limit (MQL adjusted for moisture and sample size)

DHL Analytical

Date: 29-Mar-05

CLIENT: HBC/Terracon
Project Name: Federal Express
Project No: 96007145
Lab Order: 0503190

Client Sample ID: MW-2
Lab ID: 0503190-08
Collection Date: 3/23/2005 1:45:00 PM
Matrix: AQUEOUS

Analyses	Result	SQL	RL	Qual	Units	DF	Date Analyzed
TOTAL PETROLEUM HYDROCARBONS (TPH)		TX1005		Analyst: AJR			
T/R Hydrocarbons: C6-C12	18.6	0.67	1.92		mg/L	1	3/28/2005 3:39:00 PM
T/R Hydrocarbons: >C12-C28	1.2	0.67	1.92	J	mg/L	1	3/28/2005 3:39:00 PM
T/R Hydrocarbons: >C28-C35	ND	0.67	1.92		mg/L	1	3/28/2005 3:39:00 PM
T/R Hydrocarbons: C6-C35	19.8	0.67	1.92		mg/L	1	3/28/2005 3:39:00 PM
Surr: 1-Chlorooctane	160	0	87-147	S	%REC	1	3/28/2005 3:39:00 PM
Surr: Octacosane	108	0	80-140		%REC	1	3/28/2005 3:39:00 PM
VOLATILES IN WATER BY GC		SW8021B		Analyst: DEW			
Methyl tert-butyl ether	242	20	60.0		µg/L	10	3/24/2005 6:36:37 PM
Benzene	30.5	0.80	2.00		µg/L	1	3/24/2005 5:43:14 PM
Toluene	104	2.0	6.00		µg/L	1	3/24/2005 5:43:14 PM
Ethylbenzene	513	20	60.0		µg/L	10	3/24/2005 6:36:37 PM
Xylenes, Total	7500	150	450		µg/L	50	3/24/2005 4:11:11 PM
Surr: Tetrachloroethene	94.0	0	71-109		%REC	10	3/24/2005 6:36:37 PM
Surr: Tetrachloroethene	93.7	0	71-109		%REC	1	3/24/2005 5:43:14 PM
Surr: Tetrachloroethene	97.6	0	71-109		%REC	50	3/24/2005 4:11:11 PM

Qualifiers:
 ND - Not Detected at the SQL
 J - Analyte detected between SQL and RL
 B - Analyte detected in the associated Method Blank
 DF - Dilution Factor
 See Final Page of Report for MQLs and MDLs

S - Spike Recovery outside control limits
 C - Sample Result or QC discussed in Case Narrative
 E - TPH pattern not Gas or Diesel Range Pattern
 SQL - Sample Quantitation Limit
 RL - Reporting Limit (MQL adjusted for moisture and sample size)

DHL Analytical

Date: 29-Mar-05

CLIENT: HBC/Terracon
 Project Name: Federal Express
 Project No: 96007145
 Lab Order: 0503190

Client Sample ID: MW-1
 Lab ID: 0503190-09
 Collection Date: 3/23/2005 2:00:00 PM
 Matrix: AQUEOUS

Analyses	Result	SQL	RL	Qual	Units	DF	Date Analyzed
VOLATILES IN WATER BY GC		SW8021B		Analyst: DEW			
Methyl tert-butyl ether	192	2.0	6.00		µg/L	1	3/24/2005 2:05:40 PM
Benzene	190	0.80	2.00		µg/L	1	3/24/2005 2:05:40 PM
Toluene	835	200	600		µg/L	100	3/24/2005 4:49:40 PM
Ethylbenzene	175	2.0	6.00		µg/L	1	3/24/2005 2:05:40 PM
Xylenes, Total	9180	300	900		µg/L	100	3/24/2005 4:49:40 PM
Surr: Tetrachloroethene	96.2	0	71-109		%REC	100	3/24/2005 4:49:40 PM
Surr: Tetrachloroethene	94.5	0	71-109		%REC	1	3/24/2005 2:05:40 PM

Qualifiers:

ND - Not Detected at the SQL
 J - Analyte detected between SQL and RL
 B - Analyte detected in the associated Method Blank
 DF - Dilution Factor
 See Final Page of Report for MQLs and MDLs

S - Spike Recovery outside control limits
 C - Sample Result or QC discussed in Case Narrative
 E - TPH pattern not Gas or Diesel Range Pattern
 SQL - Sample Quantitation Limit
 RL - Reporting Limit (MQL adjusted for moisture and sample size)

DHL Analytical

Date: 29-Mar-05

CLIENT: HBC/Terracon
 Project Name: Federal Express
 Project No: 96007145
 Lab Order: 0503190

Client Sample ID: MW-8
 Lab ID: 0503190-10
 Collection Date: 3/23/2005 2:15:00 PM
 Matrix: AQUEOUS

Analyses	Result	SQL	RL	Qual	Units	DF	Date Analyzed
VOLATILES IN WATER BY GC		SW8021B		Analyst: DEW			
Methyl tert-butyl ether	11.9	2.0	6.00		µg/L	1	3/24/2005 3:35:38 PM
Benzene	20.2	0.80	2.00		µg/L	1	3/24/2005 3:35:38 PM
Toluene	5.3	2.0	6.00	J	µg/L	1	3/24/2005 3:35:38 PM
Ethylbenzene	8.25	2.0	6.00		µg/L	1	3/24/2005 3:35:38 PM
Xylenes, Total	44.2	3.0	9.00		µg/L	1	3/24/2005 3:35:38 PM
Surr: Tetrachloroethene	89.1	0	71-109		%REC	1	3/24/2005 3:35:38 PM

Qualifiers:
 ND - Not Detected at the SQL
 J - Analyte detected between SQL and RL
 B - Analyte detected in the associated Method Blank
 DF - Dilution Factor
 See Final Page of Report for MPLs and MDLs

S - Spike Recovery outside control limits
 C - Sample Result or QC discussed in Case Narrative
 E - TPH pattern not Gas or Diesel Range Pattern
 SQL - Sample Quantitation Limit
 RL - Reporting Limit (MQL adjusted for moisture and sample size)

CLIENT: HBC/Terracon
 Work Order: 0503190
 Project: Federal Express

ANALYTICAL QC SUMMARY REPORT

RunID: GC12_050328B

Sample ID: MB-18722	Batch ID: 18722	TestNo: TX1005	Units: mg/L
SampType: MBLK	Run ID: GC12_050328B	Analysis Date: 3/28/2005 2:14:48 PM	Prep Date: 3/28/2005

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C6-C12	ND	2								
T/R Hydrocarbons: >C12-C28	ND	2								
T/R Hydrocarbons: >C28-C35	ND	2								
T/R Hydrocarbons: C6-C35	ND	2								
Surr: 1-Chlorooctane	2.775	0	2.5	0	111	87	147	0		
Surr: Octacosane	2.768	0	2.5	0	111	80	140	0		

Sample ID: LCS-18722	Batch ID: 18722	TestNo: TX1005	Units: mg/L
SampType: LCS	Run ID: GC12_050328B	Analysis Date: 3/28/2005 2:08:59 PM	Prep Date: 3/28/2005

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C6-C35	26.21	2	25	0	105	75	125	0		
Surr: 1-Chlorooctane	3.496	0	2.5	0	140	113	173	0		
Surr: Octacosane	2.859	0	2.5	0	114	80	140	0		

Sample ID: 0503188-04B MS	Batch ID: 18722	TestNo: TX1005	Units: mg/L
SampType: MS	Run ID: GC12_050328B	Analysis Date: 3/28/2005 4:13:09 PM	Prep Date: 3/28/2005

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C6-C35	24.92	1.9	23.73	0	105	75	125	0		
Surr: 1-Chlorooctane	3.385	0	2.373	0	143	113	173	0		
Surr: Octacosane	2.491	0	2.373	0	105	80	140	0		

Sample ID: 0503188-04B MSD	Batch ID: 18722	TestNo: TX1005	Units: mg/L
SampType: MSD	Run ID: GC12_050328B	Analysis Date: 3/28/2005 4:35:37 PM	Prep Date: 3/28/2005

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C6-C35	28.18	1.95	24.35	0	116	75	125	12.3	30	
Surr: 1-Chlorooctane	3.632	0	2.435	0	149	113	173	0	0	
Surr: Octacosane	2.575	0	2.435	0	106	80	140	0	0	

Sample ID: CCV3-050328	Batch ID: R21525	TestNo: TX1005	Units: mg/L
SampType: CCV	Run ID: GC12_050328B	Analysis Date: 3/28/2005 12:41:03 PM	Prep Date:

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C6-C12	297.8	2	0	0	0	0	0	0		
T/R Hydrocarbons: >C12-C28	260.6	2	0	0	0	0	0	0		
T/R Hydrocarbons: >C28-C35	ND	2	0	0	0	0	0	0		
T/R Hydrocarbons: C6-C35	558.4	2	500	0	112	75	125	0		
Surr: 1-Chlorooctane	44.68	0	25	0	179	140	195	0		

Qualifiers: ND - Not Detected at the Method Detection Limit
 J - Analyte detected below quantitation limits
 S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits
 B - Analyte detected in the associated Method Blank

CLIENT: HBC/Terracon
 Work Order: 0503190
 Project: Federal Express

ANALYTICAL QC SUMMARY REPORT

RunID: GC12_050328B

Sample ID: CCV3-050328	Batch ID: R21525	TestNo: TX1005	Units: mg/L							
SampType: CCV	Run ID: GC12_050328B	Analysis Date: 3/28/2005 12:41:03 PM	Prep Date:							
Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: Octacosane	29.19	0	25	0	117	85	133	0		

Sample ID: CCV4-050328	Batch ID: R21525	TestNo: TX1005	Units: mg/L							
SampType: CCV	Run ID: GC12_050328B	Analysis Date: 3/28/2005 3:05:33 PM	Prep Date:							
Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C6-C12	325	2	0	0	0	0	0	0		
T/R Hydrocarbons: >C12-C28	272.6	2	0	0	0	0	0	0		
T/R Hydrocarbons: >C28-C35	ND	2	0	0	0	0	0	0		
T/R Hydrocarbons: C6-C35	597.6	2	500	0	120	75	125	0		
Surr: 1-Chlorooctane	48.37	0	25	0	193	140	195	0		
Surr: Octacosane	29.57	0	25	0	118	85	133	0		

Sample ID: CCV5-050328	Batch ID: R21525	TestNo: TX1005	Units: mg/L							
SampType: CCV	Run ID: GC12_050328B	Analysis Date: 3/28/2005 4:30:01 PM	Prep Date:							
Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C6-C12	316.3	2	0	0	0	0	0	0		
T/R Hydrocarbons: >C12-C28	266.2	2	0	0	0	0	0	0		
T/R Hydrocarbons: >C28-C35	0.04296	2	0	0	0	0	0	0		
T/R Hydrocarbons: C6-C35	582.6	2	500	0	117	75	125	0		
Surr: 1-Chlorooctane	47.38	0	25	0	190	140	195	0		
Surr: Octacosane	28.31	0	25	0	113	85	133	0		

Sample ID: CCV6-050328	Batch ID: R21525	TestNo: TX1005	Units: mg/L							
SampType: CCV	Run ID: GC12_050328B	Analysis Date: 3/28/2005 4:41:34 PM	Prep Date:							
Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C6-C12	320.5	2	0	0	0	0	0	0		
T/R Hydrocarbons: >C12-C28	273.7	2	0	0	0	0	0	0		
T/R Hydrocarbons: >C28-C35	0.03335	2	0	0	0	0	0	0		
T/R Hydrocarbons: C6-C35	594.2	2	500	0	119	75	125	0		
Surr: 1-Chlorooctane	47.91	0	25	0	192	140	195	0		
Surr: Octacosane	30.86	0	25	0	123	85	133	0		

Sample ID: ICV-050328	Batch ID: R21525	TestNo: TX1005	Units: mg/L							
SampType: ICV	Run ID: GC12_050328B	Analysis Date: 3/28/2005 9:39:51 AM	Prep Date:							
Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C6-C12	559.6	2	0	0	0	0	0	0		
T/R Hydrocarbons: >C12-C28	657.7	2	0	0	0	0	0	0		

Qualifiers: ND - Not Detected at the Method Detection Limit R - RPD outside accepted recovery limits
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank
 S - Spike Recovery outside accepted recovery limits

CLIENT: HBC/Terracon
Work Order: 0503190
Project: Federal Express

ANALYTICAL QC SUMMARY REPORT

RunID: GC12_050328B

Sample ID: ICV-050328	Batch ID: R21525	TestNo: TX1005	Units: mg/L
SampType: ICV	Run ID: GC12_050328B	Analysis Date: 3/28/2005 9:39:51 AM	Prep Date:

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
T/R Hydrocarbons: >C28-C35	1.836	2	0	0	0	0	0	0	0	
T/R Hydrocarbons: C6-C35	1219	2	1000	0	122	75	125	0		
Surr: 1-Chlorooctane	91.61	0	50	0	183	140	195	0		
Surr: Octacosane	53.65	0	50	0	107	85	133	0		

Qualifiers: ND - Not Detected at the Method Detection Limit
 J - Analyte detected below quantitation limits
 S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits
 B - Analyte detected in the associated Method Blank

CLIENT: HBC/Terracon
 Work Order: 0503190
 Project: Federal Express

ANALYTICAL QC SUMMARY REPORT

RunID: GC9_050324A

Sample ID: MB-18640	Batch ID: 18640	TestNo: SW8021B	Units: µg/L
SampType: MBLK	Run ID: GC9_050324A	Analysis Date: 3/24/2005 10:14:45 AM	Prep Date: 3/24/2005

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether	ND	6								
Benzene	ND	2								
Toluene	ND	6								
Ethylbenzene	ND	6								
Xylenes, Total	ND	9								
Surr: Tetrachloroethene	185.3	0	200	0	92.6	71	109	0		

Sample ID: LCS-18640	Batch ID: 18640	TestNo: SW8021B	Units: µg/L
SampType: LCS	Run ID: GC9_050324A	Analysis Date: 3/24/2005 9:56:57 AM	Prep Date: 3/24/2005

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether	53.2	6	50	0	106	78	122	0		
Benzene	52.2	2	50	0	104	81	125	0		
Toluene	50.58	6	50	0	101	84	123	0		
Ethylbenzene	51.81	6	50	0	104	83	119	0		
Xylenes, Total	165.4	9	150	0	110	81	117	0		
Surr: Tetrachloroethene	190.4	0	200	0	95.2	71	109	0		

Sample ID: 0503190-01A MS	Batch ID: 18640	TestNo: SW8021B	Units: µg/L
SampType: MS	Run ID: GC9_050324A	Analysis Date: 3/24/2005 12:37:02 PM	Prep Date: 3/24/2005

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether	53.37	6	50	0	107	78	122	0		
Benzene	51.67	2	50	0	103	81	125	0		
Toluene	49.55	6	50	0	99.1	84	123	0		
Ethylbenzene	50.02	6	50	0	100	83	119	0		
Xylenes, Total	159.4	9	150	0	106	81	117	0		
Surr: Tetrachloroethene	190.9	0	200	0	95.5	71	109	0		

Sample ID: 0503190-01A MSD	Batch ID: 18640	TestNo: SW8021B	Units: µg/L
SampType: MSD	Run ID: GC9_050324A	Analysis Date: 3/24/2005 12:54:46 PM	Prep Date: 3/24/2005

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether	55.59	6	50	0	111	78	122	4.08	20	
Benzene	52.6	2	50	0	105	81	125	1.78	20	
Toluene	49.84	6	50	0	99.7	84	123	0.592	20	
Ethylbenzene	51.17	6	50	0	102	83	119	2.28	20	
Xylenes, Total	162.7	9	150	0	108	81	117	2.05	20	
Surr: Tetrachloroethene	191.2	0	200	0	95.6	71	109	0	0	

Qualifiers: ND - Not Detected at the Method Detection Limit
 J - Analyte detected below quantitation limits
 S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits
 B - Analyte detected in the associated Method Blank

CLIENT: HBC/Terracon
 Work Order: 0503190
 Project: Federal Express

ANALYTICAL QC SUMMARY REPORT

RunID: GC9_050324A

Sample ID: CCV1-050324	Batch ID: R21505	TestNo: SW8021B	Units: µg/L							
SampType: CCV	Run ID: GC9_050324A	Analysis Date: 3/24/2005 1:12:30 PM	Prep Date:							
Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether	53.06	8	50	0	106	80	120	0		
Benzene	51.81	2	50	0	104	85	115	0		
Toluene	49.94	6	50	0	99.9	85	115	0		
Ethylbenzene	50.39	6	50	0	101	85	115	0		
Xylenes, Total	160.5	9	150	0	107	85	115	0		
Surr: Tetrachloroethene	190.9	0	200	0	95.4	71	109	0		

Sample ID: CCV2-050324	Batch ID: R21505	TestNo: SW8021B	Units: µg/L							
SampType: CCV	Run ID: GC9_050324A	Analysis Date: 3/24/2005 4:31:45 PM	Prep Date:							
Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether	46.74	6	50	0	93.5	80	120	0		
Benzene	49.37	2	50	0	98.7	85	115	0		
Toluene	47.96	6	50	0	95.9	85	115	0		
Ethylbenzene	48.3	6	50	0	96.6	85	115	0		
Xylenes, Total	154.6	9	150	0	103	85	115	0		
Surr: Tetrachloroethene	185.6	0	200	0	92.8	71	109	0		

Sample ID: CCV3-050324	Batch ID: R21505	TestNo: SW8021B	Units: µg/L							
SampType: CCV	Run ID: GC9_050324A	Analysis Date: 3/24/2005 7:11:58 PM	Prep Date:							
Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether	51.41	6	50	0	103	80	120	0		
Benzene	52.58	2	50	0	105	85	115	0		
Toluene	51.41	6	50	0	103	85	115	0		
Ethylbenzene	52.2	6	50	0	104	85	115	0		
Xylenes, Total	165.8	9	150	0	111	85	115	0		
Surr: Tetrachloroethene	193.1	0	200	0	96.6	71	109	0		

Sample ID: ICV-050324	Batch ID: R21505	TestNo: SW8021B	Units: µg/L							
SampType: ICV	Run ID: GC9_050324A	Analysis Date: 3/24/2005 9:39:14 AM	Prep Date:							
Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether	101.5	6	100	0	101	80	120	0		
Benzene	99.89	2	100	0	99.9	85	115	0		
Toluene	98.58	6	100	0	98.6	85	115	0		
Ethylbenzene	100.8	6	100	0	101	85	115	0		
Xylenes, Total	312.5	9	300	0	104	85	115	0		
Surr: Tetrachloroethene	188.6	0	200	0	94.3	71	109	0		

Qualifiers: ND - Not Detected at the Method Detection Limit
 J - Analyte detected below quantitation limits
 S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits
 B - Analyte detected in the associated Method Blank

CLIENT: HBC/Terracon
Work Order: 0503190
Project: Federal Express

SQL SUMMARY REPORT

TestNo: TX1005	MDL	SQL
Analyte	mg/L	mg/L
T/R Hydrocarbons: C6-C12	0.7	2
T/R Hydrocarbons: >C12-C28	0.7	2
T/R Hydrocarbons: >C28-C35	0.7	2
T/R Hydrocarbons: C6-C35	0.7	2

TestNo: SW8021B	MDL	SQL
Analyte	µg/L	µg/L
Methyl tert-butyl ether	2	6
Benzene	0.8	2
Toluene	2	6
Ethylbenzene	2	6
Xylenes, Total	3	9

Qualifiers: SQL -Method Quantitation Limit as defined by TRRP
MDL -Method Detection Limit as defined by TRRP

Appendix B



May 2, 2005

Mr. Saul Garza
HBC-Terracon
5307 Industrial Oaks Blvd
Austin, TX 78735

**Subject: High Vacuum Multi-phase Extraction (HVME)
12 Hr HVME Event with Offgas Treatment (750-CFM Thermal Oxidizer)**

**HVME Event No. 2
Federal Express
5811 Technicenter
Austin, TX**

Dear Mr. Garza:

The following report summarizes data collected during the 12-hour High Vacuum Multi-phase Extraction (HVME) event conducted at the above subject site on 3/17/2005, by EnVac Environmental Services. The objective of the HVME treatment (HVME Event No.2 – 12-hour event) was to remove both vapor and phase separated hydrocarbons (PSH) from groundwater monitor wells for a period of 24-hours. However, due to the high volume of groundwater being generated and the relatively low vapor concentrations generated, a decision was made by the client to cease the event at 12-hours. Offgas vapors from the KingVac emission stacks were destroyed using a propane-fired 750-SCFM thermal oxidizer.

Groundwater Drawdown Information

Groundwater elevation and PSH thickness data were recorded prior to and immediately following HVME Event No.2. The data is located in TABLE 4 of the attached Field Data Record. Prior to the event, 1 of the 5 monitor wells gauged reported measurable levels of phase-separated-hydrocarbons. The maximum reported PSH thickness prior to and after the HVME event was 0.50 to 0.00 feet. Final changes in corrected water level elevations measured in the monitor wells ranged between approximately -0.19 feet to -0.92 feet (see TABLE 4 – Groundwater Drawdown Data). Following the HVME event, 0 of the 5 monitor wells had measurable amounts of PSH (see TABLE 4 – Groundwater Drawdown Data). All extraction wells were gauged within ten minutes of removal from the extraction array.

A combined estimated total of 26 equivalent gallons of petroleum hydrocarbons were removed during HVME Event No.2. The combined volume of hydrocarbons removed was comprised of approximately 10 gallons (62 pounds) as PSH and approximately 16.31 equivalent gallons (101.13 pounds) as offgas vapor. At the conclusion of HVME Event No.2, approximately 9,600 gallons of recovered liquids were measured in the vacuum tank.

Summary of Field Activities

Activities during the 12-hour HVME event progressed as follows:

3/17/2005

5:45 PM Thursday	EnVac personnel (Brian Burgess, David Krier, Mike O'Dell) arrived on site, set up KingVac for vapor treatment (i.e., 750 SCFM thermal oxidizer). Unpacked submersible pumps, generator, pump controllers, and miscellaneous supplies. Saul Garza arrived shortly after Brina Burgess left and David and Saul reviewed wells to extract from.
7:00 PM	Placed submersible pumps into wells MW-1 (3-inch Grunfos), MW-5 (2.0-inch Tsunami), and MW-6 (2.0 inch Grunfos). Discharge from all three pumps were run into 55-gallons drum before being evacuated with a 2-inch vacuum to the KingVac. We were able to measure discharge rates from each of the three (3) wells independently while letting the other two pumps discharge directly to KingVac vacuum line.
8:30 PM	Started pumping with vacuum.
9:00 PM	Drawdown was measured in all three pumping wells. See page 3 of this Report. Drawdown vacuum, and air

FAX TRANSMITTAL**Terracon**

Consulting Engineers & Scientists
 5307 Industrial Oaks Blvd. #160
 Austin, Texas 78735
 Phone - 512.442.1122
 Fax - 512.442.1181

To: <u>Christine Elliot</u>	From: <u>Russ Ford</u>
Company: <u>TCEQ/PST</u>	Office: <u>Austin, Texas</u>
Fax No.: <u>239-2216</u>	Date: _____
Phone No.: _____	Phone/Fax <u>512-442-1122 / 512-442-1181</u>
Total Pages Including the Cover: _____	

Remarks:

Christine
 Attached is some background info from Envac on how they calculate the recovery rate. Apparently, the spreadsheet they use in the report automatically calculates these rates. Also attached are the summary tables of soil analytical results & some site maps showing sampling locations. Call if you need anything else.

Thanks,
Russ Ford

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Geotechnical – Environmental – Materials Testing – Pavement – Facilities

Texas Locations

Austin	Houston	Midland	San Antonio
Dallas	Laredo	Pharr	Texas City
Ft. Worth	Lufkin	Round Rock	Wichita Falls

Additional Terracon Offices Located Nationwide

www.terracon.com

EnVac Environmental Services

FIELD DATA COLLECTION PROCEDURES **for Mobile Dual Phase Extraction (MDPE)**

The data collected during MDPE is made up primarily of:

MONITOR/RECOVERY WELL GAUGING DATA

Static groundwater level and phase separated hydrocarbon thickness, if applicable, is measured from the Top of Casing (TOC) before and immediately after the MDPE event. Field data also includes estimated total PSH measurable as liquid phase in the vacuum tank at the end of the MDPE event.

TPH CONCENTRATIONS IN VAPOR PHASE

Field Screening Instrumentation

Average total petroleum hydrocarbon (TPH) concentration is measured in parts per million (ppm) during a particular sampling time interval (i.e., 30 minutes). TPH concentrations are measured using a catalytic combustion unit (i.e., Bacharach TLV Sniffer - calibrated to 500 ppm Hexane) and/or a flame ionization detector (FID) which is calibrated to methane. Total pounds of petroleum hydrocarbons are calculated and converted to liquid equivalents (see calculations at bottom of this document).

Laboratory Air Samples

An air sample (one-liter tedlar bag) is gathered during the extraction event from an influent line to the thermal oxidizer. This sample represents TPH vapors extracted from *extraction wells* and also contains dilution (ambient) air introduced between the *extraction well* and the thermal oxidizer. Analytical values for BTEX and TPH can be used to apply a correction factor, if necessary, to TPH concentrations measured with a field screening instrument (i.e., combustible gas indicator, FID, PID, etc.).

Effluent limits for Portable Thermal Oxidizer

The laboratory data is also used to verify thermal oxidizer influent and effluent values for benzene. The assumed destruction efficiency (i.e., 99%) of the thermal oxidizer and the benzene influent value from the tedlar bag sample are used to confirm that maximum benzene air effluent limits (0.008 lbs/hr) are not exceeded.

AIR FLOW RATE MEASUREMENTS and CALCULATIONS

The velocity of air, measured in feet per minute (FPM), moving through a known size diameter pipe is determined with a field instrument (i.e., magneheic, thermal anemometer, tec.). Flow rate in standard cubic feet per minute (SCFM) is measured between the effluent of the Liquid Ring Pump and the influent to the thermal oxidizer. A *Dwyer thermal anemometer* is used to measure the process stream velocity directly through an eight (8) foot long section of 8-inch SCH 80 PVC pipe, immediately before the process stream enters the thermal oxidizer. A chart is used in the field to convert from velocity in feet per minute (FPM) to flow (SCFM).

VACUUM

Vacuum is measured at the inlet of the KingVac (liquid ring unit) and at the well heads where extraction is taking place. Vacuum is measured at the inlet and well head in inches of Hg. The vacuum tank inlet vacuum typically ranges between 19 and 24 inches of Hg depending upon the permeability of the screened geologic materials that the vacuum is applied to. Periodically, differential pressure measurements may be collected from nearby monitor wells that are used as vacuum radius observation points (measured in inches of water column using a digital manometer-Dwyer).

DILUTION AIR

At some sites, because of low formation permeability, and subsequent low airflow, the vacuum within the vacuum tank rises to levels approaching 26 inches of Hg. When this occurs, in order to prevent pump cavitation, a vacuum relief valve located on the liquid ring vacuum pump will automatically begin to open and allow *dilution air* into the process stream.

During normal remediation events we measure both the air stream velocity (calculated flow) and vapor concentration "downstream" from the pump along an 8-inch diameter influent pipe to the thermal oxidizer. This "downstream" measurement location gives us a value for the cumulative airflow (i.e., usually multiple extraction wells, relief valve on liquid ring pump, and two other relief valve locations on the KingVac, when needed, to bring down high hydrocarbon vapor concentrations before they enter the thermal oxidizer).

At the wellhead, dilution air or bleed air is occasionally introduced to the extraction in order to aid in the lifting of liquids from wells (*this aids in the dual phase or multi-phase removal process, by drawing the static liquid level in the well down and exposing contaminated soil to the stripping effects of subsurface air movement*).

TOTAL HYDROCARBON MASS REMOVAL CALCULATION

EnVac's calculations, as shown in the Field Data portion of each MDPE Event report, utilize the following equations that can also be found in the June, 1989 EPA publication, "Estimating Air Emissions from Petroleum UST Cleanups".

1. $FPM \bullet 3.1416 \bullet (\text{Inside pipe diameter}/12)^2 / 4 = \text{SCFM}$.
2. $\text{SCFM} \bullet \text{PPMV} \bullet 1440 \bullet 86 \text{ (VMW)} \bullet \text{Time (minutes)} / 24,000,000 \bullet 60 \bullet 379 \bullet = \text{lbs/hour TPH}$.
3. $ER = (Q \bullet C \bullet MW \bullet 1.581 \cdot 10^{-7}) = \text{Emissions Rate} = \text{lbs./hr. TPH}$

FPM: Feet Per Minute	VMW: Vapor Molecular Weight
SCFM: Standard Cubic Feet per Minute	ER: Emissions Rate
PPMV: Parts Per Million Volatile	Q: SCFM (flow rate)
C: PPMV	MW: Molecular Weight (g/mol) – 86 for gasoline
Gasoline: approximately 86 g/mol	Gasoline: 6.2 lbs/gal (API)
Diesel: approximately 130 g/mol	Diesel: approximately 6.5 lbs/gal (API)

	<i>flow rates remained steady and consistent throughout entire event.</i>
11:30 PM	<i>Offloaded first tank full of liquids into frac tank. At this time, EnVac personnel ran discharge lines from pumps directly to frac tank so that the pumping was not interrupted.</i>
8:30 AM Friday	<i>Discussed with client - results from the event thusfar, and concluded that we should cease the operation as of 12 hours rather than continue the event for the full 24 hour duration. Concluded HVME Event No.2. Gauged extraction wells and disassembled pumps, generators, etc. Pumped a total of approximately 9,600 gallons to on-site frac tank.</i>

Air Removal Rates

Air removal rates were calculated from velocity measurements recorded at the influent pipe to the thermal oxidizer. The cumulative airflow measurements ranged between approximately 0 SCFM and 459 SCFM throughout the event (see TABLE 1 – Cumulative Removal Data). A portion of the total air volume measured at the emission stacks were attributable to air, which was “bled” into extraction wellheads through breather ports. This “bleed” air was introduced to the monitor well for the purpose of enhancing liquid recovery rates. Atmospheric airflow attributable to breather port apertures at each extraction well is recorded in TABLE 2 (*Wellhead Data*) of the attached HVME Field Data Record. Atmospheric airflow at this site was also introduced through a dilution or “relief” valve inlet located on the liquid ring pump (designed to prevent pump cavitation). The atmospheric air introduced through the “relief” valve inlet on the liquid ring pump served to maintain a safe operating vacuum and to lower the concentration of petroleum hydrocarbons in the offgas effluent. The lowering of offgas concentrations due to the increase in airflow rate allows for increased accuracy in hydrocarbon concentration readings, while maintaining high mass removal rates.

Offgas Vapor Treatment

Hydrocarbon vapors produced by the HVME process were diverted from the KingVac emissions stacks into propane fired, 750 SCFM-thermal-oxidizer, where 99.5% of generated gases were destroyed before reaching the atmosphere. In accordance with 30TAC106.533 and 106.262, the thermal oxidizer was operated at a minimum temperature of 1400° F.

Disposition of Fluids

Approximately gallons of liquid was extracted from the monitor wells during HVME Event No.2. All fluids extracted were transferred to on-site frac tank for staging until reclamation pick up.

Thank you for this opportunity to serve the environmental needs of HBC-Terracon, Inc. We look forward to working with you in the future to provide innovative and cost effective environmental solutions at this and other sites.

Sincerely,

Brian W. Burgess

EnVac Environmental Services

Submersible Pump Drawdown Data
Federal Express – 5811 Technicenter - Austin, TX.

Pumping Well	MW-1	MW-5	MW-6
Pump	3-inch Grunfos	2-inch Tsunami	2-inch Grunfos
Discharge Rate	7.0GPM	1.5GPM	6.0GPM
Pump Intake Level	36.00 ft	39.00 ft	39.00 ft
	DTW (feet)	DTW (feet)	DTP (feet)
TIME			
Thursday 21:00	30.01	33.67	35.31
Thursday 22:30	30.05	33.73	35.37
Thursday 23:15	29.96	33.70	35.22
Friday 02:00	30.18	33.81	35.38
Friday 07:00	30.14	33.85	35.42
<p>NOTE 1: EXTRACTION WELLS (MW-1, MW-5, MW-6) WERE GAUGED THROUGH THE WELL HEADER USING A SEPARATE INTERFACE PROBE FOR EACH EXTRACTION WELL.</p> <p>NOTE 2: DTW (Depth to Water) OR DTP (Depth to Phase) WAS MEASURED FROM THE TOP OF THE HEADER AND THEN CORRECTED FOR THE DIFFERENCE IN HEIGHT BETWEEN THE TOP OF HEADER (TOH) AND TOP CASING (TOC) IN THIS TABLE.</p> <p>NOTE 3: THE DISCHARGE RATE FOR EACH OF THE THREE (3) EXTRACTION WELLS REMAINED STEADY THROUGHOUT THE EVENT (i.e., MW-1 – 7.0 GPM; MW-5 – 1.5 GPM; MW-6 – 6 GPM). PUMP INTAKES WERE SET AT APPROXIMATELY 37.00 FEET BELOW TOC FOR MW-1; APPROXIMATELY 39.00 FEET BELOW TOC 1 FOR MW-5; and APPROXIMATELY 39.00 FEET BELOW TOC FOR MW-6.</p>			

Observation well Drawdown Data

Nearest Pumping Well	MW-1	MW-1	
Observation Well	MW-2	MW-3	
Observation Well Distance			
	DTW (feet)	DTW (feet)	
TIME			
Thursday 19:00	30.27	31.15	
Thursday 20:30	30.34	31.19	
Thursday 21:30	30.38	31.22	
Thursday 22:30	30.40	31.26	
Thursday 23:30	30.46	31.34	
<p>NOTE 1:</p> <p>NOTE 2:</p> <p>NOTE 3:</p>			



Company		SiteID	Contact	Professional	Operator
HBC-Terracon		455	Garza	Krier	Odell
Site Name:		Event Hrs	Equipment	Start	End
Federal Express		12	KingVac	3/17/2005	3/17/2005
5811 Technicenter Austin, TX		EventID	Liquid No	Fuel Type	Disposal Facility
		1559	Note 1	Gasoline	On-Site Frac Tank
		Stack Dia	MW of Prod	Total Fluids	PSH (gallons)
		6	86	9600	10

MDPE Event No: 2

Print Date: 05/02/05

Table 1 -- Cumulative Removal Data

Time	Discharge				Inlet Vac		TO
	ppm	CFM	ER	VOC lbs.	In-Hg	Temp	
8:30 AM	200	440.00	-	-	20	1410	
8:30 PM	1400	459.00	4.86	58.3	22	1428	
9:00 PM	1000	459.00	7.44	3.72	22	1423	
9:30 PM	800	440.00	5.47	2.73	21	1420	
10:00 PM	700	440.00	4.46	2.23	21	1414	
10:30 PM	600	440.00	3.86	1.93	21	1413	
11:30 PM	500	440.00	3.27	3.27	21	1411	
12:30 AM	700	440.00	3.57	3.57	21	1415	
1:00 AM	600	440.00	3.86	1.93	21	1416	
2:00 AM	550	440.00	3.42	3.42	21	1414	
3:00 AM	500	440.00	3.12	3.12	20	1412	
4:00 AM	450	440.00	2.82	2.82	20	1411	
5:00 AM	400	440.00	2.53	2.53	20	1413	
6:00 AM	350	440.00	2.23	2.23	20	1410	
7:00 AM	300	440.00	1.93	1.93	20	1410	
8:00 AM	250	440.00	1.63	1.63	20	1411	
11:31 PM	-	-	-	-	0	0	

TX Removal Data Summary

Removal	lbs	Gallons
PSH	62	10
Vapor	101.13	16.31
Totals	163	26

Table 2
Well Head Data

Date	Time	EventID	MW-1		MW-5		MW-6	
			BPRV	VAC	BPRV	VAC	BPRV	VAC
03/17	8:30 PM	1559	0	3	0	4	0	3
03/17	9:00 PM	1559	0	3	0	4	0	3
03/17	9:30 PM	1559	0	3	0	4	0	3
03/17	10:00 PM	1559	0	3	0	4	0	3
03/17	10:30 PM	1559	0	3	0	4	0	3
03/17	11:30 PM	1559	0	3	0	4	0	3
03/17	11:31 PM	1559	-	-	-	-	-	-
03/18	12:30 AM	1559	0	3	0	4	0	3
03/18	1:00 AM	1559	0	3	0	4	0	3
03/18	2:00 AM	1559	0	3	0	3	0	3
03/18	3:00 AM	1559	0	3	0	3	0	3
03/18	4:00 AM	1559	0	3	0	3	0	3
03/18	5:00 AM	1559	0	3	0	3	0	3
03/18	6:00 AM	1559	0	3	0	3	0	3
03/18	7:00 AM	1559	0	3	0	3	0	3
03/18	8:00 AM	1559	0	3	0	3	0	3
03/18	8:30 AM	1559	0	3	0	3	0	3



Company HBC-Terracon	SiteID 455	Contact Garza	Professional Krier	Operator Odell	
Site Name: Federal Express 5811 Technicenter Austin, TX		Event Hrs 12	Equipment KingVac	Start 3/17/2005	End 3/17/2005
EventID 1559		Liquid No Note 1	Fuel Type Gasoline	Disposal Facility On-Site Frac Tank	
Stack Dia 6		MW of Prod 86	Total Fluids 9600	PSH (gallons) 10	

MDPE Event No: 2

Print Date: 05/02/05

Table 4 - Groundwater Draw

Well Data			Prior to MDPE			After MDPE			Static WL Changes	Comments
Well ID	Dia	TD	DTP	DTW	PSH	DTP	DTW	PSH		
MW-6	4		32.82	33.32	0.50	-	33.87	0.00	-0.93	
MW-5	4		-	33.45	0.00	-	33.84	0.00	-0.39	
MW-3	4		-	31.15	0.00	-	31.34	0.00	-0.19	
MW-2	4		-	30.27	0.00	-	30.46	0.00	-0.19	
MW-1	4		-	28.90	0.00	-	29.80	0.00	-0.90	

Legend

<i>BPRV.</i> Breather Port Relief Valve	<i>In.Hg</i> Inches Mercury	<i>PSH</i> Phase Separated Hydrocarbon
<i>CFM</i> Cubic Feet per Minute	<i>Inlet Va</i> Vacuum Tank Vacuum	<i>R.S.</i> Removed Sock before gauging
<i>Dia</i> Diameter	<i>lbs</i> pounds	<i>TD</i> Total Depth
<i>DTP</i> Depth to Phase	<i>LRRV.</i> Liquid Ring Relief Valve	<i>Temp</i> Temperature
<i>DTW</i> Depth to Water	<i>MDPE</i> Mobile Dual Phase Extraction	<i>T.O.</i> Thermal Oxidizer
<i>ER</i> Emissions Rate	<i>MW</i> Molecular Weight	<i>VAC</i> Vacuum
<i>EW</i> Extraction Well	<i>NA</i> Not Available	<i>VOC</i> Volatile Organic Compound
<i>HVME</i> High Vacuum Multiphase Extraction	<i>ppm</i> Parts per Million	<i>WL</i> Water Level

Explanation of Tables:

- Table 1 -- Cumulative Removal Data** Indicates vapor concentration, air flow (CFM), emission rate, and KingVac Tank vacuum.
- Table 2 -- Well Head Data** Indicates vacuum (inches-Hg.) and ambient bleedair volume (CFM) at wellhead.
- Table 3 -- Differential Pressure Date** Indicates differential pressure (inches water column) at nearby observation wells during extraction process.
- Table 4 -- Groundwater Drawdown Data** Groundwater and PSH levels and PSH thickness immediately before and after the MDPE event.

Comments

Note 1: Fluids disposed to on-site frac tank.
 Note 2: Stopped extraction at 23:30 pm to 00:30 am to offload 2600 gallons of fluids to on-site frac tank.

Air Sample Analysis

	Date:	Time	#		Date:	Time	#
Field Screen Air Sample	No. 1			Lab Sample	No. 1		
	No. 2				No. 2		
	No. 3				No. 3		

Appendix C

Texas Natural Resource Conservation Commission
PETROLEUM STORAGE TANK
PRODUCT RECOVERY REPORT

Submit this form on a semi-annual basis unless an alternative schedule is directed by the TNRCC. Continue to submit this form until product is no longer observed.

Complete All Applicable Blanks.

Date: 5/6/05

GENERAL INFORMATION

LPST ID No.: 111747

Facility ID No.: 0029044

Responsible Party: Federal Express Corporation

Facility Name: Federal Express Facility

Facility Physical Address: 5811 Technicenter Drive

Facility City: Austin

County: Travis

PHASE-SEPARATED PRODUCT RECOVERY

Reporting Period: March 17, 2005

Estimated volume (gallons) remaining: Less than 40 gallons

Estimated time to recover remaining product to 0.1 foot: No wells currently exhibiting PSH above 0.1 feet.

Volume of fluids (product & water) recovered during past reporting period: 9626 gallons

Volume of phase-separated product recovered during past reporting period: 26 gallons

Total volume of fluids recovered to date: 14,669.27 gallons

Total volume of product recovered to date: 2502.25 gallons

Method of product recovery: continuously (automated) pulsed (automated) hand bailing
 sorbents other, describe: High Vacuum Multi-phase Extraction event

Pumping rate (for automated systems only):

Phase-separated product recovery schedule: daily bi-weekly weekly other, describe: One-time (3/17/05)

Maximum phase-separated product thickness remaining: 0.05

Indicate all monitoring wells and other locations impacted with phase-separated product: MW-6

Are the product thicknesses diminishing over time? YES or NO (check one) If no, is a new release suspected?
YES or NO describe: _____

Is product currently being recovered in any monitor wells, trenches, etc. in which the thickness is less than or equal to 0.1 foot? YES or NO

WASTE DISPOSITION

Indicate the status of all wastes generated: All recovered product and water were transported for disposal at an authorized facility (disposal manifest attached).

REPORT PREPARATION

Project Manager: Russell C. Ford PM Reg. No.: 1502 Expiration Date: 7/16/2005

Company: HBC/Terracon City: Austin State: TX Zip: 78735

Phone No.: (512) 442-1122 Fax No.: (512) 442-1181

Signature: [Handwritten Signature] Date: 7/12/05

Corrective Action Specialist Rep: Hilary Johns CAS No.: 825 Expiration Date: 2/25/06

Company: HBC/Terracon City: Austin State: TX Zip: 78735

Phone No.: (512) 442-1122 Fax No.: (512) 442-1181

Signature: [Handwritten Signature] Date: 7/12/05

Name of Responsible Party contact: Mr. Tim Alexander

Telephone No.: Fax No.: (901) 434-9235

Signature: [Handwritten Signature] Date: 7/15/05

Attachments:

- Table of cumulative recovery by month
- Graph of cumulative product recovered versus time

Appendix D



SPE NOTE

SERVICE ORDER

A Siemens Business

NUMBER

PAGE OF

CALL TYPE PROBLEM CODE ORDER ORIGIN

PRIORITY

P.O. NUMBER

US FILTER RECOVERY SERVICES (MD-ATLANTIC), INC.
14950 Heathrow Forest Pkwy, 250, Houston, TX 77032

CUSTOMER CONTACT

SALU

PHONE NUMBER

512-921-3168

SITE NUMBER NAME AND ADDRESS

Federal Express
5811 Techni Center DR
Austin TX

CALL WAS TAKEN ON AT BY

ROUTE

PROBLEM SYNOPSIS, AS REPORTED

P/O FRAC TANK

ASSIGNED TECH
1260003 Johnny CASAS
PROMISE DATE, TIME

VEHICLE NO.	TRAILER NO.	UPTIME UNIT NO.	TT	TM	ST	ARRIVE DATE	ARRIVE TIME	CLOSE DATE	CLOSE TIME	JOB COMPLETE
406836	999177	129126	2	110	1	3-21-05	9:45A	3-21-05	10:45A	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO

PART / DESCRIPTION	U/M	QUANTITY	HM	SHIPPING DESCRIPTION	SERIAL #		# CONT		TYPE
					GLYCOL	pH	BRIX	SNIFFER	C-D-T
COL-Fuel W/ GA	GA	5400		FLAMMABLE LIQUID N.O.S (GAS/WATER MISC) 3 UN 1993 PG 11					

Reuse Qualification Statement
By signing this document, I hereby certify that I understand the used US Filter degreasing fluid (i.e. Mineral spirits, petroleum naphtha) returned to US Filter for inclusion in the US Filter Reuse Program will be utilized as an effective substitute for chemical product. For the purpose of qualifying to participate in the Program, I further certify that any used degreasing fluid so returned to US Filter has not been mixed with hazardous waste or other objectionable substances. All constituents that may be present in the degreasing fluid are contaminants resulting from, and incidental to, normal use of the solvent as a degreaser or cleaner. I have reviewed our physical facilities, administrative practices, and operational procedures and based on this review do willing make this true, accurate and complete certification.

Reuse Solvent QA & QC

Yes No	Used solvent passed visual inspection	Yes No	Rep Initials _____
<input type="checkbox"/> <input type="checkbox"/>	Used solvent has no unusual odor	<input type="checkbox"/> <input type="checkbox"/>	Light assembly is in good working order
<input type="checkbox"/> <input type="checkbox"/>	Parts Cleaner is clean (front/back)	<input type="checkbox"/> <input type="checkbox"/>	Lid is unobstructed
<input type="checkbox"/> <input type="checkbox"/>	Fusible link operational	<input type="checkbox"/> <input type="checkbox"/>	Parts Cleaner is properly grounded

Authorization Signature
I agree to pay for the above services and/or products and to bound by the terms and conditions set forth above and on the reverse side of this document.

Check if Conditionally Exempt Small Quantity Generator as defined in 40 CFR 261.5
 Check if Do-it-yourself collection center
 Generator EPA ID# _____

The GENERATOR hereby certifies that the material collected from the GENERATOR'S facility by US Filter does not contain any PCB's as defined in 40 CFR 761 and is not hazardous waste or been mixed with a listed or characteristic hazardous waste as defined in 40 CFR 261. If the material collected is a used oil as defined in 40 CFR part 279, the GENERATOR certifies that the total halogen content is less than 1,000 ppm, or the GENERATOR hereby certifies that the rebuttable waste presumption under 40 CFR Part 279 has been rebutted. The GENERATOR will be responsible for any and all costs including, but not limited to, proper disposal, testing, and transportation if the material contains PCB's or is determined to be a hazardous waste. I certify that to the best of my knowledge, the information presented herein is correct and accurate, and I am authorized to sign on behalf of the GENERATOR.

Shipping Declaration:
This is to certify that the above-named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation.

Transporter Information:
US Filter Transport, Inc.
1657 Commerce Dr., Suite 10B South Bend, IN 46628
US DOT ID#: 828559
EPA ID#: INR000022798
Emergency Contact Chemtec (800) 424-9300

PRINT CUSTOMER NAME: 183657
 CUSTOMER SIGNATURE / DATE: [Signature] 3-21-05
 DRIVER SIGNATURE / DATE: [Signature] 3-21-05
 RECEIVED AT PLANT / DATE: _____

183657

CUSTOMER

SPEC DTES
HBC

SERVICE ORDER

NUMBER
 PAGE 1 of 1
 CALL TYPE PROBLEM CODE ORDER ORIGIN
 PRIORITY

CUSTOMER CONTACT
Saul
 PHONE NUMBER
512-921-3168
 SITE NUMBER NAME AND ADDRESS
Federal Express
3811 Tech Mi Center DR.
Austin TX.

CALL WAS TAKEN ON AT BY ROUTE ASSIGNED TECH
 PROBLEM SYNOPSIS, AS REPORTED
Pu Water From Froc Tank
 M/A NUMBER PROMISE DATE, TIME
126003
3-21-05

VEHICLE NO.	TRAILER NO.	UPTIME UNIT NO.	TT	TM	ST	ARRIVE DATE	ARRIVE TIME	CLOSE DATE	CLOSE TIME	JOB COMPLETE
307236	999142	129228	2.5	87	138	3-21-05	1030	3-21-05	1115	YES NO

PART / DESCRIPTION	U/M	QUANTITY	HM	SHIPPING DESCRIPTION	SERIAL #		# CONT		TYPE
					GLYCOL	pH	BRIX	SNIFFER	C-D-T
CO/Fuel WF GA	90	4214	X	Flammable liquids, NOS, (GAS WATER MIX), 3, UN 1993, PG II					

Reuse Qualification Statement
 By signing this document, I hereby certify that I understand the used US Filter degreasing fluid (i.e. Mineral spirits, petroleum naphtha) returned to US Filter for inclusion in the US Filter Reuse Program will be utilized as an effective substitute for chemical product. For the purpose of qualifying to participate in the Program, I further certify that any used degreasing fluid so returned to US Filter has not been mixed with hazardous waste or other objectionable substances. All constituents that may be present in the degreasing fluid are contaminants resulting from, and incidental to, normal use of the solvent as a degreaser or cleaner. I have reviewed our physical facilities, administrative practices, and operational procedures and based on this review do willing make this true, accurate and complete certification.

Reuse Solvent QA & QC
 Yes No Rep Initials
 Used solvent passed visual inspection
 Used solvent has no unusual odor
 Parts Cleaner is clean (front/back)
 Fusible link operational
 Light assembly is in good working order
 Lid is unobstructed
 Parts Cleaner is properly grounded

Authorization Signature
 I agree to pay for the above services and/or products and to be bound by the terms and conditions set forth above and on the reverse side of this document.
Saul
 PRINT CUSTOMER NAME
3-21-05
 CUSTOMER SIGNATURE / DATE

Initial if Conditionally Exempt Small Quantity Generator as defined in 40 CFR 261.5
 Initial if Do-it-yourself collection center
 Generator EPA ID#

The GENERATOR hereby certifies that the material collected from the GENERATOR'S facility by US Filter does not contain any PCB's as defined in 40 CFR 761 and is not hazardous waste or been mixed with a listed or characteristic hazardous waste as defined in 40 CFR 261. If the material collected is a used oil as defined in 40 CFR part 279, the GENERATOR certifies that the total halogen content is less than 1,000 ppm, or the GENERATOR hereby certifies that the rebuttable waste presumption under 40 CFR Part 279 has been rebutted. The GENERATOR will be responsible for any and all costs including, but not limited to, proper disposal, testing, and transportation if the material contains PCB's or is determined to be a hazardous waste. I certify that to the best of my knowledge, the information presented herein is correct and accurate, and I am authorized to sign on behalf of the GENERATOR.

Shipping Declaration:
 This is to certify that the above-named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation.

Transporter Information:
 US Filter Transport, Inc.
 1657 Commerce Dr., Suite 10B South Bend, IN 46628
 US DOT ID#: 928559
 EPA ID#: INR000022798
EMERGENCY CONTACT CHEMTREC (800) 424-8300

Designated Facility
 2200 East Pierce Street
 Luling, TX 78648
 (800) 875-3260
 EPA ID#: TXD982759748

Shipping Declaration:
 This is to certify that the above-named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation.
Saul Mann 3-21-05
 DRIVER SIGNATURE / DATE

248375

CUSTOMER

RECEIVED AT PLANT / DATE

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION
PETROLEUM STORAGE TANK

LPST SITE CLOSURE REQUEST FORM

This form is to be used to request closure for Leaking Petroleum Storage Tank (LPST) cases. The soil and groundwater cleanup goals must be met prior to submitting this form. These cleanup goals should be derived from either:

- the TWC *Guidance Manual for LPST Cleanups in Texas*, January 1990 so long as these goals were achieved prior to November 8, 1995, or
- the TNRCC *Risk-Based Corrective Action for Leaking Storage Tank Sites* document, January 1994 (RG-36).

Submission of this Site Closure Request constitutes certification by the Responsible Party, Corrective Action Specialist (CAS), and Corrective Action Project Manager (CAPM) that all necessary corrective actions have been completed and final closure of the subject site is appropriate at this time. By signing this Site Closure Request, the Responsible Party, CAS, and CAPM acknowledges that no further corrective actions, with the exception of activities subsequently approved by the TNRCC, will be eligible for reimbursement after the RP's signature date. Although costs for activities such as groundwater monitoring or remediation system operation and maintenance may have been approved for an annual period, these activities should cease upon submission of the Site Closure Request as these activities will not be considered eligible for reimbursement beyond the date of the Site Closure Request. Additionally, any costs relating to site assessment or other corrective action activities will not be eligible for reimbursement if the activities are conducted after the date of the Site Closure Request, unless specifically approved by the TNRCC. If, upon review by the TNRCC, the TNRCC concurs that the site meets the conditions for final closure, the costs for closure activities necessary to restore the site to its original condition will be reviewed and approved as appropriate. If the TNRCC determines that the site does not meet the conditions for final closure, the TNRCC will request a workplan and cost proposal for the next appropriate corrective action activity necessary to proceed towards final closure unless appropriate activities have previously been approved. The only type of proposal that should be attached to the Site Closure Request is for site closure costs. Any proposals attached to the Site Closure Request for activities other than site closure will not be processed and will be withdrawn from consideration.

If any of the following apply, the site is not ready for closure and this form should not be submitted:

- The appropriate LPST cleanup goals have not been met (a proposal for the next appropriate step should be submitted instead);
- Phase-separated hydrocarbons (>0.1 feet) currently exist at the site;
- The contaminant plume is increasing in size; or
- All wastes and other material generated from the site have not been properly disposed;

Do not use this form:

- if the release was not from a regulated underground or aboveground storage tank;
- for tank removal-from-service activities not associated with an LPST site (use the *Release Determination Report Form* (TNRCC-0621) or other appropriate format);
- for situations where the second set of confirmation samples collected during tank removal-from-service activities confirms suitability for closure (use the *Release Determination Report Form* (TNRCC-0621) or other appropriate format); or
- for shutdown of remediation systems or for plugging of monitor wells when site closure is not yet appropriate.

If asked to initiate additional activities, submit a workplan and preapproval request for those activities on sites eligible for reimbursement. Please review the document entitled *Preapproval for Corrective Action Activities* (RG-111) for procedures on preapproval requests and the other PST guidance pamphlets and rules for additional information on LPST sites.

Complete all blanks and check "yes" or "no" for all inquiries. **IF A COMPLETED ASSESSMENT REPORT FORM (TNRCC-0562) WAS PREVIOUSLY SUBMITTED, YOU DO NOT NEED TO ANSWER THE QUESTIONS WITHIN THE DARK OUTLINED AREAS UNLESS THE INFORMATION HAS CHANGED.** If the question is not applicable to this site, indicate with N/A. If the answer to the question is unknown, please indicate. If space for supplemental information is needed, insert numbered footnote and provide brief supporting discussion in Section VI, Justification for Closure.

SITE CLOSURE REQUEST FORM

I. GENERAL INFORMATION

LPST ID No.: 111747 Facility ID No.: 0029044
Responsible Party: Federal Express Corporation
Responsible Party Address: 3620 Hacks Cross Boulevard, Building B City: Memphis State: TN Zip: 38125
Facility Name: Federal Express Facility
Facility Street Address: 5811 Technicenter Drive
Facility City: Austin County: Travis

What is the current use of site? (indicate all that apply):
 Residence¹ School or Day Care center Commercial/Industrial¹ Recreational Agricultural

What is the anticipated future use of the site? (indicate all that apply):
 Residence¹ School or Day Care center Commercial/Industrial¹ Recreational Agricultural

Adjacent property use (indicate all that apply):
 Residence¹ School or Day Care Center Commercial/Industrial¹ Recreational Agricultural

Distance to nearest off-site residence from property line: 1,000 feet in Northwest direction.

Distance to nearest school or day care center from property line: 100 feet in West direction.

II. CLOSURE SCREENING INFORMATION

Based on the *Limited Site Assessment Report* form or the *Risk-Based Assessment Report Form* (TNRCC-0562), the site is currently a **Priority** 4.1 site. If the site priority has changed, list the other priorities that previously pertained to this site: _____

Yes No Have non-aqueous phase liquids (NAPL) ever been present at this site (including tankpit observation wells)? If yes, is NAPL present now (thickness ≥ 0.1 feet)? Yes No Current thickness: 0.05 ft. If NAPL is currently present, stop here and do not submit this form for case closure. Initiate or continue activities necessary for the removal of all recoverable NAPL at the site.

Yes No Were all soils, recovered contaminated groundwater, and any phase-separated hydrocarbons properly disposed of, treated, recycled or reused in accordance with TNRCC requirements? If No, stop here and do not submit this form. Provide a proposal (if the site is eligible for reimbursement) to properly dispose or otherwise manage the wastes/materials or, if the site is not eligible for reimbursement, provide documentation of proper disposition of the wastes.

Yes No Do contaminant concentrations show a consistent decreasing or low static trend? If No, is the contaminant plume increasing in size? Yes No If Yes, stop here, do not submit this form, and initiate activities to control plume migration.

¹ See definition in 30 TAC 334.202

III. RELEASE ABATEMENT/REMEDIATION

Date Release Discovered: 10/1996

Substance(s) released: (check all that apply) Gasoline Alcohol-blended fuel (Type and percentage of alcohol: _____)
 Diesel Used Oil Jet Fuel (type: _____) Aviation Gasoline Other: (be specific) _____

Source of Release (specify all that apply):

Spills/overfills Piping leaks Dispenser leaks Tank corrosion Other: _____

Yes No Has a receptor survey been conducted?
 Yes No Has a water well inventory been conducted?

Yes No Have vapor impacts to buildings or utility lines ever been associated with this release? If Yes, specify the measures taken to abate the impact and indicate the latest date that an impact was noted:

Yes No Have subsurface utilities ever been affected with NAPL or vapors by this release? If Yes, indicate the latest date that an impact was noted:

If not already provided in *Release Determination Report Form* (TNRCC-0621), or if the information has changed since submittal of the *Release Determination Report*, indicate number of tanks currently and formerly located at this site (attach pages as necessary): No changes since *Release Determination Report* submitted.

	<u>Type (UST/AST)</u>	<u>Product Type</u>	<u>Size (approx. gal)</u>	
Current:	_____	_____	_____	
	_____	_____	_____	
	_____	_____	_____	
	_____	_____	_____	
	_____	_____	_____	
	_____	_____	_____	
	_____	_____	_____	
	_____	_____	_____	
	_____	_____	_____	
Former:	_____	_____	_____	<u>Date Removed from Service</u>
	_____	_____	_____	_____
	_____	_____	_____	_____
	_____	_____	_____	_____
	_____	_____	_____	_____
	_____	_____	_____	_____

Yes No If the tanks were permanently removed from service, were native soil samples collected from beneath the tanks and the entire length of the piping? If No, explain why not:

Yes No Was a new UST system installed? If Yes, indicate the date, number of tanks and their contents:

Yes No Are there any open excavations at the site? If Yes, state size, location, purpose, and status for each of the excavations:

Type(s) of soil remediation and time periods the remediation method was operational (indicate all that apply):

- Excavation _____ to _____ (dates), and
 Aboveground Bioremediation/Aeration _____ to _____ (dates), or
 Thermal Treatment _____ to _____ (dates), or
 Disposal _____ to _____ (dates).
- Soil Vapor Extraction 9/00 to 5/01 (dates).
 In-Situ Bioremediation _____ to _____ (dates).
 None

III. RELEASE ABATEMENT/REMEDATION (Continued)

Type(s) of groundwater remediation and time periods the remediation method was operational (indicate all that apply):

- Groundwater Pump and Treat _____ to _____ (dates)
- Air Sparging/SVE _____ to _____ (dates)
- In-Situ Bioremediation _____ to _____ (dates)
- Other: _____ to _____ (dates)
- None

Yes No Were copies of all receipts and manifests to document disposition of all wastes submitted to the TNRCC? If No, attach copies to this form.

Measured total volume of NAPL recovered: 2,502 gallons.

Estimated total volume of soil treated/removed: _____ cubic yards (exclude soil cuttings removed from borings).

Estimated total volume of groundwater treated/removed: 14,669 gallons (if known).

Estimated pounds of hydrocarbons removed or treated from soil (if known):

Estimated pounds of hydrocarbons removed or treated from groundwater (if known):

Estimated percent of total contaminants removed or treated (if known):

IV. SOIL DATA VALIDATION

Are there now affected surface soils (contamination exceeding health-based target concentrations) present within 2 feet below the ground surface? Yes* No Unknown

Type of surface cover over affected surface soil area:

Paved [Asphalt or Concrete] Percent of affected soils covered? Unpaved
 Other: _

Is there public access to the uncovered affected surface soil area? Yes No

*- Affected area (TP-10) currently being remediated and closure documentation will be submitted within 2 weeks.

Total number of borings: 11 (including those completed as monitor wells)

Yes No Was the vertical and horizontal extent of soil impacts defined (to the more stringent of health-based target or groundwater protective soil concentrations horizontally and to groundwater or nondetect vertically) by the borings?

Yes No Are shallow (0-15 feet below ground surface) soils affected (contaminant levels exceed health-based target concentrations) on adjacent properties (including right-of-way properties).

Yes No Were all soil sample collection, handling, transport, and analytical procedures conducted in accordance with TNRCC and EPA requirements? If No, provide justification: _____

MAXIMUM SOIL CONCENTRATION LEVELS

Soil Contaminants	Sample Date	Sample Location	Depth (in feet below ground surface)	Analytical Method	Maximum Concentration * (mg/kg)	Target Cleanup Goals** (indicate source of target cleanup goals: 1990 or 1994 [Plan A or B] guidance)
Benzene	2/5/97	MW-6	36.5'-37.5'	8260	11.4	0.45
Toluene	2/5/97	MW-6	36.5'-37.5'	8260	56.5	466
Ethylbenzene	2/5/97	MW-6	36.5'-37.5'	8260	23.8	289
Total Xylenes	2/5/97	MW-6	36.5'-37.5'	8260	164	2,433
TPH	2/5/97	MW-6	36.5'-37.5'	1005	4,000	NA
Other Total Lead	2/5/97	MW-6	36.5'-37.5'	6020	<10	500
Other Naphthalene	10/29/96	B-1	30.5'-31.5'	8015	8.61	389
Other _____						

* Enter maximum soil analytical results for soils remaining beneath the site (take into account all available data, including information obtained during the release determination (tank removal from service, minimal site assessment, etc)).

** If Plan A cleanup goals were used, provide the potential groundwater beneficial use category and a justification of how it was determined in Section VI.

1990 cleanup goals may be used only if all activities necessary to meet those goals were completed by November 8, 1995.

*** Arsenic value risk-based derived using calculations and default values contained in RG-36.

V. GROUNDWATER DATA VALIDATION

Is groundwater at the site impacted? Yes No

Did the assessment document that groundwater was not impacted? Yes No If No or unsure, provide justification for not determining whether there is a groundwater impact: _____

Total number of monitoring wells installed: 11 Number of monitor wells remaining at the site: 11
Will any of the remaining wells be used in the future? Yes No If Yes, specify exactly which well(s) will be used: _____

If No, they must be plugged in accordance with Water Code 32.017 after obtaining approval for site closure. Do not plug the wells until you receive concurrence on site closure. Costs of well plugging may be allowable for reimbursement if all eligibility requirements are met and if the wells were installed under the direction of the TNRCC specifically to address the confirmed release at the site. Provide a proposal with this form (if the site is eligible for reimbursement) for costs of the well plugging

Measured total dissolved solids (TDS) concentration in groundwater: 478 mg/l. From which monitor well(s) was/were the sample(s) collected? MW-3

Measured groundwater yield at the site: _____ gallons/day (as determined from well adequately screened in the impacted aquifer). Not determined.

Measured groundwater depth at the site ranges between 32 and 37 feet below the top of well casing.

Time period of groundwater monitoring at the site (dates): November, 1996 to January, 2004 .

Total number of groundwater monitoring events: 19.

What type of aquifer is impacted? (unconfined, confined, semi-confined): Unconfined

Distance from maximum plume concentration point to nearest existing downgradient well location (not monitor well):
>0.5 mile ft. in _____ direction (Input ">0.5 mile" if there is no well within 0.5 mile downgradient)

Are any water supply wells impacted or immediately threatened? Yes No
If Yes, specify type of well: Drinking water Non-drinking water

Are there any existing water wells located within the area of impacted groundwater? Yes No
If Yes, specify type of well: Drinking water Non-drinking water

Has surface water been affected? Yes No

Will the groundwater contaminants likely discharge to a surface water body? Yes No

What is the potential impact of affected groundwater discharge on surface water?
 Current impact Discharges within 500 ft. Discharges within 500 to 0.25 miles
 No potential impact

Yes No Were groundwater sample collection, handling, transport, and analytical procedures conducted and documented in accordance with TNRCC requirements? If no, provide justification: _____

V. GROUNDWATER DATA VALIDATION (Continued)

- Yes No Is the extent of groundwater contamination defined (to MCL concentrations)? If No, provide justification for not defining the plume: _____

- Yes No Have groundwater impacts from this release been detected on adjacent properties? If No, is off-site migration probable? Yes No Is there documentation that off-site migration has not occurred (sample results from off-site sampling point)? Yes No

- Yes No Was the static groundwater level above the top of the well screen in any monitor wells during any of the last 4 monitoring events? If Yes, provide a statement of validity regarding these samples: _____

- Yes No Have groundwater samples from all monitor wells met the target cleanup goals for the last four consecutive sampling events?
 No, however, the concentrations are either reducing or are stable.

MAXIMUM GROUNDWATER CONCENTRATIONS

Groundwater Contaminants	Sample Date	Sample Location	Laboratory Method	Maximum Concentration* (mg/l)	Target Cleanup Goals** (indicate source of target cleanup goals: 1990 or 1994 [Plan A or B] guidance)
Benzene	11/11/96	MW-3	8260	1.920	0.0294
Toluene	3/27/02	MW-11	8260	5.17	7.3
Ethylbenzene	3/27/02	MW-2	8260	1.04	3.65
Total Xylenes	12/27/01	MW-2	8260	10.6	73
TPH	9/24/01	MW-2	1005	189.0	None established
Other MTBE	12/27/01	MW-5	8260	2.85	0.47
Other Naphthalene	4/4/01	MW-2	8015	1.86	1.46
Other _____					

* Enter maximum groundwater analytical results from the most recent 12 months of monitoring.
 ** 1990 cleanup goals may be used only if all activities necessary to meet those goals were completed by November 8, 1995.
 *** NA-Not Applicable. These constituents were not detected in groundwater.

VI. JUSTIFICATION FOR CLOSURE

Please provide a brief summary supporting this request for site closure, including footnoted discussions for the above entries as necessary. Include discussions providing necessary justifications for any site conditions which deviate from the specific requirements of TNRCC rules and policies, including the document *Risk-Based Corrective Action for Leaking Storage Tank Sites*. Provide documentation to justify case closure, including information which addresses the potential for future exposure, the existence of impervious cover or other actions which may prevent exposure or limit infiltration, the absence of receptors, etc.

The most recently conducted mobile dual-phase extraction (MDPE) event was performed on March 17, 2005 and included removal of fluids and vapor from 3 wells on site (MW-1, MW-5, and MW-6). The MDPE data report is summarized in the attached Product Recovery Report form. NAPL thickness prior to the event ranged from 0.00 feet in MW-1 and MW-5 to 0.50 feet in MW-6. The MDPE event was conducted for approximately 12 hours at which time it was terminated due to diminishing hydrocarbon recovery rates and the high volume of groundwater being generated (see MDPE data report and influent air analytical data in attached Product Recovery Report). A total of 26 gallons of NAPL was removed during the event (10 gallons as liquid and 16 gallons as off-gas vapor). A total of 9,600 gallons of contaminated groundwater was also generated during the event and was properly disposed offsite at a permitted facility (see waste disposal manifest in attached Product Recovery Report). The wells were gauged immediately following the MDPE event and no NAPL was observed in any of the wells. Subsequent gauging events have found 0.05 feet of NAPL present in MW-6 with no NAPL observed in any of the other site wells (see attached fluid gauging summary table). The groundwater analytical data collected from the site wells indicates either stable or reducing petroleum hydrocarbon concentrations. This had been previously documented and no further groundwater monitoring is necessary to further document the stable plume conditions. Based on the results from the latest MDPE event and subsequent water level gauging, further NAPL recovery at the site does not appear to be cost effective. Additionally, it appears that the residual NAPL remaining at the site has been removed to the maximum extent practicable and that the amount remaining poses no threat to human health and the environment. HBC recommends site closure at this time.

VII. REPORT PREPARATION

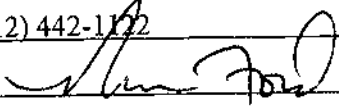
Based on the results of the site investigation and the additional information presented herein, I certify that the site investigation activities performed either by me, or under my direct supervision, including subcontracted work, were conducted in accordance with accepted industry standards/practices and further, that all such tasks were conducted in compliance with applicable TNRCC published rules, guidelines and the laws of the State of Texas. I have reviewed the information included within this report, and consider it to be complete, accurate and representative of the conditions discovered during the site investigation. I acknowledge that if I intentionally or knowingly make false statements, representations, or certifications in this report, I may be subject to administrative, civil, and/or criminal penalties. **I certify that the site has met all requirements for closure and that closure is appropriate.**

Project Manager: Russell C. Ford CAPM No.: 1502 Expiration date: 7/16/06

Company: HBC Engineering, a division of Terracon

Address: 5307 Industrial Oaks Boulevard, Suite 160 City: Austin State: TX Zip: 78735

Telephone No.: (512) 442-1182 Fax No.: (512) 442-1181

Signature:  Date: 7/18/05

By my signature affixed below, I certify that I am the duly authorized representative of the Correction Action Specialist named and that I have personally reviewed the site investigation results and other relevant information presented herein and considered them to be in accordance with accepted standards/practices and in compliance with the applicable TNRCC published rules, guidelines and the laws of the State of Texas. Further, that the information presented herein is considered complete, accurate and representative of the conditions discovered during the site investigation. I acknowledge that if I intentionally or knowingly make false statements, representations, or certifications in this report, I may be subject to administrative, civil, and/or criminal penalties. **I certify that the site has met all requirements for closure and that closure is appropriate.**

Corrective Action Specialist: Hilary Johns CAS No.: 00825 Expiration date: 2/25/06

Company: HBC Engineering, a division of Terracon

Address: 5307 Industrial Oaks Boulevard, Suite 160 City: Austin State: TX Zip: 78735


Telephone No.: (512) 442-1182 Fax No.: (512) 442-1181

Signature:  Date: 7/18/05

By my signature affixed below, I certify that I have reviewed this report for accuracy and completeness of information regarding points of contact and the facility and storage tank system history and status. I acknowledge that if I intentionally or knowingly make false statements, representations, or certifications in this report related to the contact information, and the facility and storage tank system history and status information, I may be subject to administrative, civil, and/or criminal penalties. I attest that I have reviewed this report for accuracy and completeness. I understand that I am responsible for addressing this matter. **I certify that the site has met all requirements for closure and that closure is appropriate.**

Name of Responsible Party contact: Mr. Tim Alexander

Telephone No.: _____ Fax No.: (901) 434-9235

Signature:  Date: 7/15/05

THE FOLLOWING ITEMS MUST BE SUBMITTED WITH THIS FORM IF NOT PREVIOUSLY SUBMITTED:


- A site map illustrating the locations of the entire UST and/or AST system (including piping, dispensers, observation wells, etc.), all soil borings and monitoring wells and all other sampling points, subsurface utilities, and surface water within 500 feet.
- A copy of the latest groundwater gradient map (if monitor wells were completed).
- Summary tables of all soil, groundwater and surface water analytical results, including samples collected from any tank removal from service activities, tank system repair activities, and those collected from borings and monitor wells. The tables must clearly identify the sample number, date of collection, sampling locations, depths (if applicable), and analytical results.
- Copies of any manifests or other waste receipts, and any other documents necessary for case closure.

**Texas Commission on Environmental Quality
2004-2005 Annual Groundwater Monitoring Report
Federal Express Corporation
5811 Technicenter Drive
Austin, Travis County, Texas
LPST No. 111747**

Prepared for:

**Federal Express Corporation
3620 Hacks Cross Road, Building B
Memphis, TN 38125-7113**




Russell C. Ford, CAPM
Senior Project Manager

Prepared by:

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May 6, 2005

Received
JUL 19 2005
TCEQ/PST-RPR

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TABLES, GRAPHS AND MAPS

APPENDICES

- Appendix A – Laboratory Reports
- Appendix B – MDPE Report
- Appendix C – Product Recovery Report (TNRCC-0025)
- Appendix D – Waste Disposal Manifest
- Appendix E – Site Closure Request Form (TNRCC-0028)



**2004-2005 Annual Groundwater Monitoring Report
Federal Express Corporation
5811 Technicenter Drive
Austin, Travis County, Texas
LPST No. 111747**

I. REPORT SUMMARY

HBC/Terracon (HBC) performed groundwater monitoring at the Federal Express Corporation Facility, located at 5811 Technicenter Drive in Austin, Texas. This report represents data from one groundwater monitoring event conducted on March 23, 2005. In addition, results from a mobile dual phase extraction (MDPE) event conducted on March 17, 2005 are presented within this report. The report is presented in the format suggested by the Texas Commission on Environmental Quality (TCEQ) Regulatory Guidance publication *Groundwater Monitoring and Reporting* (RG-43).

Groundwater Monitoring

HBC collected and analyzed groundwater samples from the on-site monitor wells, in general accordance with the TCEQ Corrective Action Response Form (CARF) dated October 22, 2004. The groundwater sampling event occurred on March 23, 2005.

Groundwater samples were not collected from monitor well MW-6 due to the presence of non-aqueous phase liquids (NAPL) in this well (0.05 feet measured on day of sampling).

Each groundwater sample was analyzed by DHL Analytical in Round Rock, Texas, for methyl tertiary butyl ether (MTBE) using EPA method SW 8021B, and benzene, toluene, ethylbenzene, and xylenes (BTEX) using EPA method SW 8021B. Additionally, the groundwater samples collected from monitor wells MW-2, MW-4, and MW-5 were analyzed for total petroleum hydrocarbons (TPH) using Texas method 1005.

Tables summarizing the analytical data are attached. Copies of the laboratory reports, including chain-of-custody forms, are included in Appendix A. As seen in the data summary tables, laboratory analysis indicates either stable or reducing petroleum hydrocarbon concentrations in the site wells. Well MW-7 exhibited no detectable TPH or BTEX concentrations, which is consistent with historical results. Laboratory data indicated that groundwater samples collected from wells MW-8 through MW-10 have exhibited decreasing TPH and BTEX concentrations over time. The hydrocarbon concentrations from MW-11 showed a slight increase as compared to the most previous results in 2004, however, the concentrations detected are well below the historic highs observed in 2002. TPH and total BTEX concentrations from wells MW-1, MW-2, MW-3, MW-4, and MW-5, which are all located closest to the source area, have remained

relatively stable. This most recent analytical data generally confirms the previous data which also indicated that the dissolved hydrocarbon plume is stable or decreasing.

The fluid gauging data collected indicates that groundwater elevations at the site are near the highest point they have been since late 2001. NAPL was not observed in any site wells until the March 3, 2005 gauging event when a thickness of 0.34 feet was observed in monitor well MW-6. Subsequent measurements collected following the March 17, 2005 MDPE event indicated NAPL thicknesses of 0.05 feet in well MW-6. A Fluid Gauging Data Summary table is included with this report.

MDPE Event

HBC contracted with EnVac Environmental Services to conduct a MDPE event on March 17, 2005. A copy of the MDPE report is included in Appendix B. The event was conducted at wells MW-1, MW-5 and MW-6. Submersible pumps were utilized to extract groundwater from these three wells to drawdown the water table during the MDPE event. The event resulted in the extraction of approximately 16 gallons of NAPL in vapor form and 10 gallons of NAPL in liquid form. A Petroleum Storage Tank Product Recovery Report (TCEQ-0025) is included in Appendix C. A total of 2 air samples were collected during the event and analyzed for TPH using EPA method SW 8015B and BTEX using EPA method SW 8021B. A copy of the laboratory report is included in Appendix A.

Prior to initiation of the event the presence of NAPL was measured in well MW-6 with 0.50 feet present. Subsequent to the event, NAPL thickness of 0.00 feet was observed in the well. The MDPE event was terminated after 12 hours due to the high volume of groundwater being generated and diminishing hydrocarbon recovery rate observed during the test.

Disposition of Waste

A total of 9,600 gallons of affected groundwater were generated during the groundwater sampling event and the MDPE event. The water was transported for disposal at an authorized facility. A copy of the waste manifest for the water is included in Appendix D. All recovered NAPL was destroyed using the onboard thermal oxidizer.

II. CHRONOLOGY OF EVENTS

Date Completed	Brief Description	Brief Summary of Results
10/96	Release of about 6,700 gallons from UST discovered. Permanent removal of UST performed and report submitted to TNRCC by HBC.	Elevated hydrocarbon concentrations present in tank pit soil samples.
5/97	Site assessment conducted and Assessment Report submitted to TNRCC by HBC. Total of 11 monitor wells on site and adjacent off site property.	NAPL present in 3 wells (MW-1, MW-2, MW-6)
6/97	Soil Vapor Extraction (SVE) pilot test conducted and results submitted to TNRCC.	Results from SVE test indicate site conditions favorable for SVE recovery system.
10/97	Corrective Action Plan prepared and submitted by HBC. Plan detailed the installation of a SVE remediation system using 3 recovery wells with destruction of the vapors using an internal combustion (IC) engine.	Plan was approved by TNRCC in February 1998.
5/98 to 1/99	SVE system installed and operated. System experienced significant operation and maintenance problems.	System operated as designed initially, however, destruction rates began to drop significantly after about 90 days of operation and system was removed from operation in January of 1999.
7/16/98	Groundwater sampling event conducted by HBC during operation of SVE system. Total of 5 samples collected.	NAPL present in wells MW-1 through MW-6.
11/19/98	Groundwater sampling event conducted by HBC during operation of SVE system. Total of 5 samples collected.	NAPL present in wells MW-1 through MW-6.
3/24/00	Operation, Monitoring, and Performance (OMP) report for initial SVE system submitted along with proposal to replace IC vapor destruction unit with thermal destruction flare and restart the SVE system.	Proposal for new system approved by TNRCC on 8/22/00.
10/2/00-5/9/01	New SVE system installed and operated. System operated total of 188 days. Utilized 3 recovery wells (MW-1, MW-2, and MW-6) with extracted vapors destroyed thermally (flare unit).	SVE removed approximately 400 gallons of NAPL. NAPL removed entirely from 4 of 6 wells and NAPL thickness reduced from almost 2 feet to less than 0.5 feet.
10/5/00	First semi-annual sampling event by HBC (5 groundwater samples). Samples collected following startup of SVE system.	NAPL present in wells MW-1, MW-2, MW-3, MW-4, MW-5 and MW-6.

Date Completed	Brief Description	Brief Summary of Results
4/4/01	Second semi-annual sampling event performed by HBC (9 groundwater samples). Samples collected near the end of the SVE system operation.	NAPL present in wells MW-5 and MW-6.
5/29/01	OMP Report submitted to TNRCC along with proposals for annual groundwater monitoring and passive skimming of NAPL in wells MW-5 and MW-6.	Proposals for groundwater monitoring and passive skimming approved by TNRCC on 7/13/01.
9/24/01	First quarterly groundwater sampling event performed by HBC. Samples collected from 9 on-site monitor wells.	NAPL observed in monitor wells MW-5 and MW-6. Groundwater data shows reduction in most wells.
12/27/01	Second quarterly groundwater sampling event performed by HBC. Samples collected from 10 on-site monitor wells.	NAPL observed in monitor well MW-6. Groundwater data shows reduction in most wells.
3/27/02	Third quarterly groundwater sampling event performed by HBC. Sample collected from 10 on-site monitor wells.	NAPL observed in monitor well MW-6. Groundwater data shows reduction in most wells. Slight increase observed in MW-11.
6/17/02	Fourth quarterly groundwater sampling event performed by HBC. Samples collected from 10 on-site monitor wells.	NAPL observed in monitor well MW-6. Groundwater data shows reduction in most wells. Concentrations from MW-11 back to within historical levels.
10/11/03	High Vacuum Multi-Phase Extraction event.	0.77 gallons of NAPL removed from wells MW-5 and MW-6.
10/22/03	Quarterly groundwater monitoring event conducted by HBC. Samples collected from 8 monitor wells.	NAPL observed in MW-2, MW-5, and MW-6. Dissolved phase concentrations relatively stable across site.
1/27/04	Quarterly groundwater monitoring event conducted by HBC. Samples collected from 8 monitor wells.	NAPL observed in MW-1, MW-5, and MW-6. Dissolved phase concentrations relatively stable across site.
3/5/04	Fluid gauging conducted by HBC.	NAPL thickness in MW-1, MW-5, and MW-6 decrease drastically since January event.
3/19/04	Annual groundwater monitoring report, product recovery report and proposal for MDPE event submitted.	Analytical data indicate dissolved phase hydrocarbon plume is stable or decreasing. Based on slight rebound in NAPL levels observed, MDPE event proposed.

Date Completed	Brief Description	Brief Summary of Results
5/18/04	MDPE event conducted by EnVac under HBC supervision.	MDPE event conducted for approximately 8 hours, at which point it is terminated due to diminishing hydrocarbon recovery rates. Approximately 8 gallons of NAPL recovered as off-gas vapor.
5/28/04	Fluid gauging conducted by HBC.	No NAPL detected
6/8/04	Fluid gauging conducted by HBC.	No NAPL detected
6/16/04	Fluid gauging conducted by HBC.	No NAPL detected
7/28/04	Product recovery report submitted along with request for site closure.	Report submitted documenting 5/18/04 MDPE event and requesting site closure based on dissolved phase plume stability and lack of measurable NAPL.
9/17/04	Proposal for additional MDPE event and groundwater sampling	Submitted proposal for additional MDPE event based on TCEQ review of 7/28/04 report.
11/10/04	Fluid gauging conducted by HBC.	No NAPL detected
12/2/04	Fluid gauging conducted by HBC.	No NAPL detected
3/3/05	Fluid gauging conducted by HBC.	NAPL detected in well MW-6 (0.34')
3/17/05	MDPE event conducted by EnVac under HBC supervision.	MDPE event conducted on well MW-6. Water table depressed using submersible pump and then MDPE conducted for approximately hours. Total of gallons of NAPL recovered. Event terminated due to diminishing hydrocarbon recovery rates.
3/22/05	Groundwater monitoring event conducted by HBC. Samples collected from 10 monitor wells.	Samples collected from 10 wells. NAPL (0.05') detected in well MW-6 and well was not sampled
4/29/05	Fluid gauging conducted by HBC.	NAPL present in well MW-6 (0.05').
5/6/05	Annual groundwater monitoring report, product recovery report and request for closure submitted.	Report submitted documenting 3/17/05 MDPE event and requesting site closure based on dissolved phase plume stability and NAPL thickness below 0.10'.

III. TABLES, GRAPHS AND MAPS

The following tables, graphs and maps are attached:

- Table of analytical results
- Table of groundwater gauging data
- Groundwater elevation maps (3/3/05; 3/22/05; 4/29/05)
- Hydrocarbon distribution map (3/23/05)

IV. CONCLUSIONS AND RECOMMENDATIONS

Based on results of the groundwater monitoring and MDPE event, HBC makes the following conclusions and recommendations:

- Based on groundwater monitoring data collected at the site it appears the dissolved-phase hydrocarbon plume is stable or decreasing. This had been previously documented and no further groundwater monitoring is necessary to further document the stable plume conditions.
- Based on the results from the latest MDPE event and subsequent water level gauging, further NAPL recovery at the site does not appear to be cost effective. Additionally, it appears that the residual NAPL remaining at the site has been removed to the maximum extent practicable and that the amount remaining poses no threat to human health and the environment. HBC recommends site closure at this time. A copy of the Site Closure request Form (TNRCC-0028) is included in Appendix E.

V. QUALITY ASSURANCE/QUALITY CONTROL

The following sampling protocol was employed by HBC personnel during each sampling event:

- Each monitor well was visually inspected to ensure well integrity.
- The water level indicator was thoroughly decontaminated before and after each use.
- Each monitor well was purged of at least three well volumes or to dryness using a new, disposable bailer.
- Subsequent to sufficient recharge, groundwater samples were collected using new, disposable bailers.
- Monitor wells were sampled from least to most contaminated.

- TPH and BTEX/MTBE samples were stored in 40-milliliter VOA vials with no headspace, and preserved with hydrochloric acid. Holding time for preserved samples is 14 days.
- All samples were properly labeled, sealed with custody tape, placed in a cooler with ice, and hand delivered along with chain-of-custody documentation to DHL Analytical in Round Rock, Texas.
- Samples were analyzed using the following approved methods:
 - BTEX/MTBE - EPA SW 8021B
 - TPH - Texas 1005

FEDERAL EXPRESS CORPORATION

5811 Technicenter Drive, Austin, TX

LPST # 111747

FLUID GAUGING DATA SUMMARY

DATE	MW-1			MW-2			MW-3			MW-4		
	DTW	NAPL	GWE	DTW	NAPL	GWE	DTW	NAPL	GWE	DTW	NAPL	GWE
9/24/2001	29.68	0.00	529.42	31.01	0.00	529.21	31.89	0.00	529.06	31.30	0.00	528.89
12/27/2001	27.79	0.00	531.31	29.13	0.00	531.09	30.01	0.00	530.94	29.33	0.00	530.86
3/27/2002	29.31	0.00	529.79	30.64	0.00	529.58	31.51	0.00	529.44	30.80	0.00	529.39
6/17/2002	30.56	0.00	528.54	31.98	0.00	528.24	32.80	0.00	528.15	32.06	0.00	528.13
10/22/2003	31.23	0.00	527.87	32.58	0.01	527.65	33.47	0.00	527.48	32.72	0.00	527.47
1/27/2004	32.25	0.51	527.23	33.18	0.00	527.04	34.02	0.00	526.93	33.43	0.00	526.76
3/5/2004	31.41	0.00	527.69	32.79	0.00	527.43	NA	NA	NA	NA	NA	NA
5/18/2004*	28.76	0.48	530.70	30.28	0.00	529.94	31.09	0.00	529.86	30.39	0.00	529.80
5/18/2004**	31.49	0.00	527.61	NA	NA	NA	33.42	0.00	527.53	NA	NA	NA
5/28/2004	31.05	0.00	528.05	32.51	0.00	527.71	33.35	0.00	527.60	32.68	0.00	527.51
6/8/2004	31.01	0.00	528.09	32.50	0.00	527.72	33.35	0.00	527.60	32.58	0.00	527.61
6/16/2004	31.11	0.00	527.99	32.21	0.00	528.01	32.95	0.00	528.00	32.22	0.00	527.97
11/10/2004	32.40	0.00	526.70	32.77	0.00	527.45	32.50	0.00	528.45	31.95	0.00	528.24
12/2/2004	28.64	0.00	530.46	29.67	0.00	530.55	30.55	0.00	530.40	29.80	0.00	530.39
3/3/2005*	29.15	0.00	529.95	30.59	0.00	529.63	31.40	0.00	529.55	30.65	0.00	529.54
3/22/2005**	28.96	0.00	530.14	30.33	0.00	529.89	31.24	0.00	529.71	30.40	0.00	529.79
4/29/2005	29.45	0.00	529.65	30.79	0.00	529.43	31.65	0.00	529.30	30.90	0.00	529.29

Notes:

- 1) All measurements in feet
- 2) DTW-depth to water below top of surface casing
- 3) NAPL-non-aqueous phase liquid thickness
- 4) GWE-groundwater elevation (corrected for NAPL using 0.75 specific gravity) in feet above mean sea level
- 5) NA-No groundwater gauging data collected
- 6) * Denotes prior to MDPE event
- 7) ** Denotes immediately after MDPE event

FEDERAL EXPRESS CORPORATION

5811 Technicenter Drive, Austin, TX
 LPST # 111747

FLUID GAUGING DATA SUMMARY

DATE	MW-5			MW-6			MW-7			MW-8		
	DTW	NAPL	GWE	DTW	NAPL	GWE	DTW	NAPL	GWE	DTW	NAPL	GWE
9/24/2001	34.36	0.05	528.88	33.79	0.15	529.19	29.68	0.00	528.90	29.29	0.00	528.90
12/27/2001	32.32	0.00	530.88	31.86	0.08	531.07	27.74	0.00	530.84	27.25	0.00	530.94
3/27/2002	33.88	0.00	529.32	33.39	0.06	529.53	29.15	0.00	529.43	28.72	0.00	529.47
6/17/2002	35.06	0.00	528.14	34.30	0.01	528.58	30.43	0.00	528.15	30.00	0.00	528.19
10/22/2003	35.75	0.02	527.47	35.21	0.02	527.68	31.11	0.00	527.47	30.64	0.00	527.55
1/27/2004	36.42	0.12	526.87	37.08	1.51	526.92	31.69	0.00	526.89	31.30	0.00	526.89
3/5/2004	35.93	0.00	527.27	35.44	0.09	527.50	NA	NA	NA	NA	NA	NA
5/18/2004*	32.90	0.39	530.59	33.09	0.14	529.89	27.97	0.00	530.61	27.55	0.00	530.64
5/18/2004**	35.09	0.00	528.11	35.36	0.00	527.51	NA	NA	NA	NA	NA	NA
5/28/2004	35.65	0.00	527.55	35.11	0.00	527.76	31.00	0.00	527.58	30.63	0.00	527.56
6/8/2004	35.65	0.00	527.55	35.04	0.00	527.83	31.01	0.00	527.57	30.65	0.00	527.54
6/16/2004	35.21	0.00	527.99	34.71	0.00	528.16	30.65	0.00	527.93	30.21	0.00	527.98
11/10/2004	35.95	0.00	527.25	32.50	0.00	530.37	30.35	0.00	528.23	29.90	0.00	528.29
12/2/2004	32.85	0.00	530.35	32.33	0.00	530.54	28.24	0.00	530.34	27.72	0.00	530.47
3/3/2005*	33.75	0.00	529.45	33.41	0.34	529.72	29.05	0.00	529.53	28.69	0.00	529.50
3/22/2005**	33.49	0.00	529.71	33.35	0.05	529.56	28.80	0.00	529.78	28.42	0.00	529.77
4/29/2005	33.98	0.00	529.22	33.81	0.05	529.10	29.29	0.00	529.29	28.92	0.00	529.27

Notes:

- 1) All measurements in feet
- 2) DTW-depth to water below top of surface casing
- 3) NAPL-non-aqueous phase liquid thickness
- 4) GWE-groundwater elevation (corrected for NAPL using 0.75 specific gravity) in feet above mean sea level
- 5) NA-No groundwater gauging data collected
- 6) * Denotes prior to MDPE event
- 7) ** Denotes immediately after MDPE event

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5811 Technicenter Drive, Austin, TX
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FLUID GAUGING DATA SUMMARY

DATE	MW-9			MW-10			MW-11		
	DTW	NAPL	GWE	DTW	NAPL	GWE	DTW	NAPL	GWE
9/24/2001	34.70	0.00	529.21	34.29	0.00	528.70	34.49	0.00	529.14
12/27/2001	32.80	0.00	531.11	32.22	0.00	530.77	32.55	0.00	531.08
3/27/2002	34.32	0.00	529.59	33.70	0.00	529.29	34.10	0.00	529.53
6/17/2002	35.48	0.00	528.43	34.90	0.00	528.09	35.24	0.00	528.39
10/22/2003	36.19	0.00	527.72	35.58	0.00	527.41	36.00	0.00	527.63
1/27/2004	36.78	0.00	527.13	36.23	0.00	526.76	36.62	0.00	527.01
3/5/2004	NA	NA	NA	NA	NA	NA	NA	NA	NA
5/18/2004*	32.98	0.00	530.93	32.32	0.00	530.67	32.75	0.00	530.88
5/18/2004**	NA	NA	NA	NA	NA	NA	NA	NA	NA
5/28/2004	36.02	0.00	527.89	35.51	0.00	527.48	35.80	0.00	527.83
6/8/2004	36.03	0.00	527.88	35.45	0.00	527.54	35.88	0.00	527.75
6/16/2004	35.60	0.00	528.31	35.11	0.00	527.88	35.42	0.00	528.21
11/10/2004	32.85	0.00	531.06	32.85	0.00	530.14	32.15	0.00	531.48
12/2/2004	32.30	0.00	531.61	32.64	0.00	530.35	32.70	0.00	530.93
3/3/2005*	34.14	0.00	529.77	33.59	0.00	529.40	34.95	0.00	528.68
3/22/2005**	33.95	0.00	529.96	33.37	0.00	529.62	33.70	0.00	529.93
4/29/2005	34.24	0.00	529.67	33.45	0.00	529.54	34.19	0.00	529.44

Notes:

- 1) All measurements in feet
- 2) DTW-depth to water below top of surface casing
- 3) NAPL-non-aqueous phase liquid thickness
- 4) GWE-groundwater elevation (corrected for NAPL using 0.75 specific gravity) in feet above mean sea level
- 5) NA-No groundwater gauging data collected
- 6) * Denotes prior to MDPE event
- 7) ** Denotes immediately after MDPE event

FEDERAL EXPRESS CORPORATION

5811 Technicenter Drive, Austin, TX

LPST # 111747

GROUNDWATER ANALYTICAL DATA SUMMARY

(all concentrations in mg/L)

MW-1										
DATE	PAH	TDS	TPH (C6-C12)	TPH (C12-C28)	TPH (C28-C35)	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
11/11/1996	NAPL									
7/16/1998	NAPL									
10/5/2000	NAPL									
4/4/2001	NA	NA	14.1(C6-C10)	43.0(>C10-C28)	NA	0.480	1.240	0.226	6.010	0.113
9/24/2001	NA	NA	55.40	6.67	<4.84	0.253	0.685	0.196	6.990	0.062
12/27/2001	NA	NA	12.90	<4.85	<4.85	0.129	0.364	0.105	2.380	0.054
3/27/2002	NA	NA	5.82	2.88	<1.95	0.045	0.107	0.041	0.952	0.040
6/17/2002	NA	NA	4.81	<1.94	<1.94	0.036	0.108	0.039	0.954	<0.080
10/22/2003	NA	NA	23.50	4.41	<1.98	0.025	0.109	0.066	1.790	0.067
1/28/2004	NAPL									
3/23/2005	NA	NA	NA	NA	NA	0.190	0.835	0.175	9.180	0.192

MW-2										
DATE	PAH	TDS	TPH (C6-C12)	TPH (C12-C28)	TPH (C28-C35)	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
11/11/1996	NAPL									
7/16/1998	NAPL									
10/5/2000	NAPL									
4/4/2001	1.877*	NA	55.2(C6-C10)	109(>C10-C28)	NA	0.045	2.330	0.175	8.610	0.313
9/24/2001	0.636**	NA	149.00	40.50	<4.72	0.265	2.180	0.442	6.400	0.458
12/27/2001	1.669***	NA	104.00	24.70	<4.87	0.036	2.480	0.927	10.600	0.249
3/27/2002	0.525****	NA	35.60	7.59	<1.94	0.032	0.804	1.040	8.740	0.197
6/17/2002	0.356*****	NA	24.0	4.2	<1.95	0.055	0.486	0.934	8.010	<0.020
10/22/2003	NAPL									
1/28/2004			217.0	142.0	<1.98	0.0269	0.194	0.438	5.240	0.163
3/23/2005	NA	NA	18.6	1.2 (J)	<0.67	0.0350	0.104	0.513	7.500	0.242

*-Benzo(a)anthracene-0.0005, Benzo(b)fluoranthene-0.0007, Benzoperylene-0.0006, Benzo(k)fluoranthene-0.0007, Chrysene-0.0009, Fluoranthene-0.002, Naphthalene-1.86, Phenanthrene-0.01, Pyrene-0.001

**-Acenaphthene-0.004, Anthracene-0.0009, Benzo(a)anthracene-0.0003, Benzo(b)fluoranthene-0.0003, Benzoperylene-0.0003, Benzo(a)pyrene-0.0003, Chrysene-0.0003, Fluoranthene-0.0006, Fluorene-0.007, Naphthalene-0.619, Phenanthrene-0.003, Pyrene-0.001

***-Acenaphthene-0.017, Fluoranthene-0.002, Fluorene-0.030, Naphthalene-1.60, Phenanthrene-0.014, Pyrene-0.006

****-Acenaphthene-0.0009, Fluorene-0.001, Naphthalene-0.522, Phenanthrene-0.0005

*****-Acenaphthene-0.0004, Fluorene-0.0007, Naphthalene-0.355, Phenanthrene-0.0003

FEDERAL EXPRESS CORPORATION

5811 Technicenter Drive, Austin, TX

LPST # 111747

GROUNDWATER ANALYTICAL DATA SUMMARY

(all concentrations in mg/L)

MW-3										
DATE	PAH	TDS	TPH (C6-C12)	TPH (C12-C28)	TPH (C28-C35)	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
11/11/1996	NA	478	10(Total)	NA	NA	1.920	2.250	0.313	2.880	1.150
7/16/1998	NAPL									
10/5/2000	NAPL									
4/4/2001	NA	NA	7.22(C6-C10)	13.3(>C10-C28)	NA	0.219	0.162	0.111	0.888	0.024
9/24/2001	NA	NA	19.70	<4.75	<4.75	0.241	0.072	0.114	0.906	0.056
12/27/2001	NA	NA	<4.85	<4.85	<4.85	0.096	0.023	0.027	0.266	0.017
3/27/2002	NA	NA	2.05	<1.96	<1.96	0.135	0.015	0.045	0.151	0.034
6/17/2002	NA	NA	3.48	<2.0	<2.0	0.121	0.015	0.051	0.222	0.028
10/22/2003	NA	NA	3.07	0.88	<1.97	0.220	0.053	0.099	0.381	0.097
1/28/2004	NA	NA	6.50	1.70	<2.02	0.310	0.176	0.135	0.631	0.140
3/23/2005	NA	NA	NA	NA	NA	0.120	0.024	0.049	0.177	0.047

MW-4										
DATE	PAH	TDS	TPH (C6-C12)	TPH (C12-C28)	TPH (C28-C35)	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
2/18/1997	NA	NA	<0.50(Total)	NA	NA	0.004	<0.001	<0.001	<0.001	<0.001
7/16/1998	NAPL									
10/5/2000	NAPL									
4/4/2001	NA	NA	14.6(C6-C10)	43.1(>C10-C28)	NA	0.174	0.656	0.419	2.630	0.320
9/24/2001	NA	NA	20.90	<4.73	<4.73	1.030	1.770	0.364	3.460	0.155
12/27/2001	NA	NA	18.50	5.15	<4.84	1.290	2.780	0.596	6.370	0.216
3/27/2002	NA	NA	20.40	4.48	<1.93	1.270	3.510	0.408	5.500	0.420
6/17/2002	NA	NA	11.00	2.64	<1.96	0.551	1.100	0.246	2.570	<0.020
10/22/2003	NA	NA	23.10	3.27	<1.95	0.125	0.343	0.121	1.160	0.321
1/28/2004	NA	NA	47.40	19.20	<1.99	0.577	2.940	0.735	8.050	0.574
3/22/2005	NA	NA	88.40	9.19	1.3 (J)	0.220	2.000	0.868	8.810	0.754

FEDERAL EXPRESS CORPORATION

5811 Technicenter Drive, Austin, TX

LPST # 111747

GROUNDWATER ANALYTICAL DATA SUMMARY

(all concentrations in mg/L)

MW-5										
DATE	PAH	TDS	TPH (C6-C12)	TPH (C12-C28)	TPH (C28-C35)	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
2/18/1997	0.0006*	NA	3.9(Total)	NA	NA	0.520	0.811	0.096	1.070	0.449
7/16/1998						NAPL				
10/5/2000						NAPL				
4/4/2001						NAPL				
9/24/2001						NAPL				
12/27/2001	NA	NA	28.60	5.88	<4.81	3.57	3.98	0.62	6.07	2.85
3/27/2002	NA	NA	10.30	3.61	<1.99	2.90	2.29	0.40	2.36	2.04
6/17/2002	NA	NA	16.50	2.47	<1.93	3.09	2.74	0.50	3.21	2.13
10/22/2003						NAPL				
1/28/2004						NAPL				
3/22/2005	NA	NA	21	<0.67	<0.67	4.81	3.86	0.43	5.38	3.19

MW-7										
DATE	PAH	TDS	TPH (C6-C12)	TPH (C12-C28)	TPH (C28-C35)	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
2/18/1997	NA	NA	<0.5(Total)	NA	NA	<0.001	<0.001	<0.001	<0.001	<0.01
7/16/1998	NA	NA	<5.1(C6-C10)	<5.1(>C10-C28)	NA	<0.001	<0.001	<0.001	<0.002	<0.02
11/19/1998	NA	NA	<4.4(C6-C10)	<4.4(>C10-C28)	NA	<0.005	<0.005	<0.005	<0.005	<0.005
10/5/2000	NA	NA	<5(C6-C10)	<5(>C10-C28)	NA	<0.005	<0.005	<0.005	<0.005	<0.005
4/4/2001	NA	NA	<6.44(C6-C10)	<6.44(>C10-C28)	NA	<0.002	<0.004	<0.004	<0.004	<0.004
9/24/2001	NA	NA	<4.78	<4.78	<4.78	<0.002	<0.004	<0.004	<0.004	<0.004
12/27/2001	NA	NA	<4.84	<4.84	<4.84	<0.002	<0.004	<0.004	<0.004	<0.004
3/27/2002	NA	NA	<1.98	<1.98	<1.98	<0.002	<0.004	<0.004	<0.004	<0.004
6/17/2002	NA	NA	<1.95	<1.95	<1.95	<0.002	<0.004	<0.004	<0.004	<0.004
10/22/2003	NA	NA	NA	NA	NA	<0.0008	<0.002	<0.002	<0.003	<0.002
1/28/2004	NA	NA	NA	NA	NA	<0.0008	<0.002	<0.002	<0.003	<0.002
3/22/2005	NA	NA	NA	NA	NA	<0.0008	<0.002	<0.002	<0.003	<0.002

*-Fluorene detected at 0.006 mg/L

FEDERAL EXPRESS CORPORATION

5811 Technicenter Drive, Austin, TX

LPST # 111747

GROUNDWATER ANALYTICAL DATA SUMMARY

(all concentrations in mg/L)

MW-8										
DATE	PAH	TDS	TPH (C6-C12)	TPH (C12-C28)	TPH (C28-C35)	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
2/18/1997	NA	NA	<0.05(Total)	NA	NA	0.005	0.003	<0.001	0.004	<0.01
7/20/1998	NA	NA	<4.9(C6-C10)	<4.9(>C10-C28)	NA	0.034	0.004	0.007	0.020	<0.02
11/19/1998	NA	NA	<6(C6-C10)	<6(>C10-C28)	NA	<0.005	<0.005	<0.005	<0.005	<0.005
10/5/2000	NA	NA	<5(C6-C10)	<5(>C10-C28)	NA	0.007	<0.005	<0.005	<0.005	<0.005
4/4/2001	NA	NA	<4.67(C6-C10)	<4.67(>C10-C28)	NA	0.029	0.005	<0.004	0.011	0.004
9/24/2001	NA	NA	<4.89	<4.89	<4.89	0.014	0.010	<0.004	0.114	0.006
12/27/2001	NA	NA	<4.90	<4.90	<4.90	0.011	<0.004	<0.004	<0.004	0.006
3/27/2002	NA	NA	<1.97	<1.97	<1.97	0.015	<0.004	<0.004	0.020	0.012
6/17/2002	NA	NA	<1.95	<1.95	<1.95	<0.002	<0.004	<0.004	<0.004	<0.004
10/22/2003	NA	NA	NA	NA	NA	<0.0008	<0.002	<0.002	<0.003	<0.002
1/28/2004	NA	NA	NA	NA	NA	<0.0008	<0.002	<0.002	<0.003	<0.002
3/23/2005	NA	NA	NA	NA	NA	0.020	0.0053 (J)	0.008	0.044	0.012

MW-9										
DATE	PAH	TDS	TPH (C6-C12)	TPH (C12-C28)	TPH (C28-C35)	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
3/24/1997	NA	NA	1.2(Total)	NA	NA	0.106	0.120	0.008	0.135	0.038
7/16/1998	NA	NA	<5.3(C6-C10)	<5.3(>C10-C28)	NA	<0.001	<0.001	<0.001	0.002	0.035
11/19/1998	NA	NA	<4.1(C6-C10)	<4.1(>C10-C28)	NA	0.012	<0.005	<0.005	<0.005	0.178
10/5/2000	0.002*	NA	<5(C6-C10)	<5(>C10-C28)	NA	0.149	<0.005	<0.005	<0.005	0.225
4/4/2001	NA	NA	<5.5(C6-C10)	<5.5(>C10-C28)	NA	0.154	<0.004	<0.004	<0.004	0.454
9/24/2001	NA	NA	<4.95	<4.95	<4.95	0.005	<0.004	<0.004	<0.004	0.129
12/27/2001	NA	NA	<4.87	<4.87	<4.87	<0.002	<0.004	<0.004	<0.004	0.060
3/27/2002	NA	NA	<1.98	<1.98	<1.98	<0.002	<0.004	<0.004	<0.004	0.034
6/17/2002	NA	NA	<1.95	<1.95	<1.95	<0.002	<0.004	<0.004	<0.004	0.074
10/22/2003	NA	NA	NA	NA	NA	<0.0008	<0.002	<0.002	<0.003	<0.002
1/28/2004	NA	NA	NA	NA	NA	<0.0008	<0.002	<0.002	<0.003	0.128
3/22/2005	NA	NA	NA	NA	NA	<0.0008	<0.002	<0.002	<0.003	0.012

*-Naphthalene detected at 0.002 mg/L

FEDERAL EXPRESS CORPORATION

5811 Technicenter Drive, Austin, TX

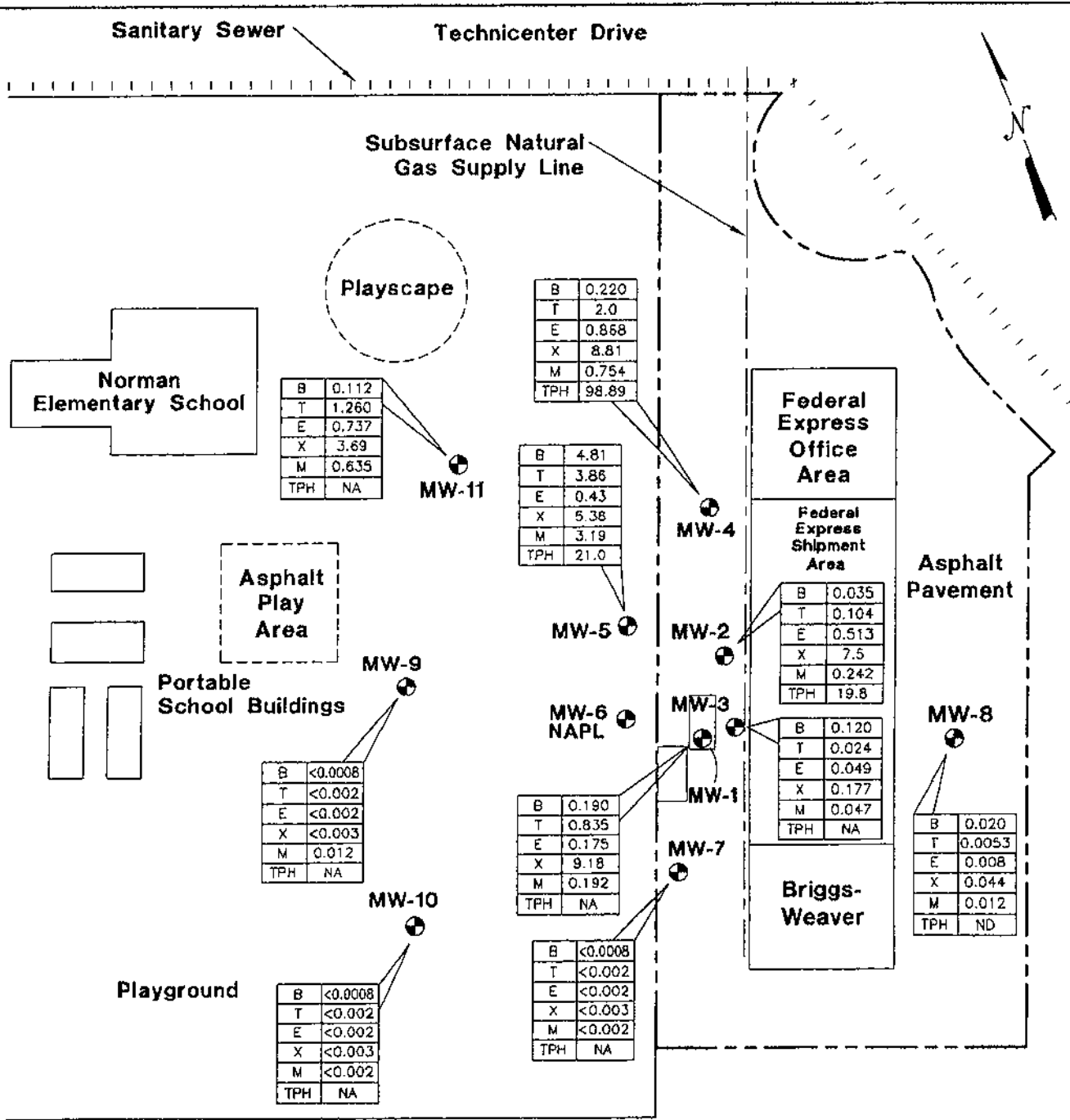
LPST # 111747

GROUNDWATER ANALYTICAL DATA SUMMARY

(all concentrations in mg/L)

MW-10										
DATE	PAH	TDS	TPH (C6-C12)	TPH (C12-C28)	TPH (C28-C35)	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
3/24/1997	NA	NA	<0.5(Total)	NA	NA	<0.001	<0.001	<0.001	<0.001	<0.01
7/16/1998	NA	NA	<4.8(C6-C10)	<4.8(>C10-C28)	NA	<0.001	<0.001	<0.001	0.002	<0.02
11/19/1998	NA	NA	<4.7(C6-C10)	<4.7(>C10-C28)	NA	<0.005	<0.005	<0.005	<0.005	<0.005
10/5/2000	NA	NA	<5(C6-C10)	<5(>C10-C28)	NA	<0.005	<0.005	<0.005	<0.005	<0.005
4/4/2001	NA	NA	<4.89(C6-C10)	<4.89(>C10-C28)	NA	<0.002	<0.004	<0.004	<0.004	<0.004
9/24/2001	NA	NA	<4.84	<4.84	<4.84	<0.002	<0.004	<0.004	<0.004	<0.004
12/27/2001	NA	NA	<4.81	<4.81	<4.81	<0.002	<0.004	<0.004	<0.004	<0.004
3/27/2002	NA	NA	<1.97	<1.97	<1.97	<0.002	<0.004	<0.004	<0.004	<0.004
6/17/2002	NA	NA	<1.95	<1.95	<1.95	<0.002	<0.004	<0.004	<0.004	<0.004
10/22/2003	NA	NA	NA	NA	NA	<0.0008	<0.002	<0.002	<0.003	0.116
1/28/2004	NA	NA	NA	NA	NA	<0.0008	<0.002	<0.002	<0.003	<0.002
3/22/2005	NA	NA	NA	NA	NA	<0.0008	<0.002	<0.002	<0.003	<0.002

MW-11										
DATE	PAH	TDS	TPH (C6-C12)	TPH (C12-C28)	TPH (C28-C35)	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
3/24/1997	NA	NA	<0.50(Total)	NA	NA	<0.001	<0.001	<0.001	<0.001	<0.01
7/16/1998	NA	NA	<5(C6-C10)	<5(>C10-C28)	NA	0.053	0.009	0.003	0.012	0.026
11/19/1998	NA	NA	25.3(C6-C10)	<4.4(>C10-C28)	NA	1.850	2.200	0.036	2.210	<0.005
10/5/2000	NA	NA	<5(C6-C10)	<5(>C10-C28)	NA	<0.005	<0.005	<0.005	<0.005	<0.005
4/4/2001	NA	NA	<5.28(C6-C10)	<5.28(>C10-C28)	NA	1.770	3.570	0.399	2.600	0.525
9/24/2001	NA	NA	9.67	<4.79	<4.79	1.620	3.080	0.625	2.480	0.134
12/27/2001	NA	NA	<4.85	<4.85	<4.85	0.071	0.085	0.088	0.142	0.040
3/27/2002	NA	NA	16.10	3.88	<1.96	1.010	5.170	0.894	4.350	0.409
6/17/2002	NA	NA	11.00	2.09	<1.96	0.952	3.550	0.523	2.390	<0.020
10/22/2003	NA	NA	4.78	<1.95	<1.95	0.049	0.616	0.209	0.774	0.239
1/28/2004	NA	NA	3.51	<2.0	<2.0	0.0416	0.336	0.116	0.475	0.145
3/22/2005	NA	NA	NA	NA	NA	0.1120	1.260	0.737	3.690	0.635



MW-11

B	0.112
T	1.260
E	0.737
X	3.69
M	0.635
TPH	NA

MW-4

B	0.220
T	2.0
E	0.868
X	8.81
M	0.754
TPH	98.89

MW-5

B	4.81
T	3.86
E	0.43
X	5.38
M	3.19
TPH	21.0

Federal Express Office Area

Federal Express Shipment Area

MW-2

B	0.035
T	0.104
E	0.513
X	7.5
M	0.242
TPH	19.8

MW-3

B	0.120
T	0.024
E	0.049
X	0.177
M	0.047
TPH	NA

Asphalt Pavement

MW-8

B	0.020
T	0.0053
E	0.008
X	0.044
M	0.012
TPH	ND

MW-9

B	<0.0008
T	<0.002
E	<0.002
X	<0.003
M	0.012
TPH	NA

MW-6 NAPL

B	0.190
T	0.835
E	0.175
X	9.18
M	0.192
TPH	NA

MW-7

B	<0.0008
T	<0.002
E	<0.002
X	<0.003
M	<0.002
TPH	NA

Briggs-Weaver

MW-10

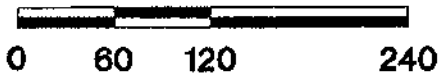
B	<0.0008
T	<0.002
E	<0.002
X	<0.003
M	<0.002
TPH	NA

LEGEND

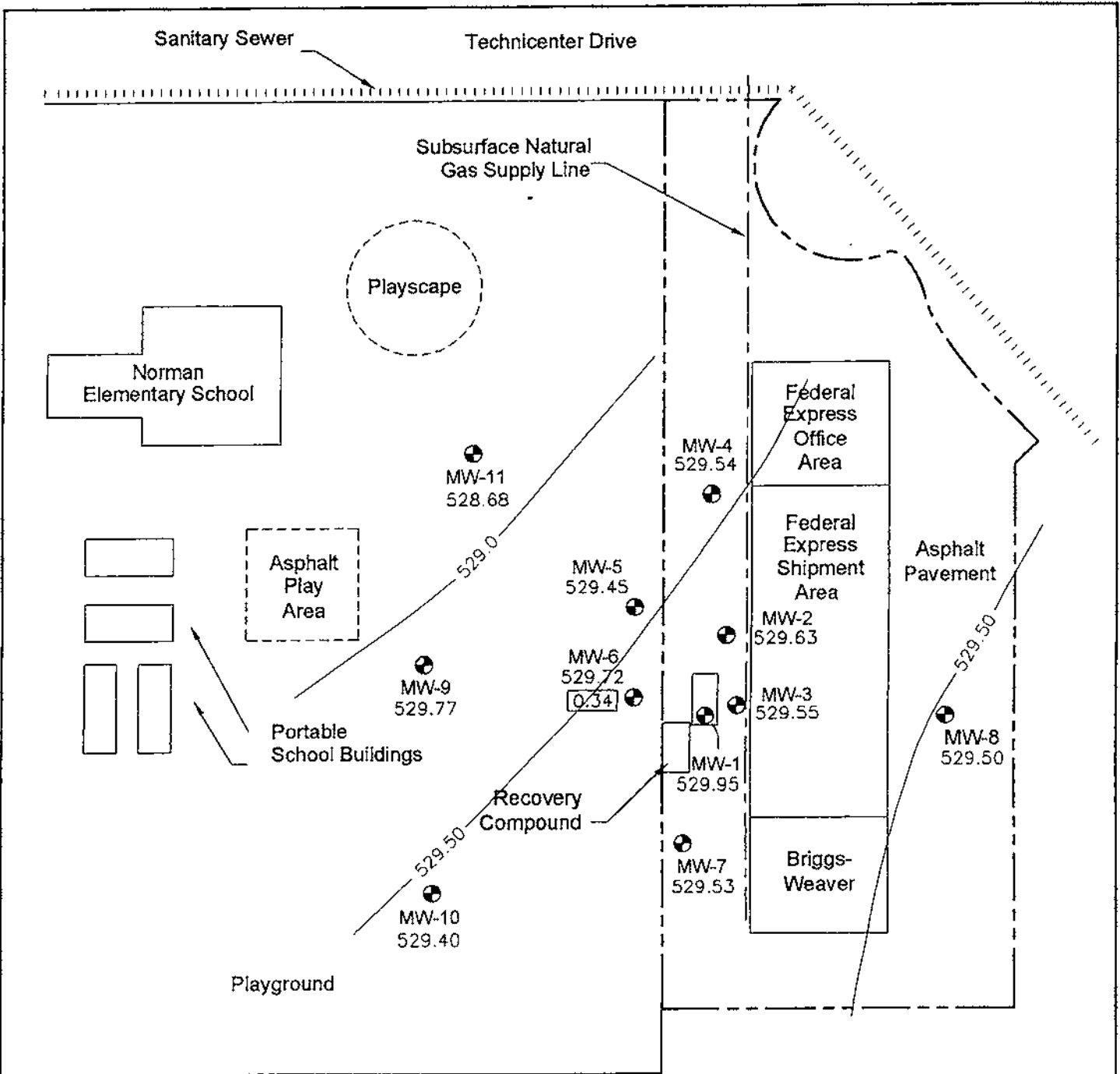
- Monitoring Well Locations
- B Benzene
- T Toluene
- E Ethylbenzene
- X Xylenes
- M MTBE
- TPH Total Petroleum Hydrocarbons

*All concentrations in mg/L


SCALE-FEET



Terracon
Hydrocarbon Distribution
 (3/23/05)
 Federal Express
 Austin, Texas
 Terracon Project No. 96007145

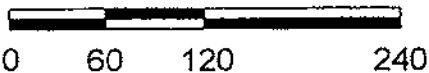


LEGEND

-  Monitoring Well Locations
- 529.77 Groundwater Elevation (Ft. MSL)
- 0.34 NAPL Thickness (Ft.)
- 529— Groundwater Elevation Contour (Ft. MSL)



SCALE-FEET

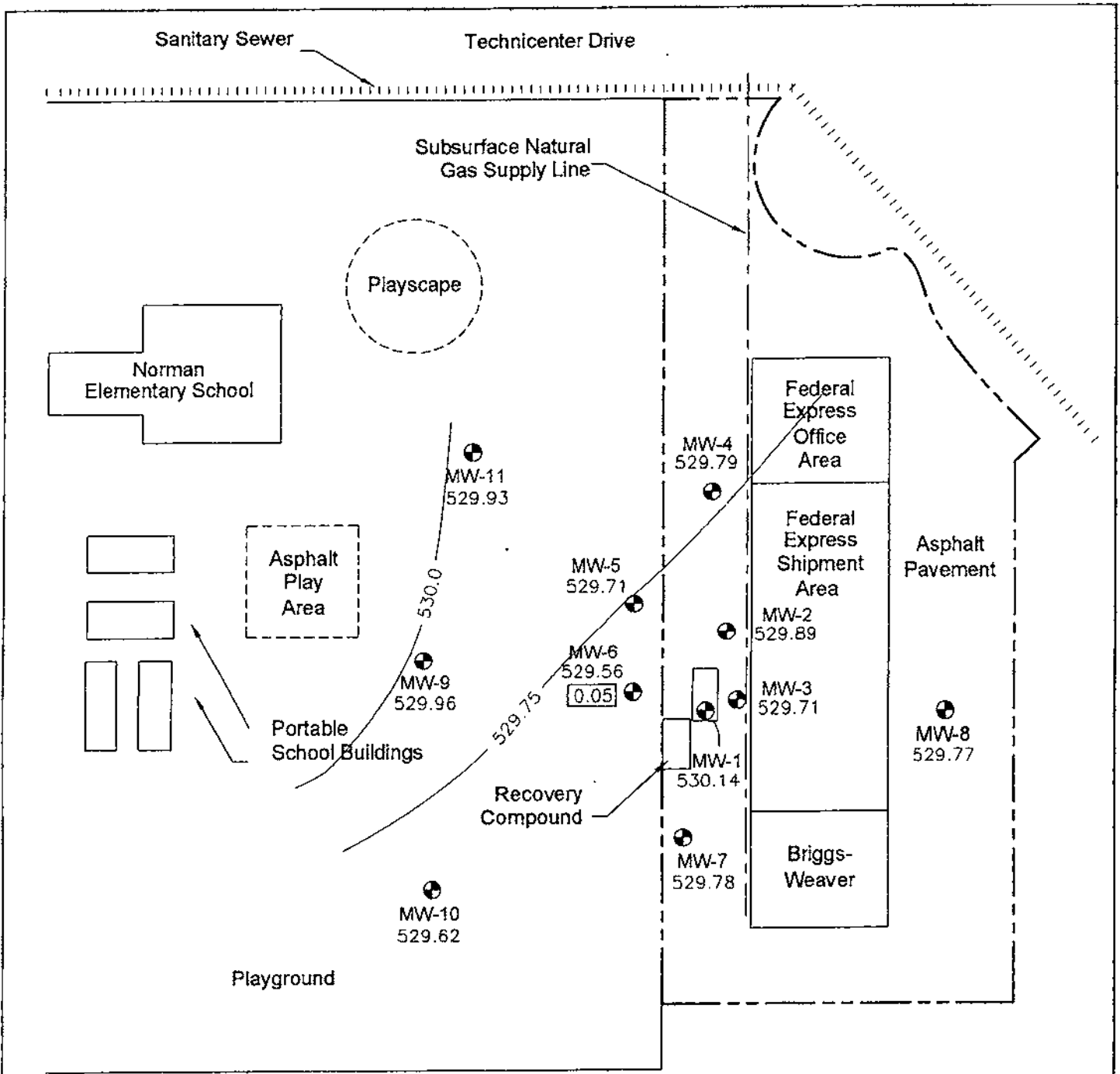


Terracon
Groundwater Elevation Map

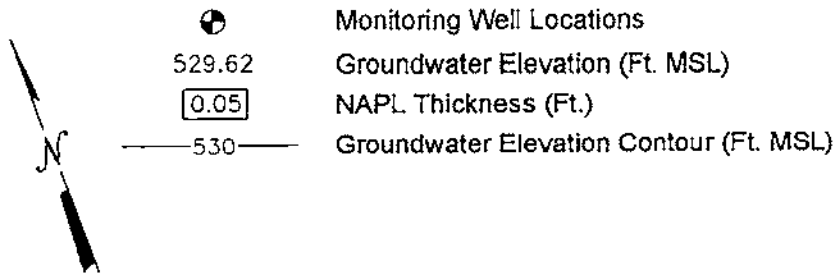
(3/03/05)

Federal Express
Austin, Texas

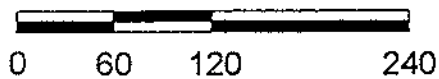
Terracon Project No. 96007145



LEGEND



SCALE-FEET

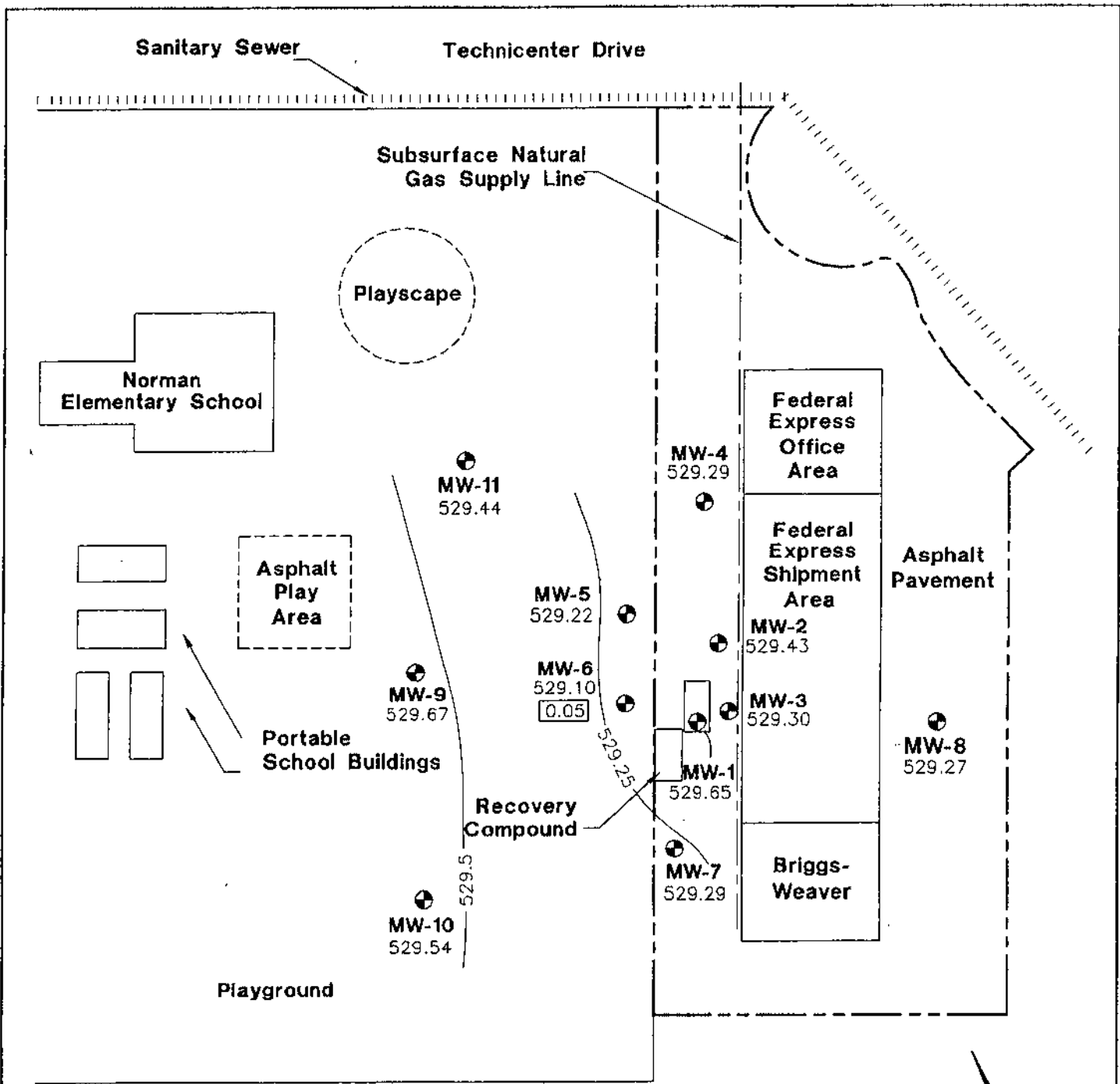


Terracon
Groundwater Elevation Map



(3/22/05)

Federal Express
 Austin, Texas

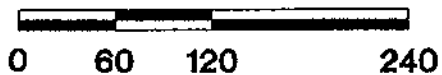
Terracon Project No. 96007145



LEGEND

-  Monitoring Well Locations
- 530.70 Groundwater Elevation (Ft. MSL)
-  NAPL Thickness (Ft.)
- 530— Groundwater Elevation Contour (Ft. MSL)

SCALE-FEET



Terracon
Groundwater Elevation Map
 (4/29/05)
 Federal Express
 Austin, Texas
 Terracon Project No. 96007145



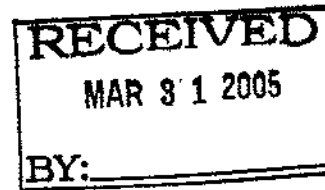
March 25, 2005

Russ Ford
HBC/Terracon
5307 Industrial Oaks Blvd., Suite 160
Austin, Texas 78735

TEL: (512) 442-1122
FAX (512) 442-1181

RE: Fed Ex

Dear Russ Ford:



Order No.: 0503162

DHL Analytical received 2 samples on 3/18/2005 for the analyses presented in the following report.

There were no problems with the analyses and all data met requirements of NELAC except where noted in the Case Narrative. All non-NELAC methods will be identified accordingly in the case narrative and all estimated uncertainties of test results are within method or EPA specifications.

If you have any questions regarding these tests results, please feel free to call. Thank you for using DHL Analytical.

Sincerely,

A handwritten signature in black ink, appearing to read "John DuPont".

John DuPont
General Manager



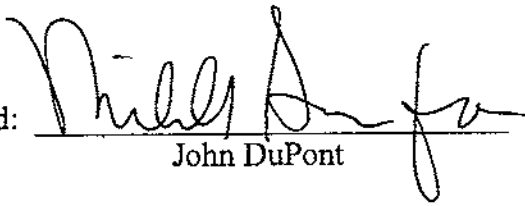
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This report for HBC Engineering: Fed Ex (DHL Work Order 0503162) contains the following information:

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• Case Narrative	8
• Work Order Summary	9
• Preparation Dates Report	10
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• Sample Results	12-13
• QC Summary Report	14-15
• MQL Summary Report	16
• Total Number of Pages	16

March 25, 2005

Approved: _____


John DuPont

DHL Analytical

Sample Receipt Checklist

Client Name HBC/Terracon

Date Received: 3/18/05

Work Order Number 0503162

Received by CAC

Checklist completed by Martin West 3.18.05
Signature Date

Reviewed by JJD 3/18/05
Initials Date

Carrier name: Hand Delivered

- Shipping container/cooler in good condition? Yes No Not Present
- Custody seals intact on shipping container/cooler? Yes No Not Present
- Custody seals intact on sample bottles? Yes No Not Present
- Chain of custody present? Yes No
- Chain of custody signed when relinquished and received? Yes No
- Chain of custody agrees with sample labels? Yes No
- Samples in proper container/bottle? Yes No
- Sample containers intact? Yes No
- Sufficient sample volume for indicated test? Yes No
- All samples received within holding time? Yes No
- Container/Temp Blank temperature in compliance? Yes No
- Water - VOA vials have zero headspace? Yes No VOA vials submitted Yes No
- Water - pH acceptable upon receipt? Yes No NotApplicable

Adjusted? _____ Checked by _____

Any No response must be detailed in the comments section below.

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action Taken: _____

Laboratory Data Package Signature Page

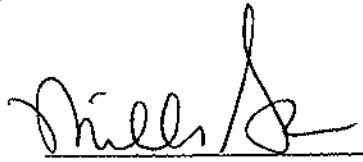
This data package consists of:

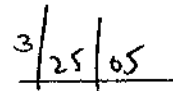
This signature page, the laboratory review checklist, and the following reportable data:

- R1 Field chain-of-custody documentation;
 - R2 Sample identification cross-reference;
 - R3 Test reports (analytical data sheets) for each environmental sample that includes:
 - a) Items consistent with NELAC 5.13
 - b) dilution factors,
 - c) preparation methods,
 - d) cleanup methods, and
 - e) if required for the project, tentatively identified compounds (TICs).
 - R4 Surrogate recovery data including:
 - a) Calculated recovery (%R), and
 - b) The laboratory's surrogate QC limits.
 - R5 Test reports/summary forms for blank samples;
 - R6 Test reports/summary forms for laboratory control samples (LCSs) including:
 - a) LCS spiking amounts,
 - b) Calculated %R for each analyte, and
 - c) The laboratory's LCS QC limits.
 - R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - a) Samples associated with the MS/MSD clearly identified,
 - b) MS/MSD spiking amounts,
 - c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
 - d) Calculated %Rs and relative percent differences (RPDs), and
 - e) The laboratory's MS/MSD QC limits
 - R8 Laboratory analytical duplicate (if applicable) recovery and precision:
 - a) the amount of analyte measured in the duplicate,
 - b) the calculated RPD, and
 - c) the laboratory's QC limits for analytical duplicates.
 - R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix;
 - R10 Other problems or anomalies.
- The Exception Report for every "No" or "Not Reviewed (NR)" item in laboratory review checklist.

Release Statement: I am responsible for the release of this laboratory data package. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By me signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratory in the Laboratory Review Checklist, and no information or data have been knowingly withheld that would affect the quality of the data.

Scott Schroeder – Project Manager
Michelle Green – QA Manager
John DuPont – General Manager


Signature


Date

DHL Analytical, Inc.

Laboratory Review Checklist: Reportable Data

Project Name: <i>fel Ex</i>	Date: <i>3/25/05</i>
Reviewer Name: <i>Carlos Castro</i>	Laboratory Work Order: <i>0503162</i>
Prep Batch Number(s): <i>See Prep Dates Report</i>	Run Batch: <i>See Analytical Dates Report</i>

#1	A2	Description	Yes	No	NA ³	NR ⁴	ER# ⁵
R1	OI	CHAIN-OF-CUSTODY (C-O-C)					
		1) Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	✓				R1-01
		2) Were all departures from standard conditions described in an exception report?			✓		
R2	OI	SAMPLE AND QUALITY CONTROL (QC) IDENTIFICATION					
		1) Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	✓				
		2) Are all laboratory ID numbers cross-referenced to the corresponding QC data?	✓				
R3	OI	TEST REPORTS					
		1) Were all samples prepared and analyzed within holding times?	✓				
		2) Other than those results < MQL, were all other raw values bracketed by calibration standards?	✓				
		3) Were calculations checked by a peer or supervisor?	✓				
		4) Were all analyte identifications checked by a peer or supervisor?	✓				
		5) Were sample quantitation limits reported for all analytes not detected?	✓				
		6) Were all results for soil and sediment samples reported on a dry weight basis?			✓		
		7) Were % moisture (or solids) reported for all soil and sediment samples?			✓		
		8) If required for the project, TICs reported?			✓		
R4	O	SURROGATE RECOVERY DATA					
		1) Were surrogates added prior to extraction?			✓		
		2) Were surrogate percent recoveries in all samples within the laboratory QC limits?			✓		
R5	OI	TEST REPORTS/SUMMARY FORMS FOR BLANK SAMPLES					
		1) Were appropriate type(s) of blanks analyzed?	✓				
		2) Were blanks analyzed at the appropriate frequency?	✓				
		3) Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	✓				
		4) Were blank concentrations < MQL?	✓				
R6	OI	LABORATORY CONTROL SAMPLES (LCS)					
		1) Were all COCs included in the LCS?			✓		
		2) Was each LCS taken through the entire analytical procedure, (prep and cleanup steps)?			✓		
		3) Were LCSs analyzed at the required frequency?			✓		
		4) Were LCS (and LCSD, if applicable) %Rs & RPD recovery within the laboratory QC limits?			✓		
		5) Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?			✓		
R7	OI	MATRIX SPIKE (MS) AND MATRIX SPIKE DUPLICATE (MSD) DATA					
		1) Were the project/method specified analytes included in the MS and MSD?			✓		
		2) Were MS/MSD analyzed at the appropriate frequency?			✓		
		3) Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?			✓		
		4) Were MS/MSD RPDs within laboratory QC limits?			✓		
R8	OI	ANALYTICAL DUPLICATE DATA					
		1) Were appropriate analytical duplicates analyzed for each matrix?	✓				
		2) Were analytical duplicates analyzed at the appropriate frequency?	✓				
		3) Were RPDs or relative standard deviations within the laboratory QC limits?	✓				
R9	OI	METHOD QUANTITATION LIMITS (MQLS)					
		1) Are the MQLs for each method analyte included in the laboratory data package?	✓				
		2) Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	✓				
		3) Are unadjusted MQLs included in the laboratory data package?	✓				
R10	OI	OTHER PROBLEMS/ANOMALIES					
		1) Are all known problems/anomalies/special conditions noted in this LRC and ER?			✓		
		2) Were all necessary corrective actions performed for the reported data?	✓				
		3) Was applicable and available technology used to lower the SQL minimize the matrix interference affects on the sample results?	✓				

DHL Analytical, Inc.

Laboratory Review Checklist (continued): Supporting Data

Project Name: tel Ex

Date: 3/25/05

Reviewer Name: Carlos Castro

Laboratory Work Order: 0503162

# ¹	A ²	Description	Yes	No	NA ³	NR ⁴	ER# ⁵
S1	OI	INITIAL CALIBRATION (ICAL)					
		1) Were response factors and/or relative response factors for each analyte within QC limits?	✓				
		2) Were percent RSDs or correlation coefficient criteria met?	✓				
		3) Was the number of standards recommended in the method used for all analytes?	✓				
		4) Were all points generated between the lowest and highest standard used to calculate the curve?	✓				
		5) Are ICAL data available for all instruments used?	✓				
		6) Has the initial calibration curve been verified using an appropriate second source standard?	✓				
S2	OI	INITIAL AND CONTINUING CALIBRATION VERIFICATION (ICCV AND CCV) AND CONTINUING CALIBRATION BLANK (CCB)					
		1) Was the CCV analyzed at the method-required frequency?	✓				
		2) Were percent differences for each analyte within the method-required QC limits?	✓				
		3) Was the ICAL curve verified for each analyte?	✓				
		4) Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	✓				
S3	O	MASS SPECTRAL TUNING					
		1) Was the appropriate compound for the method used for tuning?			✓		
		2) Were ion abundance data within the method-required QC limits?			✓		
S4	O	INTERNAL STANDARDS (IS)					
		1) Were IS area counts and retention times within the method-required QC limits?			✓		
S5	OI	RAW DATA (NELAC SECTION 1 APPENDIX A GLOSSARY, & SECTION 5.12)					
		1) Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	✓				
		2) Were data associated with manual integrations flagged on the raw data?	✓				
S6	O	DUAL COLUMN CONFIRMATION					
		1) Did dual column confirmation results meet the method-required QC?	✓				
S7	O	TENTATIVELY IDENTIFIED COMPOUNDS (TICS)					
		1) If TICS were requested, were the mass spectra and TIC data subject to appropriate checks?			✓		
S8	I	INTERFERENCE CHECK SAMPLE (ICS) RESULTS					
		1) Were percent recoveries within method QC limits?			✓		
S9	I	SERIAL DILUTIONS, POST DIGESTION SPIKES, AND METHOD OF STANDARD ADDITIONS					
		1) Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			✓		
S10	OI	METHOD DETECTION LIMIT (MDL) STUDIES					
		1) Was a MDL study performed for each reported analyte?	✓				
S11	OI	PROFICIENCY TEST REPORTS					
		1) Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	✓				
S12	OI	STANDARDS DOCUMENTATION					
		1) Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	✓				
S13	OI	COMPOUND/ANALYTE IDENTIFICATION PROCEDURES					
		1) Are the procedures for compound/analyte identification documented?	✓				
S14	OI	DEMONSTRATION OF ANALYST COMPETENCY (DOC)					
		1) Was DOC conducted consistent with NELAC Chapter 5C?	✓				
S15	OI	VERIFICATION/VALIDATION DOCUMENTATION FOR METHODS (NELAC)					
		1) Are all the methods used to generate the data documented, verified, and validated, where applicable?	✓				
S16	OI	LABORATORY STANDARD OPERATING PROCEDURES (SOPS)					
		1) Are the laboratory SOPs current and on file for each method performed?	✓				

1 Items identified by the letter "R" should be included in the laboratory data package submitted to the TCEQ in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.

2 O = organic analyses; I = inorganic analyses (and general chemistry, when applicable).

3 NA = Not applicable. 4 NR = Not Reviewed.

5 ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

CLIENT: HBC/Terracon
Project: Fed Ex
Lab Order: 0503162

CASE NARRATIVE

Samples were analyzed using the methods outlined in the following references:

Method SW8021B - Volatiles in Air by GC

Method SW8015B - TPH in Air

Exception Report R1-01

Samples were received and log-in performed on 3/18/05. A total of 2 samples were received. The samples arrived in good condition and were properly packaged.

DATA REPORTING

Sample reports include the Sample Quantitation Limit (SQL) and the Reporting Limit (RL) for each analyte. The computer system allows for reporting SQL with 2 significant figures and the RL with 3 significant figures. Because of rounding it may sometime appear that a "J" flagged result is lower than the SQL if the sample result is very near the SQL.

CLIENT: HBC/Terracon
Project: Fed Ex
Lab Order: 0503162

Work Order Sample Summary

Lab Sam ID	Client Sample ID	Tag Number	Collection Date	Date Recved
0503162-01	Influent 1		3/17/2005 10:00:00 P	3/18/2005
0503162-02	Influent 2		3/18/2005 9:20:00 AM	3/18/2005

Lab Order: 0503162
Client: HBC/Terracon
Project: Fed Ex

PREP DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch I
0503162-01A	Influent 1	3/17/2005 10:00:00 PM	Air	SW8015B	TPH Air Prep	3/18/2005 6:47:42 PM	18671
0503162-02A	Influent 2	3/18/2005 9:20:00 AM	Air	SW8015B	TPH Air Prep	3/18/2005 6:47:42 PM	18671
	Influent 2	3/18/2005 9:20:00 AM	Air	SW8021B	BTEX in Air	3/18/2005 12:50:39 P	R21433

Lab Order: 0503162
Client: HBC/Tetracon
Project: Fed Ex

ANALYTICAL DATES REPORT

Sample ID	Client Sample ID	Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
0503162-01A	Influent 1	Air	SW8015B	TPH Air as hexane	18671	1	3/18/2005 8:22:10 PM	GC4_050318A
0503162-02A	Influent 2	Air	SW8015B	TPH Air as hexane	18671	1	3/18/2005 8:43:41 PM	GC4_050318A
	Influent 2	Air	SW8021B	BTEX in Air	R21433	1	3/18/2005 12:50:39 PM	GC9_050318A

DHL Analytical

Date: 25-Mar-05

CLIENT: HBC/Terracon
 Project Name: Fed Ex
 Project No: 96007145
 Lab Order: 0503162

Client Sample ID: Influent 1
 Lab ID: 0503162-01
 Collection Date: 3/17/2005 10:00:00 PM
 Matrix: AIR

Analyses	Result	SQL	RL	Qual	Units	DF	Date Analyzed
TPH AIR AS HEXANE TPH: C4-C10 as Hexane	50.8	SW8015B 8.0	25.0		ppmV	1	Analyst: DEW 3/18/2005 8:22:10 PM

Qualifiers:
 ND - Not Detected at the SQL
 J - Analyte detected between SQL and RL
 B - Analyte detected in the associated Method Blank
 DF- Dilution Factor
 See Final Page of Report for MQLs and MDLs

S - Spike Recovery outside control limits
 C - Sample Result or QC discussed in Case Narrative
 E - TPH pattern not Gas or Diesel Range Pattern
 SQL - Sample Quantitation Limit
 RL - Reporting Limit (MQL adjusted for moisture and sample size)

DHL Analytical

Date: 25-Mar-05

CLIENT: HBC/Terracon

Client Sample ID: Influent 2

Project Name: Fed Ex

Lab ID: 0503162-02

Project No: 96007145

Collection Date: 3/18/2005 9:20:00 AM

Lab Order: 0503162

Matrix: AIR

Analyses	Result	SQL	RL	Qual	Units	DF	Date Analyzed
VOLATILES IN AIR BY GC		SW8021B		Analyst DEW			
Benzene	0.574	0.10	0.200		ppmV	1	3/18/2005 12:50:39 PM
Ethylbenzene	ND	0.20	0.600		ppmV	1	3/18/2005 12:50:39 PM
Toluene	1.06	0.20	0.700		ppmV	1	3/18/2005 12:50:39 PM
Xylenes, Total	1.46	0.20	0.600		ppmV	1	3/18/2005 12:50:39 PM
TPH AIR AS HEXANE		SW8015B		Analyst DEW			
TPH: C4-C10 as Hexane	59.2	8.0	25.0		ppmV	1	3/18/2005 8:43:41 PM

Qualifiers: ND - Not Detected at the SQL
 J - Analyte detected between SQL and RL
 B - Analyte detected in the associated Method Blank
 DF - Dilution Factor
 See Final Page of Report for MQLs and MDLs

S - Spike Recovery outside control limits
 C - Sample Result or QC discussed in Case Narrative
 E - TPH pattern not Gas or Diesel Range Pattern
 SQL - Sample Quantitation Limit
 RL - Reporting Limit (MQL adjusted for moisture and sample size)

Page 2 of 2

CLIENT: HBC/Terracon
 Work Order: 0503162
 Project: Fed Ex

ANALYTICAL QC SUMMARY REPORT

RunID: GC4_050318A

Sample ID: MB-18671	Batch ID: 18671	TestNo: SW8015B	Units: ppm V
SampType: MBLK	Run ID: GC4_050318A	Analysis Date 3/18/2005 8:00:44 PM	Prep Date: 3/18/2005

Analyte	Result	RL	SPK value	SPK Ref	%REC	Low Limit	HighLimit	%RPD	RPDLimit	Qual
TPH: C4-C10 as Hexane	ND	25								

Sample ID: 0503162-02A DUP	Batch ID: 18671	TestNo: SW8015B	Units: ppm V
SampType: DUP	Run ID: GC4_050318A	Analysis Date 3/18/2005 9:05:15 PM	Prep Date: 3/18/2005

Analyte	Result	RL	SPK value	SPK Ref	%REC	Low Limit	HighLimit	%RPD	RPDLimit	Qual
TPH: C4-C10 as Hexane	62.39	25	0	59.19	0	0	0	5.26	30	

Sample ID: CCV1-050318	Batch ID: R21434	TestNo: SW8015B	Units: ppm V
SampType: CCV	Run ID: GC4_050318A	Analysis Date 3/18/2005 9:14:40 PM	Prep Date:

Analyte	Result	RL	SPK value	SPK Ref	%REC	Low Limit	HighLimit	%RPD	RPDLimit	Qual
Hexane	49.44	0	50	0	98.9	85	115	0		

Sample ID: ICV-050318	Batch ID: R21434	TestNo: SW8015B	Units: ppm V
SampType: ICV	Run ID: GC4_050318A	Analysis Date 3/18/2005 7:31:59 PM	Prep Date:

Analyte	Result	RL	SPK value	SPK Ref	%REC	Low Limit	HighLimit	%RPD	RPDLimit	Qual
Hexane	50.44	0	50	0	101	85	115	0		

Qualifiers ND - Not Detected at the Method Detection Limit R - RPD outside accepted recovery limits
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Bla
 S - Spike Recovery outside accepted recovery limits

CLIENT: HBC/Tetracon
 Work Order: 0503162
 Project: Fed Ex

ANALYTICAL QC SUMMARY REPORT

RunID: GC9_050318A

Sample ID: MB-050318	Batch ID: R21433	TestNo: SW8021B	Units: ppm V
SampType: MBLK	Run ID: GC9_050318A	Analysis Date 3/18/2005 12:32:54 PM	Prep Date:

Analyte	Result	RL	SPK value	SPK Ref	%REC	Low Limit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.2								
Ethylbenzene	ND	0.6								
Toluene	ND	0.7								
Xylenes, Total	ND	0.6								

Sample ID: 0503162-02A DUP	Batch ID: R21433	TestNo: SW8021B	Units: ppm V
SampType: DUP	Run ID: GC9_050318A	Analysis Date 3/18/2005 1:08:15 PM	Prep Date:

Analyte	Result	RL	SPK value	SPK Ref	%REC	Low Limit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.5729	0.2	0	0.5736	0	0	0	0.129	30	
Ethylbenzene	0.2021	0.6	0	0	0	0	0	0	30	
Toluene	1.085	0.7	0	1.063	0	0	0	2.02	30	
Xylenes, Total	1.516	0.6	0	1.463	0	0	0	3.57	30	

Sample ID: CCV1-050318	Batch ID: R21433	TestNo: SW8021B	Units: ppm V
SampType: CCV	Run ID: GC9_050318A	Analysis Date 3/18/2005 1:25:49 PM	Prep Date:

Analyte	Result	RL	SPK value	SPK Ref	%REC	Low Limit	HighLimit	%RPD	RPDLimit	Qual
Benzene	8.23	0.2	7.85	0	105	85	115	0		
Ethylbenzene	5.795	0.6	5.75	0	101	85	115	0		
Toluene	6.804	0.7	6.65	0	102	85	115	0		
Xylenes, Total	17.52	0.6	17.25	0	102	85	115	0		

Sample ID: ICV-050318	Batch ID: R21433	TestNo: SW8021B	Units: ppm V
SampType: ICV	Run ID: GC9_050318A	Analysis Date 3/18/2005 11:57:30 AM	Prep Date:

Analyte	Result	RL	SPK value	SPK Ref	%REC	Low Limit	HighLimit	%RPD	RPDLimit	Qual
Benzene	15.53	0.2	15.7	0	98.9	85	115	0		
Ethylbenzene	11.56	0.6	11.5	0	101	85	115	0		
Toluene	13.19	0.7	13.3	0	99.2	85	115	0		
Xylenes, Total	34.78	0.6	34.5	0	101	85	115	0		

Qualifiers
 ND - Not Detected at the Method Detection Limit
 J - Analyte detected below quantitation limits
 S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits
 B - Analyte detected in the associated Method Bias

CLIENT: HBC/Terracon
Work Order: 0503162
Project: Fed Ex

SQL SUMMARY REPORT

TestNo: SW8021B	MDL	SQL
Analyte	ppm V	ppmV
Benzene	0.1	0.2
Ethylbenzene	0.2	0.6
Toluene	0.2	0.7
Xylenes, Total	0.2	0.6

TestNo: SW8015B	MDL	SQL
Analyte	ppm V	ppmV
TPH: C4-C10 as Hexane	8	25

Qualifiers MQL -Method Quantitation Limit as defined by TRRP
MDL -Method Detection Limit as defined by TRRP



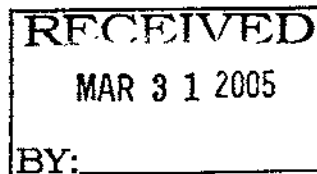
March 29, 2005

Russ Ford
HBC/Terracon
5307 Industrial Oaks Blvd., Suite 160
Austin, Texas 78735

TEL: (512) 442-1122
FAX (512) 442-1181

RE: Federal Express

Dear Russ Ford:



Order No.: 0503190

DHL Analytical received 10 samples on 3/23/2005 for the analyses presented in the following report.

There were no problems with the analyses and all data met requirements of NELAC except where noted in the Case Narrative. All non-NELAC methods will be identified accordingly in the case narrative and all estimated uncertainties of test results are within method or EPA specifications.

If you have any questions regarding these tests results, please feel free to call. Thank you for using DHL Analytical.

Sincerely,

A handwritten signature in black ink, appearing to read "John DuPont".

John DuPont

General Manager



TABLE OF CONTENTS

This report for HBC Engineering: Federal Express (DHL Work Order 0503190) contains the following information:

ITEM	Page
• Cover Page	1
• Table of Contents	2
• Original chain of custody, fedex slip (if used), log-in checklist	3-4
• Data Package Signature Page	5
• Laboratory Review Checklist	6-7
• Case Narrative	8
• Work Order Summary	9
• Preparation Dates Report	10
• Analytical Dates Report	11
• Sample Results	12-21
• QC Summary Report	22-26
• MQL Summary Report	27
• Total Number of Pages	27

March 29, 2005

Approved: _____

A handwritten signature in black ink, appearing to read "John DuPont", written over a horizontal line.

John DuPont

DHL Analytical

Sample Receipt Checklist

Client Name **HBC/Terracon**

Date Received: **3/23/05**

Work Order Number **0503190**

Received by **RW**

Checklist completed by Ryan Weller 3-23-05
Signature Date

Reviewed by MA 3/23/05
Initials Date

Carrier name: Hand Delivered

- | | | | |
|---|---|---|---|
| Shipping container/cooler in good condition? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | Not Present <input type="checkbox"/> |
| Custody seals intact on shipping container/cooler? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | Not Present <input checked="" type="checkbox"/> |
| Custody seals intact on sample bottles? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | Not Present <input checked="" type="checkbox"/> |
| Chain of custody present? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| Chain of custody signed when relinquished and received? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| Chain of custody agrees with sample labels? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| Samples in proper container/bottle? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| Sample containers intact? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| Sufficient sample volume for indicated test? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| All samples received within holding time? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| Container/Temp Blank temperature in compliance? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| Water - VOA vials have zero headspace? | No VOA vials submitted <input type="checkbox"/> | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |
| Water - pH acceptable upon receipt? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | NotApplicable <input checked="" type="checkbox"/> |

Adjusted? _____ Checked by _____

Any No response must be detailed in the comments section below.

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action Taken: _____

Laboratory Data Package Signature Page

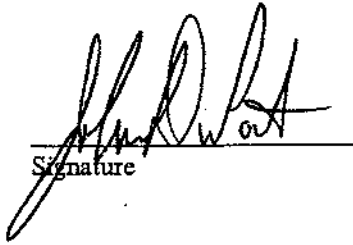
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 - c) preparation methods,
 - d) cleanup methods, and
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 - R4 Surrogate recovery data including:
 - a) Calculated recovery (%R), and
 - b) The laboratory's surrogate QC limits.
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 - a) LCS spiking amounts,
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 - b) the calculated RPD, and
 - c) the laboratory's QC limits for analytical duplicates.
 - R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix;
 - R10 Other problems or anomalies.
- The Exception Report for every "No" or "Not Reviewed (NR)" item in laboratory review checklist.

Release Statement: I am responsible for the release of this laboratory data package. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By me signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratory in the Laboratory Review Checklist, and no information or data have been knowingly withheld that would affect the quality of the data.

Scott Schroeder – Project Manager
Michelle Green – QA Manager
John DuPont – General Manager


Signature

3/29/05
Date

DHL Analytical, Inc.

Laboratory Review Checklist: Reportable Data

Project Name: <i>Federal Express</i>	Date: <i>3-29-05</i>
Reviewer Name: Michelle Green	Laboratory Work Order: <i>0503196</i>
Prep Batch Number(s): See Prep Dates Report	Run Batch: See Analytical Dates Report

#1	A2	Description	Yes	No	NA ³	NR ⁴	ER# ⁵
R1	OI	CHAIN-OF-CUSTODY (C-O-C)					
		1) Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	✓				R1-01
		2) Were all departures from standard conditions described in an exception report?			✓		
R2	OI	SAMPLE AND QUALITY CONTROL (QC) IDENTIFICATION					
		1) Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	✓				
		2) Are all laboratory ID numbers cross-referenced to the corresponding QC data?	✓				
R3	OI	TEST REPORTS					
		1) Were all samples prepared and analyzed within holding times?	✓				
		2) Other than those results < MQL, were all other raw values bracketed by calibration standards?	✓				
		3) Were calculations checked by a peer or supervisor?	✓				
		4) Were all analyte identifications checked by a peer or supervisor?	✓				
		5) Were sample quantitation limits reported for all analytes not detected?	✓				
		6) Were all results for soil and sediment samples reported on a dry weight basis?			✓		
		7) Were % moisture (or solids) reported for all soil and sediment samples?			✓		
		8) If required for the project, TICs reported?			✓		
R4	O	SURROGATE RECOVERY DATA					
		1) Were surrogates added prior to extraction?	✓				
		2) Were surrogate percent recoveries in all samples within the laboratory QC limits?		✓			R4-02
R5	OI	TEST REPORTS/SUMMARY FORMS FOR BLANK SAMPLES					
		1) Were appropriate type(s) of blanks analyzed?	✓				
		2) Were blanks analyzed at the appropriate frequency?	✓				
		3) Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	✓				
		4) Were blank concentrations < MQL?	✓				
R6	OI	LABORATORY CONTROL SAMPLES (LCS)					
		1) Were all COCs included in the LCS?	✓				
		2) Was each LCS taken through the entire analytical procedure. (prep and cleanup steps)?	✓				
		3) Were LCSs analyzed at the required frequency?	✓				
		4) Were LCS (and LCSD, if applicable) %Rs & RPD recovery within the laboratory QC limits?	✓				
		5) Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?	✓				
R7	OI	MATRIX SPIKE (MS) AND MATRIX SPIKE DUPLICATE (MSD) DATA					
		1) Were the project/method specified analytes included in the MS and MSD?	✓				
		2) Were MS/MSD analyzed at the appropriate frequency?	✓				
		3) Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	✓				
		4) Were MS/MSD RPDs within laboratory QC limits?	✓				
R8	OI	ANALYTICAL DUPLICATE DATA					
		1) Were appropriate analytical duplicates analyzed for each matrix?			✓		
		2) Were analytical duplicates analyzed at the appropriate frequency?			✓		
		3) Were RPDs or relative standard deviations within the laboratory QC limits?			✓		
R9	OI	METHOD QUANTITATION LIMITS (MQLS)					
		1) Are the MQLs for each method analyte included in the laboratory data package?	✓				
		2) Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	✓				
		3) Are unadjusted MQLs included in the laboratory data package?	✓				
R10	OI	OTHER PROBLEMS/ANOMALIES					
		1) Are all known problems/anomalies/special conditions noted in this LRC and ER?	✓				
		2) Were all necessary corrective actions performed for the reported data?	✓				
		3) Was applicable and available technology used to lower the SQL minimize the matrix interference affects on the sample results?	✓				

DHL Analytical, Inc.

Laboratory Review Checklist (continued): Supporting Data

Project Name: *Federal Express*

Date: *3-29-05*

Reviewer Name: Michelle Green

Laboratory Work Order: *0503190*

# ¹	A ²	Description	Yes	No	NA ³	NR ⁴	ER# ⁵
S1	OI	INITIAL CALIBRATION (ICAL)					
		1) Were response factors and/or relative response factors for each analyte within OC limits?	✓				
		2) Were percent RSDs or correlation coefficient criteria met?	✓				
		3) Was the number of standards recommended in the method used for all analytes?	✓				
		4) Were all points generated between the lowest and highest standard used to calculate the curve?	✓				
		5) Are ICAL data available for all instruments used?	✓				
		6) Has the initial calibration curve been verified using an appropriate second source standard?	✓				
S2	OI	INITIAL AND CONTINUING CALIBRATION VERIFICATION (ICCV AND CCV) AND CONTINUING CALIBRATION BLANK (CCB)					
		1) Was the CCV analyzed at the method-required frequency?	✓				
		2) Were percent differences for each analyte within the method-required OC limits?	✓				
		3) Was the ICAL curve verified for each analyte?	✓				
		4) Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	✓				
S3	O	MASS SPECTRAL TUNING					
		1) Was the appropriate compound for the method used for tuning?	✓				
		2) Were ion abundance data within the method-required QC limits?	✓				
S4	O	INTERNAL STANDARDS (IS)					
		1) Were IS area counts and retention times within the method-required QC limits?	✓				
S5	OI	RAW DATA (NELAC SECTION 1 APPENDIX A GLOSSARY, & SECTION 5.12)					
		1) Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	✓				
		2) Were data associated with manual integrations flagged on the raw data?	✓				
S6	O	DUAL COLUMN CONFIRMATION					
		1) Did dual column confirmation results meet the method-required QC?	✓				
S7	O	TENTATIVELY IDENTIFIED COMPOUNDS (TICS)					
		1) If TICS were requested, were the mass spectra and TIC data subject to appropriate checks?			✓		
S8	I	INTERFERENCE CHECK SAMPLE (ICS) RESULTS					
		1) Were percent recoveries within method QC limits?			✓		
S9	I	SERIAL DILUTIONS, POST DIGESTION SPIKES, AND METHOD OF STANDARD ADDITIONS					
		1) Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			✓		
S10	OI	METHOD DETECTION LIMIT (MDL) STUDIES					
		1) Was a MDL study performed for each reported analyte?	✓				
S11	OI	PROFICIENCY TEST REPORTS					
		1) Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	✓				
S12	OI	STANDARDS DOCUMENTATION					
		1) Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	✓				
S13	OI	COMPOUND/ANALYTE IDENTIFICATION PROCEDURES					
		1) Are the procedures for compound/analyte identification documented?	✓				
S14	OI	DEMONSTRATION OF ANALYST COMPETENCY (DOC)					
		1) Was DOC conducted consistent with NELAC Chapter 5C?	✓				
S15	OI	VERIFICATION/VALIDATION DOCUMENTATION FOR METHODS (NELAC)					
		1) Are all the methods used to generate the data documented, verified, and validated, where applicable?	✓				
S16	OI	LABORATORY STANDARD OPERATING PROCEDURES (SOPS)					
		1) Are the laboratory SOPs current and on file for each method performed?	✓				

1 Items identified by the letter "R" should be included in the laboratory data package submitted to the TCEQ in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.

2 O = organic analyses; I = inorganic analyses (and general chemistry, when applicable).

3 NA = Not applicable. 4 NR = Not Reviewed.

5 ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

CLIENT: HBC/Tetracon
Project: Federal Express
Lab Order: 0503190

CASE NARRATIVE

Samples were analyzed using the methods outlined in the following references:

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition.

Method SW8021B - Volatile Organic by GC

Method TX1005 - Total Petroleum Hydrocarbons

DHL Analytical is not NELAC accredited for TPH analysis in water.

Exception Report R1-01

Samples were received and log-in performed on 3/23/05. A total of 10 samples were received. The samples arrived in good condition and were properly packaged.

Exception Report R4-02

For TPH analysis the surrogate recovery for samples MW-4 and MW-2 were above control limits for 1-Chlorooctane. This is due to the surrogate co-eluting with the sample. No further corrective actions were taken.

DATA REPORTING

Sample reports include the Sample Quantitation Limit (SQL) and the Reporting Limit (RL) for each analyte. The computer system allows for reporting SQL with 2 significant figures and the RL with 3 significant figures. Because of rounding it may sometimes appear that a "J" flagged result is lower than the SQL if the sample result is very near the SQL.

CLIENT: HBC/Terracon
Project: Federal Express
Lab Order: 0503190

Work Order Sample Summary

Lab Sam I	Client Sample ID	Tag Number	Collection Date	Date Recved
0503190-01	MW-10		3/22/2005 2:45:00 P	3/23/2005
0503190-02	MW-11		3/22/2005 3:00:00 P	3/23/2005
0503190-03	MW-9		3/22/2005 3:15:00 P	3/23/2005
0503190-04	MW-5		3/22/2005 3:25:00 P	3/23/2005
0503190-05	MW-7		3/22/2005 3:45:00 P	3/23/2005
0503190-06	MW-4		3/22/2005 4:15:00 P	3/23/2005
0503190-07	MW-3		3/23/2005 1:30:00 P	3/23/2005
0503190-08	MW-2		3/23/2005 1:45:00 P	3/23/2005
0503190-09	MW-1		3/23/2005 2:00:00 P	3/23/2005
0503190-10	MW-8		3/23/2005 2:15:00 P	3/23/2005

Lab Order: 0503190
 Client: HBC/Terracon
 Project: Federal Express

PREP DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
0503190-01A	MW-10	3/22/2005 2:45:00 PM	Aqueous	SW5030B	Purge and Trap Water GC	3/24/2005 8:49:00 AM	18640
0503190-02A	MW-11	3/22/2005 3:00:00 PM	Aqueous	SW5030B	Purge and Trap Water GC	3/24/2005 8:49:00 AM	18640
	MW-11	3/22/2005 3:00:00 PM	Aqueous	SW5030B	Purge and Trap Water GC	3/24/2005 8:49:00 AM	18640
0503190-03A	MW-9	3/22/2005 3:15:00 PM	Aqueous	SW5030B	Purge and Trap Water GC	3/24/2005 8:49:00 AM	18640
0503190-04A	MW-5	3/22/2005 3:25:00 PM	Aqueous	SW5030B	Purge and Trap Water GC	3/24/2005 8:49:00 AM	18640
0503190-04B	MW-5	3/22/2005 3:25:00 PM	Aqueous	TX1005	TX1005 Water Prep	3/28/2005 9:24:52 AM	18722
0503190-05A	MW-7	3/22/2005 3:45:00 PM	Aqueous	SW5030B	Purge and Trap Water GC	3/24/2005 8:49:00 AM	18640
0503190-06A	MW-4	3/22/2005 4:15:00 PM	Aqueous	SW5030B	Purge and Trap Water GC	3/24/2005 8:49:00 AM	18640
	MW-4	3/22/2005 4:15:00 PM	Aqueous	SW5030B	Purge and Trap Water GC	3/24/2005 8:49:00 AM	18640
	MW-4	3/22/2005 4:15:00 PM	Aqueous	SW5030B	Purge and Trap Water GC	3/24/2005 8:49:00 AM	18640
0503190-06B	MW-4	3/22/2005 4:15:00 PM	Aqueous	TX1005	TX1005 Water Prep	3/28/2005 9:24:52 AM	18722
0503190-07A	MW-3	3/23/2005 1:30:00 PM	Aqueous	SW5030B	Purge and Trap Water GC	3/24/2005 8:49:00 AM	18640
	MW-3	3/23/2005 1:30:00 PM	Aqueous	SW5030B	Purge and Trap Water GC	3/24/2005 8:49:00 AM	18640
0503190-08A	MW-2	3/23/2005 1:45:00 PM	Aqueous	SW5030B	Purge and Trap Water GC	3/24/2005 8:49:00 AM	18640
	MW-2	3/23/2005 1:45:00 PM	Aqueous	SW5030B	Purge and Trap Water GC	3/24/2005 8:49:00 AM	18640
	MW-2	3/23/2005 1:45:00 PM	Aqueous	SW5030B	Purge and Trap Water GC	3/24/2005 8:49:00 AM	18640
0503190-08B	MW-2	3/23/2005 1:45:00 PM	Aqueous	TX1005	TX1005 Water Prep	3/28/2005 9:24:52 AM	18722
0503190-09A	MW-1	3/23/2005 2:00:00 PM	Aqueous	SW5030B	Purge and Trap Water GC	3/24/2005 8:49:00 AM	18640
	MW-1	3/23/2005 2:00:00 PM	Aqueous	SW5030B	Purge and Trap Water GC	3/24/2005 8:49:00 AM	18640
0503190-10A	MW-8	3/23/2005 2:15:00 PM	Aqueous	SW5030B	Purge and Trap Water GC	3/24/2005 8:49:00 AM	18640
	MW-8	3/23/2005 2:15:00 PM	Aqueous	SW5030B	Purge and Trap Water GC	3/24/2005 8:49:00 AM	18640

Lab Order: 0503190
 Client: HBC/Terracon
 Project: Federal Express

ANALYTICAL DATES REPORT

Sample ID	Client Sample ID	Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
0503190-01A	MW-10	Aqueous	SW8021B	BTEX\MTBE Water	18640	1	3/24/2005 12:19:15 PM	GC9_050324A
0503190-02A	MW-11	Aqueous	SW8021B	BTEX\MTBE Water	18640	5	3/24/2005 6:18:49 PM	GC9_050324A
	MW-11	Aqueous	SW8021B	BTEX\MTBE Water	18640	20	3/24/2005 2:41:20 PM	GC9_050324A
0503190-03A	MW-9	Aqueous	SW8021B	BTEX\MTBE Water	18640	1	3/24/2005 1:30:13 PM	GC9_050324A
0503190-04A	MW-5	Aqueous	SW8021B	BTEX\MTBE Water	18640	50	3/24/2005 2:59:04 PM	GC9_050324A
0503190-04B	MW-5	Aqueous	TX1005	Tx1005 TPH Water	18722	1	3/28/2005 3:27:46 PM	GC12_050328B
0503190-05A	MW-7	Aqueous	SW8021B	BTEX\MTBE Water	18640	1	3/24/2005 1:47:54 PM	GC9_050324A
0503190-06A	MW-4	Aqueous	SW8021B	BTEX\MTBE Water	18640	5	3/24/2005 6:01:01 PM	GC9_050324A
	MW-4	Aqueous	SW8021B	BTEX\MTBE Water	18640	50	3/24/2005 5:07:32 PM	GC9_050324A
	MW-4	Aqueous	SW8021B	BTEX\MTBE Water	18640	200	3/24/2005 3:16:51 PM	GC9_050324A
0503190-06B	MW-4	Aqueous	TX1005	Tx1005 TPH Water	18722	1	3/28/2005 3:33:24 PM	GC12_050328B
0503190-07A	MW-3	Aqueous	SW8021B	BTEX\MTBE Water	18640	50	3/24/2005 3:53:25 PM	GC9_050324A
	MW-3	Aqueous	SW8021B	BTEX\MTBE Water	18640	1	3/24/2005 5:25:25 PM	GC9_050324A
0503190-08A	MW-2	Aqueous	SW8021B	BTEX\MTBE Water	18640	50	3/24/2005 4:11:11 PM	GC9_050324A
	MW-2	Aqueous	SW8021B	BTEX\MTBE Water	18640	1	3/24/2005 5:43:14 PM	GC9_050324A
	MW-2	Aqueous	SW8021B	BTEX\MTBE Water	18640	10	3/24/2005 6:36:37 PM	GC9_050324A
0503190-08B	MW-2	Aqueous	TX1005	Tx1005 TPH Water	18722	1	3/28/2005 3:39:00 PM	GC12_050328B
0503190-09A	MW-1	Aqueous	SW8021B	BTEX\MTBE Water	18640	1	3/24/2005 2:05:40 PM	GC9_050324A
	MW-1	Aqueous	SW8021B	BTEX\MTBE Water	18640	100	3/24/2005 4:49:40 PM	GC9_050324A
0503190-10A	MW-8	Aqueous	SW8021B	BTEX\MTBE Water	18640	1	3/24/2005 3:35:38 PM	GC9_050324A
	MW-8	Aqueous	SW8021B	BTEX\MTBE Water	18640	1	3/24/2005 2:23:31 PM	GC9_050324A

DHL Analytical

Date: 29-Mar-05

CLIENT: HBC/Terracon
 Project Name: Federal Express
 Project No: 96007145
 Lab Order: 0503190

Client Sample ID: MW-10
 Lab ID: 0503190-01
 Collection Date: 3/22/2005 2:45:00 PM
 Matrix: AQUEOUS

Analyses	Result	SQL	RL	Qual	Units	DF	Date Analyzed
VOLATILES IN WATER BY GC		SW8021B		Analyst: DEW			
Methyl tert-butyl ether	ND	2.0	6.00		µg/L	1	3/24/2005 12:19:15 PM
Benzene	ND	0.80	2.00		µg/L	1	3/24/2005 12:19:15 PM
Toluene	ND	2.0	6.00		µg/L	1	3/24/2005 12:19:15 PM
Ethylbenzene	ND	2.0	6.00		µg/L	1	3/24/2005 12:19:15 PM
Xylenes, Total	ND	3.0	9.00		µg/L	1	3/24/2005 12:19:15 PM
Sum: Tetrachloroethene	94.9	0	71-109		%REC	1	3/24/2005 12:19:15 PM

Qualifiers: ND - Not Detected at the SQL
 J - Analyte detected between SQL and RL
 B - Analyte detected in the associated Method Blank
 DF - Dilution Factor
 See Final Page of Report for MQLs and MDLs

S - Spike Recovery outside control limits
 C - Sample Result or QC discussed in Case Narrative
 E - TPH pattern not Gas or Diesel Range Pattern
 SQL - Sample Quantitation Limit
 RL - Reporting Limit (MQL adjusted for moisture and sample size)

DHL Analytical

Date: 29-Mar-05

CLIENT: HBC/Terracon
 Project Name: Federal Express
 Project No: 96007145
 Lab Order: 0503190

Client Sample ID: MW-11
 Lab ID: 0503190-02
 Collection Date: 3/22/2005 3:00:00 PM
 Matrix: AQUEOUS

Analyses	Result	SQL	RL	Qual	Units	DF	Date Analyzed
VOLATILES IN WATER BY GC		SW8021B		Analyst: DEW			
Methyl tert-butyl ether	635	10	30.0		µg/L	5	3/24/2005 6:18:49 PM
Benzene	112	4.0	10.0		µg/L	5	3/24/2005 6:18:49 PM
Toluene	1260	40	120		µg/L	20	3/24/2005 2:41:20 PM
Ethylbenzene	737	10	30.0		µg/L	5	3/24/2005 6:18:49 PM
Xylenes, Total	3690	60	180		µg/L	20	3/24/2005 2:41:20 PM
Surr: Tetrachloroethene	92.5	0	71-109		%REC	5	3/24/2005 6:18:49 PM
Surr: Tetrachloroethene	94.0	0	71-109		%REC	20	3/24/2005 2:41:20 PM

Qualifiers: ND - Not Detected at the SQL
 J - Analyte detected between SQL and RL
 B - Analyte detected in the associated Method Blank
 DF - Dilution Factor
 See Final Page of Report for MQs and MDLs

S - Spike Recovery outside control limits
 C - Sample Result or QC discussed in Case Narrative
 E - TPH pattern not Gas or Diesel Range Pattern
 SQL - Sample Quantitation Limit
 RL - Reporting Limit (MQL adjusted for moisture and sample size)

DHL Analytical

Date: 29-Mar-05

CLIENT: HBC/Terracon
 Project Name: Federal Express
 Project No: 96007145
 Lab Order: 0503190

Client Sample ID: MW-9
 Lab ID: 0503190-03
 Collection Date: 3/22/2005 3:15:00 PM
 Matrix: AQUEOUS

Analyses	Result	SQL	RL	Qual	Units	DF	Date Analyzed
VOLATILES IN WATER BY GC		SW8021B		Analyst: DEW			
Methyl tert-butyl ether	12.2	2.0	6.00		µg/L	1	3/24/2005 1:30:13 PM
Benzene	ND	0.80	2.00		µg/L	1	3/24/2005 1:30:13 PM
Toluene	ND	2.0	6.00		µg/L	1	3/24/2005 1:30:13 PM
Ethylbenzene	ND	2.0	6.00		µg/L	1	3/24/2005 1:30:13 PM
Xylenes, Total	ND	3.0	9.00		µg/L	1	3/24/2005 1:30:13 PM
Surr: Tetrachloroethene	92.5	0	71-109		%REC	1	3/24/2005 1:30:13 PM

Qualifiers: ND - Not Detected at the SQL
 J - Analyte detected between SQL and RL
 B - Analyte detected in the associated Method Blank
 DF - Dilution Factor
 See Final Page of Report for MQLs and MDLs

S - Spike Recovery outside control limits
 C - Sample Result or QC discussed in Case Narrative
 E - TPH pattern not Gas or Diesel Range Pattern
 SQL - Sample Quantitation Limit
 RL - Reporting Limit (MQL adjusted for moisture and sample size)

DHL Analytical

Date: 29-Mar-05

CLIENT: HBC/Terracon
 Project Name: Federal Express
 Project No: 96007145
 Lab Order: 0503190

Client Sample ID: MW-5
 Lab ID: 0503190-04
 Collection Date: 3/22/2005 3:25:00 PM
 Matrix: AQUEOUS

Analyses	Result	SQL	RL	Qual	Units	DF	Date Analyzed
TOTAL PETROLEUM HYDROCARBONS (TPH)		TX1005		Analyst: AJR			
T/R Hydrocarbons: C6-C12	20.6	0.67	1.92		mg/L	1	3/28/2005 3:27:46 PM
T/R Hydrocarbons: >C12-C28	ND	0.67	1.92		mg/L	1	3/28/2005 3:27:46 PM
T/R Hydrocarbons: >C28-C35	ND	0.67	1.92		mg/L	1	3/28/2005 3:27:46 PM
T/R Hydrocarbons: C6-C35	20.6	0.67	1.92		mg/L	1	3/28/2005 3:27:46 PM
Surr: 1-Chlorooctane	143	0	87-147		%REC	1	3/28/2005 3:27:46 PM
Surr: Octacosane	110	0	80-140		%REC	1	3/28/2005 3:27:46 PM
VOLATILES IN WATER BY GC		SW8021B		Analyst: DEW			
Methyl tert-butyl ether	3190	100	300		µg/L	50	3/24/2005 2:59:04 PM
Benzene	4810	40	100		µg/L	50	3/24/2005 2:59:04 PM
Toluene	3860	100	300		µg/L	50	3/24/2005 2:59:04 PM
Ethylbenzene	434	100	300		µg/L	50	3/24/2005 2:59:04 PM
Xylenes, Total	5380	150	450		µg/L	50	3/24/2005 2:59:04 PM
Surr: Tetrachloroethene	98.4	0	71-109		%REC	50	3/24/2005 2:59:04 PM

Qualifiers:

ND - Not Detected at the SQL
 J - Analyte detected between SQL and RL
 B - Analyte detected in the associated Method Blank
 DF- Dilution Factor
 See Final Page of Report for MQLs and MDLs

S - Spike Recovery outside control limits
 C - Sample Result or QC discussed in Case Narrative
 E - TPH pattern not Gas or Diesel Range Pattern
 SQL - Sample Quantitation Limit
 RL - Reporting Limit (MQL adjusted for moisture and sample size)

DHL Analytical

Date: 29-Mar-05

CLIENT: HBC/Terracon
 Project Name: Federal Express
 Project No: 96007145
 Lab Order: 0503190

Client Sample ID: MW-7
 Lab ID: 0503190-05
 Collection Date: 3/22/2005 3:45:00 PM
 Matrix: AQUEOUS

Analyses	Result	SQL	RL	Qual	Units	DF	Date Analyzed
VOLATILES IN WATER BY GC		SW8021B		Analyst: DEW			
Methyl tert-butyl ether	ND	2.0	6.00		µg/L	1	3/24/2005 1:47:54 PM
Benzene	ND	0.80	2.00		µg/L	1	3/24/2005 1:47:54 PM
Toluene	ND	2.0	6.00		µg/L	1	3/24/2005 1:47:54 PM
Ethylbenzene	ND	2.0	6.00		µg/L	1	3/24/2005 1:47:54 PM
Xylenes, Total	ND	3.0	9.00		µg/L	1	3/24/2005 1:47:54 PM
Surr: Tetrachloroethene	94.7	0	71-109		%REC	1	3/24/2005 1:47:54 PM

Qualifiers:
 ND - Not Detected at the SQL
 J - Analyte detected between SQL and RL
 B - Analyte detected in the associated Method Blank
 DF - Dilution Factor
 See Final Page of Report for MQLs and MDLs

S - Spike Recovery outside control limits
 C - Sample Result or QC discussed in Case Narrative
 E - TPH pattern not Gas or Diesel Range Pattern
 SQL - Sample Quantitation Limit
 RL - Reporting Limit (MQL adjusted for moisture and sample size)

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DHL Analytical

Date: 29-Mar-05

CLIENT: HBC/Terracon
 Project Name: Federal Express
 Project No: 96007145
 Lab Order: 0503190

Client Sample ID: MW-4
 Lab ID: 0503190-06
 Collection Date: 3/22/2005 4:15:00 PM
 Matrix: AQUEOUS

Analyses	Result	SQL	RL	Qual	Units	DF	Date Analyzed
TOTAL PETROLEUM HYDROCARBONS (TPH)		TX1005		Analyst: AJR			
T/R Hydrocarbons: C6-C12	88.4	0.68	1.95		mg/L	1	3/28/2005 3:33:24 PM
T/R Hydrocarbons: >C12-C28	9.19	0.68	1.95		mg/L	1	3/28/2005 3:33:24 PM
T/R Hydrocarbons: >C28-C35	1.3	0.68	1.95	J	mg/L	1	3/28/2005 3:33:24 PM
T/R Hydrocarbons: C6-C35	98.9	0.68	1.95		mg/L	1	3/28/2005 3:33:24 PM
Surr: 1-Chlorooctane	404	0	87-147	S	%REC	1	3/28/2005 3:33:24 PM
Surr: Octacosane	113	0	80-140		%REC	1	3/28/2005 3:33:24 PM
VOLATILES IN WATER BY GC		SW8021B		Analyst: DEW			
Methyl tert-butyl ether	754	10	30.0		µg/L	5	3/24/2005 6:01:01 PM
Benzene	220	4.0	10.0		µg/L	5	3/24/2005 6:01:01 PM
Toluene	2000	100	300		µg/L	50	3/24/2005 5:07:32 PM
Ethylbenzene	868	10	30.0		µg/L	5	3/24/2005 6:01:01 PM
Xylenes, Total	8810	150	450		µg/L	50	3/24/2005 5:07:32 PM
Surr: Tetrachloroethene	91.0	0	71-109		%REC	5	3/24/2005 6:01:01 PM
Surr: Tetrachloroethene	95.2	0	71-109		%REC	50	3/24/2005 5:07:32 PM

Qualifiers: ND - Not Detected at the SQL
 J - Analyte detected between SQL and RL
 B - Analyte detected in the associated Method Blank
 DF- Dilution Factor
 See Final Page of Report for MPLs and MDLs

S - Spike Recovery outside control limits
 C - Sample Result or QC discussed in Case Narrative
 E - TPH pattern not Gas or Diesel Range Pattern
 SQL - Sample Quantitation Limit
 RL - Reporting Limit (MQL adjusted for moisture and sample size)

DHL Analytical

Date: 29-Mar-05

CLIENT: HBC/Terracon
 Project Name: Federal Express
 Project No: 96007145
 Lab Order: 0503190

Client Sample ID: MW-3
 Lab ID: 0503190-07
 Collection Date: 3/23/2005 1:30:00 PM
 Matrix: AQUEOUS

Analyses	Result	SQL	RL	Qual	Units	DF	Date Analyzed
VOLATILES IN WATER BY GC		SW8021B		Analyst: DEW			
Methyl tert-butyl ether	47.4	2.0	6.00		µg/L	1	3/24/2005 5:25:25 PM
Benzene	120	0.80	2.00		µg/L	1	3/24/2005 5:25:25 PM
Toluene	23.7	2.0	6.00		µg/L	1	3/24/2005 5:25:25 PM
Ethylbenzene	48.5	2.0	6.00		µg/L	1	3/24/2005 5:25:25 PM
Xylenes, Total	177	3.0	9.00		µg/L	1	3/24/2005 5:25:25 PM
Sur: Tetrachloroethene	94.1	0	71-109		%REC	1	3/24/2005 5:25:25 PM

Qualifiers: ND - Not Detected at the SQL
 J - Analyte detected between SQL and RL
 B - Analyte detected in the associated Method Blank
 DF - Dilution Factor
 See Final Page of Report for MQs and MDLs

S - Spike Recovery outside control limits
 C - Sample Result or QC discussed in Case Narrative
 E - TPH pattern not Gas or Diesel Range Pattern
 SQL - Sample Quantitation Limit
 RL - Reporting Limit (MQL adjusted for moisture and sample size)

DHL Analytical

Date: 29-Mar-05

CLIENT: HBC/Terracon
 Project Name: Federal Express
 Project No: 96007145
 Lab Order: 0503190

Client Sample ID: MW-2
 Lab ID: 0503190-08
 Collection Date: 3/23/2005 1:45:00 PM
 Matrix: AQUEOUS

Analyses	Result	SQL	RL	Qual	Units	DF	Date Analyzed
TOTAL PETROLEUM HYDROCARBONS (TPH)		TX1005		Analyst: AJR			
T/R Hydrocarbons: C6-C12	18.6	0.67	1.92		mg/L	1	3/28/2005 3:39:00 PM
T/R Hydrocarbons: >C12-C28	1.2	0.67	1.92	J	mg/L	1	3/28/2005 3:39:00 PM
T/R Hydrocarbons: >C28-C35	ND	0.67	1.92		mg/L	1	3/28/2005 3:39:00 PM
T/R Hydrocarbons: C6-C35	19.8	0.67	1.92		mg/L	1	3/28/2005 3:39:00 PM
Surr: 1-Chlorooctane	160	0	87-147	S	%REC	1	3/28/2005 3:39:00 PM
Surr: Octacosane	108	0	80-140		%REC	1	3/28/2005 3:39:00 PM
VOLATILES IN WATER BY GC		SW8021B		Analyst: DEW			
Methyl tert-butyl ether	242	20	60.0		µg/L	10	3/24/2005 6:36:37 PM
Benzene	30.5	0.80	2.00		µg/L	1	3/24/2005 5:43:14 PM
Toluene	104	2.0	6.00		µg/L	1	3/24/2005 5:43:14 PM
Ethylbenzene	513	20	60.0		µg/L	10	3/24/2005 6:36:37 PM
Xylenes, Total	7500	150	450		µg/L	50	3/24/2005 4:11:11 PM
Surr: Tetrachloroethene	94.0	0	71-109		%REC	10	3/24/2005 6:36:37 PM
Surr: Tetrachloroethene	93.7	0	71-109		%REC	1	3/24/2005 5:43:14 PM
Surr: Tetrachloroethene	97.6	0	71-109		%REC	50	3/24/2005 4:11:11 PM

Qualifiers:
 ND - Not Detected at the SQL
 J - Analyte detected between SQL and RL
 B - Analyte detected in the associated Method Blank
 DF - Dilution Factor
 See Final Page of Report for MQLs and MDLs

S - Spike Recovery outside control limits
 C - Sample Result or QC discussed in Case Narrative
 E - TPH pattern not Gas or Diesel Range Pattern
 SQL - Sample Quantitation Limit
 RL - Reporting Limit (MQL adjusted for moisture and sample size)

DHL Analytical

Date: 29-Mar-05

CLIENT: HBC/Terracon
 Project Name: Federal Express
 Project No: 96007145
 Lab Order: 0503190

Client Sample ID: MW-1
 Lab ID: 0503190-09
 Collection Date: 3/23/2005 2:00:00 PM
 Matrix: AQUEOUS

Analyses	Result	SQL	RL	Qual	Units	DF	Date Analyzed
VOLATILES IN WATER BY GC		SW8021B		Analyst: DEW			
Methyl tert-butyl ether	192	2.0	6.00		µg/L	1	3/24/2005 2:05:40 PM
Benzene	190	0.80	2.00		µg/L	1	3/24/2005 2:05:40 PM
Toluene	835	200	600		µg/L	100	3/24/2005 4:49:40 PM
Ethylbenzene	175	2.0	6.00		µg/L	1	3/24/2005 2:05:40 PM
Xylenes, Total	9180	300	900		µg/L	100	3/24/2005 4:49:40 PM
Surr: Tetrachloroethene	96.2	0	71-109		%REC	100	3/24/2005 4:49:40 PM
Surr: Tetrachloroethene	94.5	0	71-109		%REC	1	3/24/2005 2:05:40 PM

Qualifiers:

ND - Not Detected at the SQL
 J - Analyte detected between SQL and RL
 B - Analyte detected in the associated Method Blank
 DF - Dilution Factor
 See Final Page of Report for MQLs and MDLs

S - Spike Recovery outside control limits
 C - Sample Result or QC discussed in Case Narrative
 E - TPH pattern not Gas or Diesel Range Pattern
 SQL - Sample Quantitation Limit
 RL - Reporting Limit (MQL adjusted for moisture and sample size)

DHL Analytical

Date: 29-Mar-05

CLIENT: HBC/Terracon
 Project Name: Federal Express
 Project No: 96007145
 Lab Order: 0503190

Client Sample ID: MW-8
 Lab ID: 0503190-10
 Collection Date: 3/23/2005 2:15:00 PM
 Matrix: AQUEOUS

Analyses	Result	SQL	RL	Qual	Units	DF	Date Analyzed
VOLATILES IN WATER BY GC		SW8021B		Analyst: DEW			
Methyl tert-butyl ether	11.9	2.0	6.00		µg/L	1	3/24/2005 3:35:38 PM
Benzene	20.2	0.80	2.00		µg/L	1	3/24/2005 3:35:38 PM
Toluene	5.3	2.0	6.00	J	µg/L	1	3/24/2005 3:35:38 PM
Ethylbenzene	8.25	2.0	6.00		µg/L	1	3/24/2005 3:35:38 PM
Xylenes, Total	44.2	3.0	9.00		µg/L	1	3/24/2005 3:35:38 PM
Surr: Tetrachloroethene	89.1	0	71-109		%REC	1	3/24/2005 3:35:38 PM

Qualifiers: ND - Not Detected at the SQL
 J - Analyte detected between SQL and RL
 B - Analyte detected in the associated Method Blank
 DF - Dilution Factor
 See Final Page of Report for MQLs and MDLs

S - Spike Recovery outside control limits
 C - Sample Result or QC discussed in Case Narrative
 E - TPH pattern not Gas or Diesel Range Pattern
 SQL - Sample Quantitation Limit
 RL - Reporting Limit (MQL adjusted for moisture and sample size)

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CLIENT: HBC/Terracon
 Work Order: 0503190
 Project: Federal Express

ANALYTICAL QC SUMMARY REPORT

RunID: GC12_050328B

Sample ID: MB-18722	Batch ID: 18722	TestNo: TX1005	Units: mg/L
SampType: MBLK	Run ID: GC12_050328B	Analysis Date: 3/28/2005 2:14:48 PM	Prep Date: 3/28/2005

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C6-C12	ND	2								
T/R Hydrocarbons: >C12-C28	ND	2								
T/R Hydrocarbons: >C28-C35	ND	2								
T/R Hydrocarbons: C6-C35	ND	2								
Surr: 1-Chlorooctane	2.775	0	2.5	0	111	87	147	0		
Surr: Octacosane	2.768	0	2.5	0	111	80	140	0		

Sample ID: LCS-18722	Batch ID: 18722	TestNo: TX1005	Units: mg/L
SampType: LCS	Run ID: GC12_050328B	Analysis Date: 3/28/2005 2:08:59 PM	Prep Date: 3/28/2005

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C6-C35	26.21	2	25	0	105	75	125	0		
Surr: 1-Chlorooctane	3.496	0	2.5	0	140	113	173	0		
Surr: Octacosane	2.859	0	2.5	0	114	80	140	0		

Sample ID: 0503188-04B MS	Batch ID: 18722	TestNo: TX1005	Units: mg/L
SampType: MS	Run ID: GC12_050328B	Analysis Date: 3/28/2005 4:13:09 PM	Prep Date: 3/28/2005

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C6-C35	24.92	1.9	23.73	0	105	75	125	0		
Surr: 1-Chlorooctane	3.385	0	2.373	0	143	113	173	0		
Surr: Octacosane	2.491	0	2.373	0	105	80	140	0		

Sample ID: 0503188-04B MSD	Batch ID: 18722	TestNo: TX1005	Units: mg/L
SampType: MSD	Run ID: GC12_050328B	Analysis Date: 3/28/2005 4:35:37 PM	Prep Date: 3/28/2005

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C6-C35	28.18	1.95	24.35	0	116	75	125	12.3	30	
Surr: 1-Chlorooctane	3.632	0	2.435	0	149	113	173	0	0	
Surr: Octacosane	2.575	0	2.435	0	106	80	140	0	0	

Sample ID: CCV3-050328	Batch ID: R21525	TestNo: TX1005	Units: mg/L
SampType: CCV	Run ID: GC12_050328B	Analysis Date: 3/28/2005 12:41:03 PM	Prep Date:

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C6-C12	297.8	2	0	0	0	0	0	0		
T/R Hydrocarbons: >C12-C28	260.6	2	0	0	0	0	0	0		
T/R Hydrocarbons: >C28-C35	ND	2	0	0	0	0	0	0		
T/R Hydrocarbons: C6-C35	558.4	2	500	0	112	75	125	0		
Surr: 1-Chlorooctane	44.68	0	25	0	179	140	195	0		

Qualifiers: ND - Not Detected at the Method Detection Limit
 J - Analyte detected below quantitation limits
 S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits
 B - Analyte detected in the associated Method Blank

CLIENT: HBC/Terracon
 Work Order: 0503190
 Project: Federal Express

ANALYTICAL QC SUMMARY REPORT

RunID: GC12_050328B

Sample ID: CCV3-050328	Batch ID: R21525	TestNo: TX1005	Units: mg/L							
SampType: CCV	Run ID: GC12_050328B	Analysis Date: 3/28/2005 12:41:03 PM	Prep Date:							
Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: Octacosane	29.19	0	25	0	117	85	133	0		

Sample ID: CCV4-050328	Batch ID: R21525	TestNo: TX1005	Units: mg/L							
SampType: CCV	Run ID: GC12_050328B	Analysis Date: 3/28/2005 3:05:33 PM	Prep Date:							
Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C6-C12	325	2	0	0	0	0	0	0		
T/R Hydrocarbons: >C12-C28	272.6	2	0	0	0	0	0	0		
T/R Hydrocarbons: >C28-C35	ND	2	0	0	0	0	0	0		
T/R Hydrocarbons: C6-C35	597.6	2	500	0	120	75	125	0		
Surr: 1-Chlorooctane	48.37	0	25	0	193	140	195	0		
Surr: Octacosane	29.57	0	25	0	118	85	133	0		

Sample ID: CCV5-050328	Batch ID: R21525	TestNo: TX1005	Units: mg/L							
SampType: CCV	Run ID: GC12_050328B	Analysis Date: 3/28/2005 4:30:01 PM	Prep Date:							
Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C6-C12	316.3	2	0	0	0	0	0	0		
T/R Hydrocarbons: >C12-C28	266.2	2	0	0	0	0	0	0		
T/R Hydrocarbons: >C28-C35	0.04296	2	0	0	0	0	0	0		
T/R Hydrocarbons: C6-C35	582.6	2	500	0	117	75	125	0		
Surr: 1-Chlorooctane	47.38	0	25	0	190	140	195	0		
Surr: Octacosane	28.31	0	25	0	113	85	133	0		

Sample ID: CCV6-050328	Batch ID: R21525	TestNo: TX1005	Units: mg/L							
SampType: CCV	Run ID: GC12_050328B	Analysis Date: 3/28/2005 4:41:34 PM	Prep Date:							
Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C6-C12	320.5	2	0	0	0	0	0	0		
T/R Hydrocarbons: >C12-C28	273.7	2	0	0	0	0	0	0		
T/R Hydrocarbons: >C28-C35	0.03335	2	0	0	0	0	0	0		
T/R Hydrocarbons: C6-C35	594.2	2	500	0	119	75	125	0		
Surr: 1-Chlorooctane	47.91	0	25	0	192	140	195	0		
Surr: Octacosane	30.86	0	25	0	123	85	133	0		

Sample ID: ICV-050328	Batch ID: R21525	TestNo: TX1005	Units: mg/L							
SampType: ICV	Run ID: GC12_050328B	Analysis Date: 3/28/2005 9:39:51 AM	Prep Date:							
Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C6-C12	559.6	2	0	0	0	0	0	0		
T/R Hydrocarbons: >C12-C28	657.7	2	0	0	0	0	0	0		

Qualifiers: ND - Not Detected at the Method Detection Limit
 J - Analyte detected below quantitation limits
 S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits
 B - Analyte detected in the associated Method Blank

CLIENT: HBC/Terracon
 Work Order: 0503190
 Project: Federal Express

ANALYTICAL QC SUMMARY REPORT

RunID: GC12_050328B

Sample ID: ICV-050328	Batch ID: R21525	TestNo: TX1005	Units: mg/L							
SampType: ICV	Run ID: GC12_050328B	Analysis Date: 3/28/2005 9:39:51 AM	Prep Date:							
Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
T/R Hydrocarbons: >C28-C35	1.836	2	0	0	0	0	0	0	0	
T/R Hydrocarbons: C6-C35	1219	2	1000	0	122	75	125	0	0	
Surr: 1-Chlorooctane	91.61	0	50	0	183	140	195	0	0	
Surr: Octacosane	53.65	0	50	0	107	85	133	0	0	

Qualifiers:
 ND - Not Detected at the Method Detection Limit
 J - Analyte detected below quantitation limits
 S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits
 B - Analyte detected in the associated Method Blank

CLIENT: HBC/Terracon
 Work Order: 0503190
 Project: Federal Express

ANALYTICAL QC SUMMARY REPORT

RunID: GC9_050324A

Sample ID: MB-18640	Batch ID: 18640	TestNo: SW8021B	Units: µg/L
SampType: MBLK	Run ID: GC9_050324A	Analysis Date: 3/24/2005 10:14:45 AM	Prep Date: 3/24/2005

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether	ND	6								
Benzene	ND	2								
Toluene	ND	6								
Ethylbenzene	ND	6								
Xylenes, Total	ND	9								
Surr: Tetrachloroethene	185.3	0	200	0	92.6	71	109	0		

Sample ID: LCS-18640	Batch ID: 18640	TestNo: SW8021B	Units: µg/L
SampType: LCS	Run ID: GC9_050324A	Analysis Date: 3/24/2005 9:56:57 AM	Prep Date: 3/24/2005

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether	53.2	6	50	0	106	78	122	0		
Benzene	52.2	2	50	0	104	81	125	0		
Toluene	50.58	6	50	0	101	84	123	0		
Ethylbenzene	51.81	6	50	0	104	83	119	0		
Xylenes, Total	165.4	9	150	0	110	81	117	0		
Surr: Tetrachloroethene	190.4	0	200	0	95.2	71	109	0		

Sample ID: 0503190-01A MS	Batch ID: 18640	TestNo: SW8021B	Units: µg/L
SampType: MS	Run ID: GC9_050324A	Analysis Date: 3/24/2005 12:37:02 PM	Prep Date: 3/24/2005

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether	53.37	6	50	0	107	78	122	0		
Benzene	51.67	2	50	0	103	81	125	0		
Toluene	49.55	6	50	0	99.1	84	123	0		
Ethylbenzene	50.02	6	50	0	100	83	119	0		
Xylenes, Total	159.4	9	150	0	106	81	117	0		
Surr: Tetrachloroethene	190.9	0	200	0	95.5	71	109	0		

Sample ID: 0503190-01A MSD	Batch ID: 18640	TestNo: SW8021B	Units: µg/L
SampType: MSD	Run ID: GC9_050324A	Analysis Date: 3/24/2005 12:54:46 PM	Prep Date: 3/24/2005

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether	55.59	6	50	0	111	78	122	4.08	20	
Benzene	52.6	2	50	0	105	81	125	1.78	20	
Toluene	49.84	6	50	0	99.7	84	123	0.592	20	
Ethylbenzene	51.17	6	50	0	102	83	119	2.28	20	
Xylenes, Total	162.7	9	150	0	108	81	117	2.05	20	
Surr: Tetrachloroethene	191.2	0	200	0	95.6	71	109	0	0	

Qualifiers: ND - Not Detected at the Method Detection Limit
 J - Analyte detected below quantitation limits
 S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits
 B - Analyte detected in the associated Method Blank

CLIENT: HBC/Terracon
 Work Order: 0503190
 Project: Federal Express

ANALYTICAL QC SUMMARY REPORT

RunID: GC9_050324A

Sample ID: CCV1-050324	Batch ID: R21505	TestNo: SW8021B	Units: µg/L							
SampType: CCV	Run ID: GC9_050324A	Analysis Date: 3/24/2005 1:12:30 PM	Prep Date:							
Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether	53.06	6	50	0	106	80	120	0		
Benzene	51.81	2	50	0	104	85	115	0		
Toluene	49.94	6	50	0	99.9	85	115	0		
Ethylbenzene	50.39	6	50	0	101	85	115	0		
Xylenes, Total	160.5	9	150	0	107	85	115	0		
Surr: Tetrachloroethene	190.9	0	200	0	95.4	71	109	0		

Sample ID: CCV2-050324	Batch ID: R21505	TestNo: SW8021B	Units: µg/L							
SampType: CCV	Run ID: GC9_050324A	Analysis Date: 3/24/2005 4:31:45 PM	Prep Date:							
Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether	46.74	6	50	0	93.5	80	120	0		
Benzene	49.37	2	50	0	98.7	85	115	0		
Toluene	47.96	6	50	0	95.9	85	115	0		
Ethylbenzene	48.3	6	50	0	96.6	85	115	0		
Xylenes, Total	154.6	9	150	0	103	85	115	0		
Surr: Tetrachloroethene	185.6	0	200	0	92.8	71	109	0		

Sample ID: CCV3-050324	Batch ID: R21505	TestNo: SW8021B	Units: µg/L							
SampType: CCV	Run ID: GC9_050324A	Analysis Date: 3/24/2005 7:11:58 PM	Prep Date:							
Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether	51.41	6	50	0	103	80	120	0		
Benzene	52.58	2	50	0	105	85	115	0		
Toluene	51.41	6	50	0	103	85	115	0		
Ethylbenzene	52.2	6	50	0	104	85	115	0		
Xylenes, Total	165.8	9	150	0	111	85	115	0		
Surr: Tetrachloroethene	193.1	0	200	0	96.6	71	109	0		

Sample ID: ICV-050324	Batch ID: R21505	TestNo: SW8021B	Units: µg/L							
SampType: ICV	Run ID: GC9_050324A	Analysis Date: 3/24/2005 9:39:14 AM	Prep Date:							
Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether	101.5	6	100	0	101	80	120	0		
Benzene	99.89	2	100	0	99.9	85	115	0		
Toluene	98.58	6	100	0	98.6	85	115	0		
Ethylbenzene	100.8	6	100	0	101	85	115	0		
Xylenes, Total	312.5	9	300	0	104	85	115	0		
Surr: Tetrachloroethene	188.6	0	200	0	94.3	71	109	0		

Qualifiers:
 ND - Not Detected at the Method Detection Limit
 J - Analyte detected below quantitation limits
 S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits
 B - Analyte detected in the associated Method Blank

CLIENT: HBC/Terracon
 Work Order: 0503190
 Project: Federal Express

MQL SUMMARY REPORT

TestNo: TX1005	MDL	MQL
Analyte	mg/L	mg/L
T/R Hydrocarbons: C6-C12	0.7	2
T/R Hydrocarbons: >C12-C28	0.7	2
T/R Hydrocarbons: >C28-C35	0.7	2
T/R Hydrocarbons: C6-C35	0.7	2

TestNo: SW8021B	MDL	MQL
Analyte	µg/L	µg/L
Methyl tert-butyl ether	2	6
Benzene	0.8	2
Toluene	2	6
Ethylbenzene	2	6
Xylenes, Total	3	9

Qualifiers: MQL -Method Quantitation Limit as defined by TRRP
 MDL -Method Detection Limit as defined by TRRP

Appendix B



May 2, 2005

Mr. Saul Garza
 HBC-Terracon
 5307 Industrial Oaks Blvd
 Austin, TX 78735

**Subject: High Vacuum Multi-phase Extraction (HVME)
 12 Hr HVME Event with Offgas Treatment (750-CFM Thermal Oxidizer)**

**HVME Event No. 2
 Federal Express
 5811 Technicenter
 Austin, TX**

Dear Mr. Garza:

The following report summarizes data collected during the 12-hour High Vacuum Multi-phase Extraction (HVME) event conducted at the above subject site on 3/17/2005, by EnVac Environmental Services. The objective of the HVME treatment (HVME Event No.2 – 12-hour event) was to remove both vapor and phase separated hydrocarbons (PSH) from groundwater monitor wells for a period of 24-hours. However, due to the high volume of groundwater being generated and the relatively low vapor concentrations generated, a decision was made by the client to cease the event at 12-hours. Offgas vapors from the KingVac emission stacks were destroyed using a propane-fired 750-SCFM thermal oxidizer.

Groundwater Drawdown Information

Groundwater elevation and PSH thickness data were recorded prior to and immediately following HVME Event No.2. The data is located in TABLE 4 of the attached Field Data Record. Prior to the event, 1 of the 5 monitor wells gauged reported measurable levels of phase-separated-hydrocarbons. The maximum reported PSH thickness prior to and after the HVME event was 0.50 to 0.00 feet. Final changes in corrected water level elevations measured in the monitor wells ranged between approximately -0.19 feet to -0.92 feet (see TABLE 4 – Groundwater Drawdown Data). Following the HVME event, 0 of the 5 monitor wells had measurable amounts of PSH (see TABLE 4 – Groundwater Drawdown Data). All extraction wells were gauged within ten minutes of removal from the extraction array.

A combined estimated total of 26 equivalent gallons of petroleum hydrocarbons were removed during HVME Event No.2. The combined volume of hydrocarbons removed was comprised of approximately 10 gallons (62 pounds) as PSH and approximately 16.31 equivalent gallons (101.13 pounds) as offgas vapor. At the conclusion of HVME Event No.2, approximately 9,600 gallons of recovered liquids were measured in the vacuum tank.

Summary of Field Activities

Activities during the 12-hour HVME event progressed as follows:

3/17/2005

5:45 PM Thursday	EnVac personnel (Brian Burgess, David Krier, Mike O'Dell) arrived on site, set up KingVac for vapor treatment (i.e., 750 SCFM thermal oxidizer). Unpacked submersible pumps, generator, pump controllers, and miscellaneous supplies. Saul Garza arrived shortly after Brina Burgess left and David and Saul reviewed wells to extract from.
7:00 PM	Placed submersible pumps into wells MW-1 (3-inch Grunfos), MW-5 (2.0-inch Tsunami), and MW-6 (2.0 inch Grunfos). Discharge from all three pumps were run into 55-gallons drum before being evacuated with a 2-inch vacuum to the KingVac. We were able to measure discharge rates from each of the three (3) wells independently while letting the other two pumps discharge directly to KingVac vacuum line.
8:30 PM	Started pumping with vacuum.
9:00 PM	Drawdown was measured in all three pumping wells. See page 3 of this Report. Drawdown vacuum, and air

	<i>flow rates remained steady and consistent throughout entire event.</i>
11:30 PM	<i>Offloaded first tank full of liquids into frac tank. At this time, EnVac personnel ran discharge lines from pumps directly to frac tank so that the pumping was not interrupted.</i>
8:30 AM Friday	<i>Discussed with client - results from the event thusfar, and concluded that we should cease the operation as of 12 hours rather than continue the event for the full 24 hour duration. Concluded HVME Event No.2. Gauged extraction wells and disassembled pumps, generators, etc. Pumped a total of approximately 9,600 gallons to on-site frac tank.</i>

Air Removal Rates

Air removal rates were calculated from velocity measurements recorded at the influent pipe to the thermal oxidizer. The cumulative airflow measurements ranged between approximately 0 SCFM and 459 SCFM throughout the event (see TABLE 1 – Cumulative Removal Data). A portion of the total air volume measured at the emission stacks were attributable to air, which was “bled” into extraction wellheads through breather ports. This “bleed” air was introduced to the monitor well for the purpose of enhancing liquid recovery rates. Atmospheric airflow attributable to breather port apertures at each extraction well is recorded in TABLE 2 (*Wellhead Data*) of the attached HVME Field Data Record. Atmospheric airflow at this site was also introduced through a dilution or “relief” valve inlet located on the liquid ring pump (designed to prevent pump cavitation). The atmospheric air introduced through the “relief” valve inlet on the liquid ring pump served to maintain a safe operating vacuum and to lower the concentration of petroleum hydrocarbons in the offgas effluent. The lowering of offgas concentrations due to the increase in airflow rate allows for increased accuracy in hydrocarbon concentration readings, while maintaining high mass removal rates.

Offgas Vapor Treatment

Hydrocarbon vapors produced by the HVME process were diverted from the KingVac emissions stacks into propane fired, 750 SCFM-thermal-oxidizer, where 99.5% of generated gases were destroyed before reaching the atmosphere. In accordance with 30TAC106.533 and 106.262, the thermal oxidizer was operated at a minimum temperature of 1400° F.

Disposition of Fluids

Approximately gallons of liquid was extracted from the monitor wells during HVME Event No.2. All fluids extracted were transferred to on-site frac tank for staging until reclamation pick up.

Thank you for this opportunity to serve the environmental needs of HBC-Terracon, Inc. We look forward to working with you in the future to provide innovative and cost effective environmental solutions at this and other sites.

Sincerely,

Brian W. Burgess

EnVac Environmental Services

**Submersible Pump Drawdown Data
 Federal Express – 5811 Technicenter - Austin, TX.**

Pumping Well	MW-1	MW-5	MW-6
Pump	3-inch Grunfos	2-inch Tsunami	2-inch Grunfos
Discharge Rate	7.0GPM	1.5GPM	6.0GPM
Pump Intake Level	36.00 ft	39.00 ft	39.00 ft
	DTW (feet)	DTW (feet)	DTP (feet)
TIME			
Thursday 21:00	30.01	33.67	35.31
Thursday 22:30	30.05	33.73	35.37
Thursday 23:15	29.96	33.70	35.22
Friday 02:00	30.18	33.81	35.38
Friday 07:00	30.14	33.85	35.42
NOTE 1: EXTRACTION WELLS (MW-1, MW-5, MW-6) WERE GAUGED THROUGH THE WELL HEADER USING A SEPARATE INTERFACE PROBE FOR EACH EXTRACTION WELL.			
NOTE 2: DTW (Depth to Water) OR DTP (Depth to Phase) WAS MEASURED FROM THE TOP OF THE HEADER AND THEN CORRECTED FOR THE DIFFERENCE IN HEIGHT BETWEEN THE TOP OF HEADER (TOH) AND TOP CASING (TOC) IN THIS TABLE.			
NOTE 3: THE DISCHARGE RATE FOR EACH OF THE THREE (3) EXTRACTION WELLS REMAINED STEADY THROUGHOUT THE EVENT (i.e., MW-1 – 7.0 GPM; MW-5 – 1.5 GPM; MW-6 – 6 GPM). PUMP INTAKES WERE SET AT APPROXIMATELY 37.00 FEET BELOW TOC FOR MW-1; APPROXIMATELY 39.00 FEET BELOW TOC 1 FOR MW-5; and APPROXIMATELY 39.00 FEET BELOW TOC FOR MW-6.			

Observation well Drawdown Data

Nearest Pumping Well	MW-1	MW-1	
Observation Well	MW-2	MW-3	
Observation Well Distance			
	DTW (feet)	DTW (feet)	
TIME			
Thursday 19:00	30.27	31.15	
Thursday 20:30	30.34	31.19	
Thursday 21:30	30.38	31.22	
Thursday 22:30	30.40	31.26	
Thursday 23:30	30.46	31.34	
NOTE 1:			
NOTE 2:			
NOTE 3:			



Company		SiteID	Contact	Professional	Operator
HBC-Terracon		455	Garza	Krier	Odell
Site Name:		Event Hrs	Equipment	Start	End
Federal Express		12	KingVac	3/17/2005	3/17/2005
5811 Technicenter Austin, TX		EventID	Liquid No	Fuel Type	Disposal Facility
		1559	Note 1	Gasoline	On-Site Frac Tank
		Stack Dia	MW of Prod	Total Fluids	PSH (gallons)
		6	86	9600	10

MDPE Event No: 2

Print Date: 05/02/05

Table 1 -- Cumulative Removal Data

Time	Discharge				Inlet Vac		TO
	ppm	CFM	ER	VOC lbs.	In-Hg	Temp	
8:30 AM	200	440.00	-	-	20	1410	
8:30 PM	1400	459.00	4.86	58.3	22	1428	
9:00 PM	1000	459.00	7.44	3.72	22	1423	
9:30 PM	800	440.00	5.47	2.73	21	1420	
10:00 PM	700	440.00	4.46	2.23	21	1414	
10:30 PM	600	440.00	3.86	1.93	21	1413	
11:30 PM	500	440.00	3.27	3.27	21	1411	
12:30 AM	700	440.00	3.57	3.57	21	1415	
1:00 AM	600	440.00	3.86	1.93	21	1416	
2:00 AM	550	440.00	3.42	3.42	21	1414	
3:00 AM	500	440.00	3.12	3.12	20	1412	
4:00 AM	450	440.00	2.82	2.82	20	1411	
5:00 AM	400	440.00	2.53	2.53	20	1413	
6:00 AM	350	440.00	2.23	2.23	20	1410	
7:00 AM	300	440.00	1.93	1.93	20	1410	
8:00 AM	250	440.00	1.63	1.63	20	1411	
11:31 PM	-	-	-	-	0	0	

TX Removal Data Summary

Removal	lbs	Gallons
PSH	62	10
Vapor	101.13	16.31
Totals	163	26

Table 2
Well Head Data

Date	Time	EventID	MW-1		MW-5		MW-6	
			BPRV	VAC	BPRV	VAC	BPRV	VAC
03/17	8:30 PM	1559	0	3	0	4	0	3
03/17	9:00 PM	1559	0	3	0	4	0	3
03/17	9:30 PM	1559	0	3	0	4	0	3
03/17	10:00 PM	1559	0	3	0	4	0	3
03/17	10:30 PM	1559	0	3	0	4	0	3
03/17	11:30 PM	1559	0	3	0	4	0	3
03/17	11:31 PM	1559	-	-	-	-	-	-
03/18	12:30 AM	1559	0	3	0	4	0	3
03/18	1:00 AM	1559	0	3	0	4	0	3
03/18	2:00 AM	1559	0	3	0	3	0	3
03/18	3:00 AM	1559	0	3	0	3	0	3
03/18	4:00 AM	1559	0	3	0	3	0	3
03/18	5:00 AM	1559	0	3	0	3	0	3
03/18	6:00 AM	1559	0	3	0	3	0	3
03/18	7:00 AM	1559	0	3	0	3	0	3
03/18	8:00 AM	1559	0	3	0	3	0	3
03/18	8:30 AM	1559	0	3	0	3	0	3



Company		SiteID	Contact	Professional	Operator
HBC-Terracon		455	Garza	Krier	Odell
Site Name:		Event Hrs	Equipment	Start	End
Federal Express		12	KingVac	3/17/2005	3/17/2005
5811 Technicenter Austin, TX		EventID	Liquid No	Fuel Type	Disposal Facility
		1559	Note 1	Gasoline	On-Site Frac Tank
		Stack Dia	MW of Prod	Total Fluids	PSH (gallons)
		6	86	9600	10

MDPE Event No: 2

Print Date: 05/02/05

Table 4 - Groundwater Draw

Well Data			Prior to MDPE			After MDPE			Static WL Changes	Comments
Well ID	Dia	TD	DTP	DTW	PSH	DTP	DTW	PSH		
MW-6	4		32.82	33.32	0.50	-	33.87	0.00	-0.93	
MW-5	4		-	33.45	0.00	-	33.84	0.00	-0.39	
MW-3	4		-	31.15	0.00	-	31.34	0.00	-0.19	
MW-2	4		-	30.27	0.00	-	30.46	0.00	-0.19	
MW-1	4		-	28.90	0.00	-	29.80	0.00	-0.90	

Legend

BPRV. Breather Port Relief Valve	In.Hg Inches Mercury	PSH Phase Separated Hydrocarbon
CFM Cubic Feet per Minute	Inlet Va Vacuum Tank Vacuum	R.S. Removed Sock before gauging
Dia Diameter	lbs pounds	TD Total Depth
DTP Depth to Phase	LRRV. Liquid Ring Relief Valve	Temp Temperature
DTW Depth to Water	MDPE Mobile Dual Phase Extraction	T.O. Thermal Oxidizer
ER Emissions Rate	MW Molecular Weight	VAC Vacuum
EW Extraction Well	NA Not Available	VOC Volatile Organic Compound
HVME High Vacuum Multiphase Extraction	ppm Parts per Million	WL Water Level

Explanation of Tables:

- Table 1 -- Cumulative Removal Data** Indicates vapor concentration, air flow (CFM), emission rate, and KingVac Tank vacuum.
- Table 2 -- Well Head Data** Indicates vacuum (inches-Hg.) and ambient bleedair volume (CFM) at wellhead.
- Table 3 -- Differential Pressure Date** Indicates differential pressure (inches water column) at nearby observation wells during extraction process.
- Table 4 -- Groundwater Drawdown Da** Groundwater and PSH levels and PSH thickness immediately before and after the MDPE event.

Comments

Note 1: Fluids disposed to on-site frac tank.
 Note 2: Stopped extraction at 23:30 pm to 00:30 am to offload 2600 gallons of fluids to on-site frac tank.

Air Sample Analysis

Date:			Time			#			Date:			Time			#		
Field Screen Air Sample	No. 1								Lab Sample	No. 1							
	No. 2									No. 2							
	No. 3									No. 3							

Appendix C

Texas Natural Resource Conservation Commission
PETROLEUM STORAGE TANK
PRODUCT RECOVERY REPORT

Submit this form on a semi-annual basis unless an alternative schedule is directed by the TNRCC. Continue to submit this form until product is no longer observed.

Complete All Applicable Blanks.

Date: 5/6/05

GENERAL INFORMATION

LPST ID No.: 111747

Facility ID No.: 0029044

Responsible Party: Federal Express Corporation

Facility Name: Federal Express Facility

Facility Physical Address: 5811 Technicenter Drive

Facility City: Austin

County: Travis

PHASE-SEPARATED PRODUCT RECOVERY

Reporting Period: March 17, 2005

Estimated volume (gallons) remaining: Less than 40 gallons

Estimated time to recover remaining product to 0.1 foot: No wells currently exhibiting PSH above 0.1 feet

Volume of fluids (product & water) recovered during past reporting period: 9626 gallons

Volume of phase-separated product recovered during past reporting period: 26 gallons

Total volume of fluids recovered to date: 14,669.27 gallons

Total volume of product recovered to date: 2502.25 gallons

Method of product recovery: continuously (automated) pulsed (automated) hand bailing
 sorbents other, describe: High Vacuum Multi-phase Extraction event

Pumping rate (for automated systems only):

Phase-separated product recovery schedule: daily bi-weekly weekly other, describe: One-time (3/17/05)

Maximum phase-separated product thickness remaining: 0.05

Indicate all monitoring wells and other locations impacted with phase-separated product: MW-6

Are the product thicknesses diminishing over time? YES or NO (check one) If no, is a new release suspected? YES or NO describe:

Is product currently being recovered in any monitor wells, trenches, etc. in which the thickness is less than or equal to 0.1 foot? YES or NO

WASTE DISPOSITION

Indicate the status of all wastes generated: All recovered product and water were transported for disposal at an authorized facility (disposal manifest attached).

REPORT PREPARATION

Project Manager: Russell C. Ford PM Reg. No.: 1502 Expiration Date: 7/16/2005

Company: HBC/Terracon City: Austin State: TX Zip: 78735

Phone No.: (512) 442-1122 Fax No.: (512) 442-1181

Signature: [Handwritten Signature] Date: 7/14/05

Corrective Action Specialist Rep: Hilary Johns CAS No.: 825 Expiration Date: 2/25/06

Company: HBC/Terracon City: Austin State: TX Zip: 78735

Phone No.: (512) 442-1122 Fax No.: (512) 442-1181

Signature: [Handwritten Signature] Date: 7/14/05

Name of Responsible Party contact: Mr. Tim Alexander

Telephone No.: Fax No.: (901) 434-9235

Signature: [Handwritten Signature] Date: 7/15/05

Attachments:

- Table of cumulative recovery by month
- Graph of cumulative product recovered versus time



SPE NOTE:

SERVICE ORDER

A Siemens Business

US FILTER RECOVERY SERVICES (MID-ATLANTIC), INC.
14950 Heathrow Forest Pkwy, 250, Houston, TX 77032

NUMBER

CUSTOMER CONTACT

PAGE OF

PHONE NUMBER

CALL TYPE PROBLEM CODE ORDER ORIGIN

SITE NUMBER NAME AND ADDRESS

PRIORITY

Federal Express
5811 Techni Center Dr.
Austin TX

CALL WAS TAKEN ON AT BY

P.O. NUMBER

PROBLEM SYNOPSIS, AS REPORTED

ROUTE

ASSIGNED TECH
1260005 Johnny CASAS
PROMISE DATE, TIME

P/O FRAC TANK

VEHICLE NO.	TRAILER NO.	UPTIME UNIT NO.	TT	TM	ST	ARRIVE DATE	ARRIVE TIME	CLOSE DATE	CLOSE TIME	JOB COMPLETE		
406836	999177	129126	2	110	1	3-21-05	9:45A	3-21-05	10:45A	YES NO		
PART / DESCRIPTION		U/M	QUANTITY	HM	SHIPPING DESCRIPTION			SERIAL #		# CONT	TYPE	
Col-Fuel w/ GA		GA	5400		FLAMMABLE LIQUID N.D.S. (GAS/WATER MIXTURE) 3 UN 1993 PG 11			GLYCOL	pH	BRIX	SNIFFER	C-D-T

Reuse Qualification Statement

By signing this document, I hereby certify that I understand the used US Filter degreasing fluid (i.e. Mineral spirits, petroleum naphtha) returned to US Filter for inclusion in the US Filter Reuse Program will be utilized as an effective substitute for chemical product. For the purpose of qualifying to participate in the Program, I further certify that any used degreasing fluid so returned to US Filter has not been mixed with hazardous waste or other objectionable substances. All constituents that may be present in the degreasing fluid are contaminants resulting from, and incidental to, normal use of the solvent as a degreaser or cleaner. I have reviewed our physical facilities, administrative practices, and operational procedures and based on this review do willing make this true, accurate and complete certification.

Reuse Solvent QA & QC

- | | | | |
|--------------------------|---------------------------------------|--------------------------|---|
| Yes No | Used solvent passed visual inspection | Yes No | Rep Initials _____ |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Light assembly is in good working order |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Lid is unobstructed |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Parts Cleaner is properly grounded |
| <input type="checkbox"/> | <input type="checkbox"/> | | |
| <input type="checkbox"/> | <input type="checkbox"/> | | |
| <input type="checkbox"/> | <input type="checkbox"/> | | |
| <input type="checkbox"/> | <input type="checkbox"/> | | |

Authorization Signature

I agree to pay for the above services and/or products and to bound by the terms and conditions set forth above and on the reverse side of this document.

- Check if Conditionally Exempt Small Quantity Generator as defined in 40 CFR 261.5 Generator
 Check if Do-it-yourself collection center EPA ID# _____

The GENERATOR hereby certifies that the material collected from the GENERATOR'S facility by US Filter does not contain any PCB's as defined in 40 CFR 761 and is not hazardous waste or been mixed with a listed or characteristic hazardous waste as defined in 40 CFR 261. If the material collected is a used oil as defined in 40 CFR part 279, the GENERATOR certifies that the total halogen content is less than 1,000 ppm, or the GENERATOR hereby certifies that the rebuttable waste presumption under 40 CFR Part 279 has been rebutted. The GENERATOR will be responsible for any and all costs including, but not limited to, proper disposal, testing, and transportation if the material contains PCB's or is determined to be a hazardous waste. I certify that to the best of my knowledge, the information presented herein is correct and accurate, and I am authorized to sign on behalf of the GENERATOR.

Shipping Declaration:

This is to certify that the above-named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation.

Transporter Information:

US Filter Transport, Inc.
1657 Commerce Dr., Suite 10B US DOT ID#: 828559
South Bend, IN 46628 EPA ID#: INR000022798
Emergency Contact Chemtec (800) 424-9300

PRINT CUSTOMER NAME: 183657
 CUSTOMER SIGNATURE / DATE: [Signature] 3-21-05
 DRIVER SIGNATURE / DATE: [Signature] 3-21-05
 RECEIVED AT PLANT / DATE: _____

CUSTOMER

SPEC DTES
HBC

SERVICE ORDER

NUMBER
 PAGE 1 OF
 CALL TYPE PROBLEM CODE ORDER ORIGIN

CUSTOMER CONTACT
Saul
 PHONE NUMBER
512-921-3168
 SITE NUMBER NAME AND ADDRESS
Federal Express
5811 Techni Center DR.
Austin TX.

CALL WAS TAKEN ON AT BY
 ROUTE ASSIGNED TECH **126003**
 P.O. NUMBER

PROBLEM SYNOPSIS, AS REPORTED
Pu Water From Froc Tank
 M/A NUMBER PROMISE DATE, TIME
3-21-05

VEHICLE NO.	TRAILER NO.	UPTIME UNIT NO.	TT	TM	ST	ARRIVE DATE	ARRIVE TIME	CLOSE DATE	CLOSE TIME	JOB COMPLETE
307236	999142	129228	2.5	138	.75	3-21-05	1030	3-21-05	1115	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO

PART / DESCRIPTION	U/M	QUANTITY	HM	SHIPPING DESCRIPTION	SERIAL #		# CONT		TYPE
					GLYCOL	pH	BRIX	SNIFFER	C-D-T
Col-Fuel WF GA	901	4214	X	Flammable liquids, NOS, (Gas Water Mix), 3, UN1993, PG II					

Reuse Qualification Statement
 By signing this document, I hereby certify that I understand the used US Filter degreasing fluid (i.e. Mineral spirits, petroleum naphtha) returned to US Filter for inclusion in the US Filter Reuse Program will be utilized as an effective substitute for chemical product. For the purpose of qualifying to participate in the Program, I further certify that any used degreasing fluid so returned to US Filter has not been mixed with hazardous waste or other objectionable substances. All constituents that may be present in the degreasing fluid are contaminants resulting from, and incidental to, normal use of the solvent as a degreaser or cleaner. I have reviewed our physical facilities, administrative practices, and operational procedures and based on this review do willing make this true, accurate and complete certification.

Reuse Solvent QA & QC

Yes No	Yes No	Rep Initials
<input type="checkbox"/> <input type="checkbox"/> Used solvent passed visual inspection	<input type="checkbox"/> <input type="checkbox"/> Light assembly is in good working order	
<input type="checkbox"/> <input type="checkbox"/> Used solvent has no unusual odor	<input type="checkbox"/> <input type="checkbox"/> Lid is unobstructed	
<input type="checkbox"/> <input type="checkbox"/> Parts Cleaner is clean (front/back)	<input type="checkbox"/> <input type="checkbox"/> Parts Cleaner is properly grounded	
<input type="checkbox"/> <input type="checkbox"/> Fusible link operational		

Authorization Signature
 I agree to pay for the above services and/or products and to be bound by the terms and conditions set forth above and on the reverse side of this document.

PRINT CUSTOMER NAME
SAUL
 CUSTOMER SIGNATURE / DATE
[Signature] 3-21-05

Initial if Conditionally Exempt Small Quantity Generator as defined in 40 CFR 261.5
 Initial if Do-it-yourself collection center
 Generator
 EPA ID#

The GENERATOR hereby certifies that the material collected from the GENERATOR'S facility by US Filter does not contain any PCB's as defined in 40 CFR 761 and is not hazardous waste or been mixed with a listed or characteristic hazardous waste as defined in 40 CFR 261. If the material collected is a used oil as defined in 40 CFR part 279, the GENERATOR certifies that the total halogen content is less than 1,000 ppm, or the GENERATOR hereby certifies that the rebuttable waste presumption under 40 CFR Part 279 has been rebutted. The GENERATOR will be responsible for any and all costs including, but not limited to, proper disposal, testing, and transportation if the material contains PCB's or is determined to be a hazardous waste. I certify that to the best of my knowledge, the information presented herein is correct and accurate, and I am authorized to sign on behalf of the GENERATOR.

Shipping Declaration:
 This is to certify that the above-named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation.

Transporter Information:
 US Filter Transport, Inc.
 1657 Commerce Dr., Suite 10B South Bend, IN 46628
 US DOT ID#: 829559
 EPA ID#: INR000022798

Designated Facility
 2200 East Pierce Street
 Luling, TX 78648
 (800) 875-3260
 EPA ID#: TXD982759748

EMERGENCY CONTACT CHEMTREC (800) 424-9300
 DRIVER SIGNATURE / DATE
[Signature] 3-21-05
 RECEIVED AT PLANT / DATE

248375

CUSTOMER

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION
PETROLEUM STORAGE TANK

LPST SITE CLOSURE REQUEST FORM

This form is to be used to request closure for Leaking Petroleum Storage Tank (LPST) cases. The soil and groundwater cleanup goals must be met prior to submitting this form. These cleanup goals should be derived from either:

- the TWC *Guidance Manual for LPST Cleanups in Texas*, January 1990 so long as these goals were achieved prior to November 8, 1995, or
- the TNRCC *Risk-Based Corrective Action for Leaking Storage Tank Sites* document, January 1994 (RG-36).

Submission of this Site Closure Request constitutes certification by the Responsible Party, Corrective Action Specialist (CAS), and Corrective Action Project Manager (CAPM) that all necessary corrective actions have been completed and final closure of the subject site is appropriate at this time. By signing this Site Closure Request, the Responsible Party, CAS, and CAPM acknowledges that no further corrective actions, with the exception of activities subsequently approved by the TNRCC, will be eligible for reimbursement after the RP's signature date. Although costs for activities such as groundwater monitoring or remediation system operation and maintenance may have been approved for an annual period, these activities should cease upon submission of the Site Closure Request as these activities will not be considered eligible for reimbursement beyond the date of the Site Closure Request. Additionally, any costs relating to site assessment or other corrective action activities will not be eligible for reimbursement if the activities are conducted after the date of the Site Closure Request, unless specifically approved by the TNRCC. If, upon review by the TNRCC, the TNRCC concurs that the site meets the conditions for final closure, the costs for closure activities necessary to restore the site to its original condition will be reviewed and approved as appropriate. If the TNRCC determines that the site does not meet the conditions for final closure, the TNRCC will request a workplan and cost proposal for the next appropriate corrective action activity necessary to proceed towards final closure unless appropriate activities have previously been approved. The only type of proposal that should be attached to the Site Closure Request is for site closure costs. Any proposals attached to the Site Closure Request for activities other than site closure will not be processed and will be withdrawn from consideration.

If any of the following apply, the site is not ready for closure and this form should not be submitted:

- The appropriate LPST cleanup goals have not been met (a proposal for the next appropriate step should be submitted instead);
- Phase-separated hydrocarbons (>0.1 feet) currently exist at the site;
- The contaminant plume is increasing in size; or
- All wastes and other material generated from the site have not been properly disposed;

Do not use this form:

- if the release was not from a regulated underground or aboveground storage tank;
- for tank removal-from-service activities not associated with an LPST site (use the *Release Determination Report Form* (TNRCC-0621) or other appropriate format);
- for situations where the second set of confirmation samples collected during tank removal-from-service activities confirms suitability for closure (use the *Release Determination Report Form* (TNRCC-0621) or other appropriate format); or
- for shutdown of remediation systems or for plugging of monitor wells when site closure is not yet appropriate.

If asked to initiate additional activities, submit a workplan and preapproval request for those activities on sites eligible for reimbursement. Please review the document entitled *Preapproval for Corrective Action Activities* (RG-111) for procedures on preapproval requests and the other PST guidance pamphlets and rules for additional information on LPST sites.

Complete all blanks and check "yes" or "no" for all inquiries. **IF A COMPLETED ASSESSMENT REPORT FORM (TNRCC-0562) WAS PREVIOUSLY SUBMITTED, YOU DO NOT NEED TO ANSWER THE QUESTIONS WITHIN THE DARK OUTLINED AREAS UNLESS THE INFORMATION HAS CHANGED.** If the question is not applicable to this site, indicate with N/A. If the answer to the question is unknown, please indicate. If space for supplemental information is needed, insert numbered footnote and provide brief supporting discussion in Section VI, Justification for Closure.

SITE CLOSURE REQUEST FORM

I. GENERAL INFORMATION

LPST ID No.: 111747 Facility ID No.: 0029044
Responsible Party: Federal Express Corporation
Responsible Party Address: 3620 Hacks Cross Boulevard, Building B City: Memphis State: TN Zip: 38125
Facility Name: Federal Express Facility
Facility Street Address: 5811 Technicenter Drive
Facility City: Austin County: Travis

What is the current use of site? (indicate all that apply):
 Residence¹ School or Day Care center Commercial/Industrial¹ Recreational Agricultural

What is the anticipated future use of the site? (indicate all that apply):
 Residence¹ School or Day Care center Commercial/Industrial¹ Recreational Agricultural

Adjacent property use (indicate all that apply):
 Residence School or Day Care Center Commercial/Industrial¹ Recreational Agricultural

Distance to nearest off-site residence from property line: 1,000 feet in Northwest direction.

Distance to nearest school or day care center from property line: 100 feet in West direction.

II. CLOSURE SCREENING INFORMATION

Based on the *Limited Site Assessment Report* form or the *Risk-Based Assessment Report Form* (TNRCC-0562), the site is currently a **Priority** 4.1 site. If the site priority has changed, list the other priorities that previously pertained to this site: _____

Yes No Have non-aqueous phase liquids (NAPL) ever been present at this site (including tankpit observation wells)? If yes, is NAPL present now (thickness ≥ 0.1 feet)? Yes No Current thickness: 0.05 ft. If NAPL is currently present, stop here and do not submit this form for case closure. Initiate or continue activities necessary for the removal of all recoverable NAPL at the site.

Yes No Were all soils, recovered contaminated groundwater, and any phase-separated hydrocarbons properly disposed of, treated, recycled or reused in accordance with TNRCC requirements? If No, stop here and do not submit this form. Provide a proposal (if the site is eligible for reimbursement) to properly dispose or otherwise manage the wastes/materials or, if the site is not eligible for reimbursement, provide documentation of proper disposition of the wastes.

Yes No Do contaminant concentrations show a consistent decreasing or low static trend? If No, is the contaminant plume increasing in size? Yes No If Yes, stop here, do not submit this form, and initiate activities to control plume migration.

¹ See definition in 30 TAC 334.202

III. RELEASE ABATEMENT/REMEDIATION

Date Release Discovered: 10/1996

Substance(s) released: (check all that apply) Gasoline Alcohol-blended fuel (Type and percentage of alcohol: _____)
 Diesel Used Oil Jet Fuel (type: _____) Aviation Gasoline Other: (be specific) _____

Source of Release (specify all that apply):

Spills/overfills Piping leaks Dispenser leaks Tank corrosion Other: _____

Yes No Has a receptor survey been conducted?
 Yes No Has a water well inventory been conducted?

Yes No Have vapor impacts to buildings or utility lines ever been associated with this release? If Yes, specify the measures taken to abate the impact and indicate the latest date that an impact was noted:

Yes No Have subsurface utilities ever been affected with NAPL or vapors by this release? If Yes, indicate the latest date that an impact was noted:

If not already provided in *Release Determination Report Form* (TNRCC-0621), or if the information has changed since submittal of the *Release Determination Report*, indicate number of tanks currently and formerly located at this site (attach pages as necessary): No changes since *Release Determination Report* submitted.

<u>Type (UST/AST)</u>	<u>Product Type</u>	<u>Size (approx. gal)</u>
-----------------------	---------------------	---------------------------

Current:

Date Removed from Service

Former:

Yes No If the tanks were permanently removed from service, were native soil samples collected from beneath the tanks and the entire length of the piping? If No, explain why not:

Yes No Was a new UST system installed? If Yes, indicate the date, number of tanks and their contents:

Yes No Are there any open excavations at the site? If Yes, state size, location, purpose, and status for each of the excavations:

Type(s) of soil remediation and time periods the remediation method was operational (indicate all that apply):

- Excavation _____ to _____ (dates), and
 Aboveground Bioremediation/Aeration _____ to _____ (dates), OR
 Thermal Treatment _____ to _____ (dates), OR
 Disposal _____ to _____ (dates).
- Soil Vapor Extraction 9/00 to 5/01 (dates).
 In-Situ Bioremediation _____ to _____ (dates).
 None

III. RELEASE ABATEMENT/REMEDATION (Continued)

Type(s) of groundwater remediation and time periods the remediation method was operational (indicate all that apply):

- Groundwater Pump and Treat _____ to _____ (dates)
- Air Sparging/SVE _____ to _____ (dates)
- In-Situ Bioremediation _____ to _____ (dates)
- Other: _____ to _____ (dates)
- None

Yes No Were copies of all receipts and manifests to document disposition of all wastes submitted to the TNRCC? If No, attach copies to this form.

Measured total volume of NAPL recovered: 2,502 gallons.

Estimated total volume of soil treated/removed: _____ cubic yards (exclude soil cuttings removed from borings).

Estimated total volume of groundwater treated/removed: 14,669 gallons (if known).

Estimated pounds of hydrocarbons removed or treated from soil (if known):

Estimated pounds of hydrocarbons removed or treated from groundwater (if known):

Estimated percent of total contaminants removed or treated (if known):

IV. SOIL DATA VALIDATION

Are there now affected surface soils (contamination exceeding health-based target concentrations) present within 2 feet below the ground surface? Yes* No Unknown

Type of surface cover over affected surface soil area:

Paved [Asphalt or Concrete] Percent of affected soils covered? Unpaved
 Other: _

Is there public access to the uncovered affected surface soil area? Yes No

*- Affected area (TP-10) currently being remediated and closure documentation will be submitted within 2 weeks.

Total number of borings: 11 (including those completed as monitor wells)

Yes No Was the vertical and horizontal extent of soil impacts defined (to the more stringent of health-based target or groundwater protective soil concentrations horizontally and to groundwater or nondetect vertically) by the borings?

Yes No Are shallow (0-15 feet below ground surface) soils affected (contaminant levels exceed health-based target concentrations) on adjacent properties (including right-of-way properties).

Yes No Were all soil sample collection, handling, transport, and analytical procedures conducted in accordance with TNRCC and EPA requirements? If No, provide justification: _____

MAXIMUM SOIL CONCENTRATION LEVELS

Soil Contaminants	Sample Date	Sample Location	Depth (in feet below ground surface)	Analytical Method	Maximum Concentration * (mg/kg)	Target Cleanup Goals** (indicate source of target cleanup goals: 1990 or 1994 [Plan A or B] guidance)
Benzene	2/5/97	MW-6	36.5'-37.5'	8260	11.4	0.45
Toluene	2/5/97	MW-6	36.5'-37.5'	8260	56.5	466
Ethylbenzene	2/5/97	MW-6	36.5'-37.5'	8260	23.8	289
Total Xylenes	2/5/97	MW-6	36.5'-37.5'	8260	164	2,433
TPH	2/5/97	MW-6	36.5'-37.5'	1005	4,000	NA
Other Total Lead	2/5/97	MW-6	36.5'-37.5'	6020	<10	500
Other Naphthalene	10/29/96	B-1	30.5'-31.5'	8015	8.61	389
Other _____						

* Enter maximum soil analytical results for soils remaining beneath the site (take into account all available data, including information obtained during the release determination (tank removal from service, minimal site assessment, etc)).

** If Plan A cleanup goals were used, provide the potential groundwater beneficial use category and a justification of how it was determined in Section VI.

1990 cleanup goals may be used only if all activities necessary to meet those goals were completed by November 8, 1995.

*** Arsenic value risk-based derived using calculations and default values contained in RG-36.

V. GROUNDWATER DATA VALIDATION

Is groundwater at the site impacted? Yes No

Did the assessment document that groundwater was not impacted? Yes No If No or unsure, provide justification for not determining whether there is a groundwater impact: _____

Total number of monitoring wells installed: 11 Number of monitor wells remaining at the site: 11
Will any of the remaining wells be used in the future? Yes No If Yes, specify exactly which well(s) will be used: _____

If No, they must be plugged in accordance with Water Code 32.017 after obtaining approval for site closure. Do not plug the wells until you receive concurrence on site closure. Costs of well plugging may be allowable for reimbursement if all eligibility requirements are met and if the wells were installed under the direction of the TNRCC specifically to address the confirmed release at the site. Provide a proposal with this form (if the site is eligible for reimbursement) for costs of the well plugging.

Measured total dissolved solids (TDS) concentration in groundwater: 478 mg/l. From which monitor well(s) was/were the sample(s) collected? MW-3

Measured groundwater yield at the site: _____ gallons/day (as determined from well adequately screened in the impacted aquifer). Not determined.

Measured groundwater depth at the site ranges between 32 and 37 feet below the top of well casing.

Time period of groundwater monitoring at the site (dates): November, 1996 to January, 2004 .

Total number of groundwater monitoring events: 19.

What type of aquifer is impacted? (unconfined, confined, semi-confined): Unconfined.

Distance from maximum plume concentration point to nearest existing downgradient well location (not monitor well):
>0.5 mile ft. in _____ direction (Input ">0.5 mile" if there is no well within 0.5 mile downgradient)

Are any water supply wells impacted or immediately threatened? Yes No
If Yes, specify type of well: Drinking water Non-drinking water

Are there any existing water wells located within the area of impacted groundwater? Yes No
If Yes, specify type of well: Drinking water Non-drinking water

Has surface water been affected? Yes No

Will the groundwater contaminants likely discharge to a surface water body? Yes No

What is the potential impact of affected groundwater discharge on surface water?
 Current impact Discharges within 500 ft. Discharges within 500 to 0.25 miles
 No potential impact

Yes No Were groundwater sample collection, handling, transport, and analytical procedures conducted and documented in accordance with TNRCC requirements? If no, provide justification: _____

VI. JUSTIFICATION FOR CLOSURE

Please provide a brief summary supporting this request for site closure, including footnoted discussions for the above entries as necessary. Include discussions providing necessary justifications for any site conditions which deviate from the specific requirements of TNRCC rules and policies, including the document *Risk-Based Corrective Action for Leaking Storage Tank Sites*. Provide documentation to justify case closure, including information which addresses the potential for future exposure, the existence of impervious cover or other actions which may prevent exposure or limit infiltration, the absence of receptors, etc.

The most recently conducted mobile dual-phase extraction (MDPE) event was performed on March 17, 2005 and included removal of fluids and vapor from 3 wells on site (MW-1, MW-5, and MW-6). The MDPE data report is summarized in the attached Product Recovery Report form. NAPL thickness prior to the event ranged from 0.00 feet in MW-1 and MW-5 to 0.50 feet in MW-6. The MDPE event was conducted for approximately 12 hours at which time it was terminated due to diminishing hydrocarbon recovery rates and the high volume of groundwater being generated (see MDPE data report and influent air analytical data in attached Product Recovery Report). A total of 26 gallons of NAPL was removed during the event (10 gallons as liquid and 16 gallons as off-gas vapor). A total of 9,600 gallons of contaminated groundwater was also generated during the event and was properly disposed offsite at a permitted facility (see waste disposal manifest in attached Product Recovery Report). The wells were gauged immediately following the MDPE event and no NAPL was observed in any of the wells. Subsequent gauging events have found 0.05 feet of NAPL present in MW-6 with no NAPL observed in any of the other site wells (see attached fluid gauging summary table). The groundwater analytical data collected from the site wells indicates either stable or reducing petroleum hydrocarbon concentrations. This had been previously documented and no further groundwater monitoring is necessary to further document the stable plume conditions. Based on the results from the latest MDPE event and subsequent water level gauging, further NAPL recovery at the site does not appear to be cost effective. Additionally, it appears that the residual NAPL remaining at the site has been removed to the maximum extent practicable and that the amount remaining poses no threat to human health and the environment. HBC recommends site closure at this time.

VII. REPORT PREPARATION

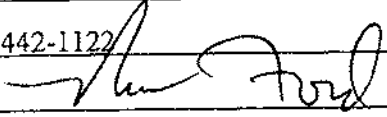
Based on the results of the site investigation and the additional information presented herein, I certify that the site investigation activities performed either by me, or under my direct supervision, including subcontracted work, were conducted in accordance with accepted industry standards/practices and further, that all such tasks were conducted in compliance with applicable TNRCC published rules, guidelines and the laws of the State of Texas. I have reviewed the information included within this report, and consider it to be complete, accurate and representative of the conditions discovered during the site investigation. I acknowledge that if I intentionally or knowingly make false statements, representations, or certifications in this report, I may be subject to administrative, civil, and/or criminal penalties. **I certify that the site has met all requirements for closure and that closure is appropriate.**

Project Manager: Russell C. Ford CAPM No.: 1502 Expiration date: 7/16/06

Company: HBC Engineering, a division of Terracon

Address: 5307 Industrial Oaks Boulevard, Suite 160 City: Austin State: TX Zip: 78735

Telephone No.: (512) 442-1122 Fax No.: (512) 442-1181

Signature:  Date: 7/19/05

By my signature affixed below, I certify that I am the duly authorized representative of the Correction Action Specialist named and that I have personally reviewed the site investigation results and other relevant information presented herein and considered them to be in accordance with accepted standards/practices and in compliance with the applicable TNRCC published rules, guidelines and the laws of the State of Texas. Further, that the information presented herein is considered complete, accurate and representative of the conditions discovered during the site investigation. I acknowledge that if I intentionally or knowingly make false statements, representations, or certifications in this report, I may be subject to administrative, civil, and/or criminal penalties. **I certify that the site has met all requirements for closure and that closure is appropriate.**

Corrective Action Specialist: Hilary Johns CAS No.: 00825 Expiration date: 2/25/06

Company: HBC Engineering, a division of Terracon

Address: 5307 Industrial Oaks Boulevard, Suite 160 City: Austin State: TX Zip: 78735


Telephone No.: (512) 442-1122 Fax No.: (512) 442-1181

Signature:  Date: 7/18/05

By my signature affixed below, I certify that I have reviewed this report for accuracy and completeness of information regarding points of contact and the facility and storage tank system history and status. I acknowledge that if I intentionally or knowingly make false statements, representations, or certifications in this report related to the contact information, and the facility and storage tank system history and status information, I may be subject to administrative, civil, and/or criminal penalties. I attest that I have reviewed this report for accuracy and completeness. I understand that I am responsible for addressing this matter. **I certify that the site has met all requirements for closure and that closure is appropriate.**

Name of Responsible Party contact: Mr. Tim Alexander

Telephone No.: _____ Fax No.: (901) 434-9235

Signature:  Date: 7/15/05

THE FOLLOWING ITEMS MUST BE SUBMITTED WITH THIS FORM IF NOT PREVIOUSLY SUBMITTED:

- A site map illustrating the locations of the entire UST and/or AST system (including piping, dispensers, observation wells, etc.), all soil borings and monitoring wells and all other sampling points, subsurface utilities, and surface water within 500 feet.
- A copy of the latest groundwater gradient map (if monitor wells were completed).
- Summary tables of all soil, groundwater and surface water analytical results, including samples collected from any tank removal from service activities, tank system repair activities, and those collected from borings and monitor wells. The tables must clearly identify the sample number, date of collection, sampling locations, depths (if applicable), and analytical results.
- Copies of any manifests or other waste receipts, and any other documents necessary for case closure.

LPST# 111747

**TEXAS NATURAL RESOURCE CONSERVATION COMMISSION
PETROLEUM STORAGE TANK
CORRESPONDENCE IDENTIFICATION SHEET**

Date: July 28, 2004 LPST ID No.: 111747
 Site Name: Federal Express Corporation Facility ID No.: 0029044
 Site Address: 5811 Technicenter Drive, Austin, TX

SEL

This checklist **must** accompany all correspondence submitted to the RPR Section and should be affixed to the front of your submittal as a cover page. Please check the appropriate box for the type of correspondence which you have submitted to the RPR Section. Check all boxes that apply if you are submitting more than one type of correspondence. If you cannot find an appropriate category, please complete the "other" section.

SEL
RPR
HE

PROPOSALS		
<input type="checkbox"/> Initial Abatement (1)	<input type="checkbox"/> Tank Removal (2)	<input type="checkbox"/> Excavation (3)
<input type="checkbox"/> Waste Treatment (4)	<input type="checkbox"/> Site Assessment (5)	<input type="checkbox"/> Aquifer Testing (6)
<input type="checkbox"/> VES/Sparge Testing (7)	<input type="checkbox"/> Qtrly. GW Monitoring (8)	<input type="checkbox"/> CAP Prep. (9)
<input type="checkbox"/> GW Extrac./Treatment (10)	<input type="checkbox"/> Soil Vapor Extrac. (11)	<input type="checkbox"/> Operation & Main. (12)
<input type="checkbox"/> Site Closure (13)	<input type="checkbox"/> Plan A Risk Ass. (14)	<input type="checkbox"/> Plan B Risk Ass. (15)
<input type="checkbox"/> Semi-annual GW Mon. (16)*	<input type="checkbox"/> Annual GW Mon. (18)	<input type="checkbox"/> Product Recovery (19)
<input type="checkbox"/> Other proposal _____		

REPORTING FORMS	
<input type="checkbox"/> Assessment Report Form (TNRCC-0562)	<input type="checkbox"/> Release Report Form (TNRCC-0621)
<input checked="" type="checkbox"/> Product Recovery Report Form (TNRCC-0016)	<input type="checkbox"/> Monitoring Event Summary and Status Report (TNRCC-0013)
<input checked="" type="checkbox"/> Site Closure Request Form (TNRCC-0028)	<input type="checkbox"/> Final Site Closure Report Form (TNRCC-0038)
<input type="checkbox"/> Other form _____	

REPORTS		
<input type="checkbox"/> Tank Closure/Removal	<input type="checkbox"/> Plan A Risk Assessment	<input type="checkbox"/> Annual Groundwater Monitoring
<input type="checkbox"/> O&M/Performance Mon.	<input type="checkbox"/> Plan B Risk Assessment	<input type="checkbox"/> CAP Installation/Modification
<input type="checkbox"/> Property Divestiture/Phase I ESA	<input type="checkbox"/> Corrective Action Plan (CAP)	<input type="checkbox"/> Aquifer/Pilot Test Results

MISCELLANEOUS	
<input type="checkbox"/> Off-site access assistance	<input type="checkbox"/> Deadline Extension Request
<input type="checkbox"/> Tank tightness test results	<input type="checkbox"/> Request for State-Lead
<input type="checkbox"/> Request for LPST Waste Code	<input type="checkbox"/> Class V Reinjection Request
<input type="checkbox"/> Notice to Owner/Operator for CAS Services	<input type="checkbox"/> Petroleum-Substance Waste Manifest
<input type="checkbox"/> Underground Storage Tank Registration Form	<input type="checkbox"/> Aboveground Storage Tank Registration Form
<input type="checkbox"/> Other (anything that does not fit into one of the categories above) _____	

Received
AUG 03 2004
TNRCC/PST-RPR

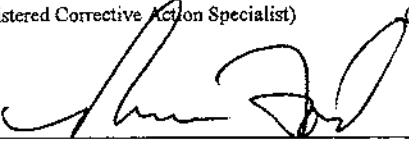
* The proposal for semi-annual monitoring and annual report (Proposal Activity 17) has been discontinued. For semi-annual monitoring, use Proposal Activity 16.

I attest that all work has been conducted in accordance with accepted industry standards/practices and adhered to TNRCC guidance and rules. I certify that I am aware that misrepresentation of any of the above claims is a violation of 30 TAC 334.453(b)(1)(E) and that this violation may result in the disciplinary actions set forth in 30 TAC 334.453 and or 334.463 and 334.465.

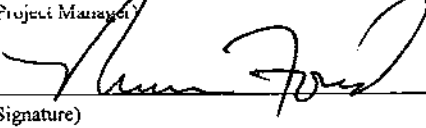
If a proposal is attached for preapproval, has the proposed work, in part or in whole, already been performed or in progress?

If yes, what work? _____

HBC/Terracon 825 2/25/05
(Registered Corrective Action Specialist) (RCAS Reg. No.) (Expiration date)

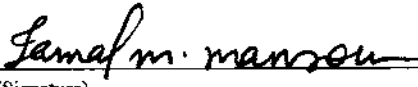
 8/2/04
(Signature) (Date)
(512) 442-1122 (512) 442-1181
(Telephone #) (FAX #)

Russell C. Ford 1502 7/16/05
(Project Manager) (CAPM Reg. No.) (Expiration date)

 8/2/04
(Signature) (Date)
(512) 442-1122 (512) 442-1181
(Telephone #) (FAX #)

By signature below, I certify that documents checked above are included.

Mr. Jamal Mansour Federal Express Corporation
(Name of Responsible Party Contact) (Company)

 7-30-04
(Signature) (Date)
(901) 434-8458 (901) 434-9235
(Telephone #) (FAX #)

**Texas Commission on Environmental Quality
Product Recovery Report
And LPST Site Closure Request Form
Federal Express Corporation
5811 Technicenter Drive
Austin, Travis County, Texas
LPST No. 111747**

Prepared for:

**Federal Express Corporation
3620 Hacks Cross Road, Building B
Memphis, TN 38125-7113**



A handwritten signature in black ink, appearing to read "Russell C. Ford". The signature is written in a cursive style and is positioned above a horizontal line.

**Russell C. Ford, CAPM
Senior Project Manager**

Received
AUG 03 2004
TNRCC/PST-RPR

Prepared by:

**HBC/Terracon
5307 Industrial Oaks Boulevard, Suite 160
Austin, Texas 78735**

July 28, 2004

Texas Natural Resource Conservation Commission
PETROLEUM STORAGE TANK
PRODUCT RECOVERY REPORT

Submit this form on a semi-annual basis unless an alternative schedule is directed by the TNRCC. Continue to submit this form until product is no longer observed.

Complete All Applicable Blanks.

Date: 7/28/04

GENERAL INFORMATION

LPST ID No.: 111747

Facility ID No.: 0029044

Responsible Party: Federal Express Corporation

Facility Name: Federal Express Facility

Facility Physical Address: 5811 Technicenter Drive

Facility City: Austin

County: Travis

PHASE-SEPARATED PRODUCT RECOVERY

Reporting Period: May, 18, 2004

Estimated volume (gallons) remaining: Less than 40 gallons

Estimated time to recover remaining product to 0.1 foot: No wells currently exhibiting PSH

Volume of fluids (product & water) recovered during past reporting period: 2162 gallons

Volume of phase-separated product recovered during past reporting period: 7.98 gallons (as off-gas vapor)

Total volume of fluids recovered to date: 5043.27 gallons

Total volume of product recovered to date: 2476.25 gallons

Method of product recovery: continuously (automated) pulsed (automated) hand bailing

sorbents other, describe: High Vacuum Multi-phase Extraction event

Pumping rate (for automated systems only): _____

Phase-separated product recovery schedule: daily bi-weekly weekly other, describe: One-time (5/18/04)

Maximum phase-separated product thickness remaining: 0.00

Indicate all monitoring wells and other locations impacted with phase-separated product: None

Are the product thicknesses diminishing over time? YES or NO (check one) If no, is a new release suspected?

YES or NO describe: _____

Is product currently being recovered in any monitor wells, trenches, etc. in which the thickness is less than or equal to 0.1 foot? YES or NO

WASTE DISPOSITION

Indicate the status of all wastes generated: All recovered product and water were transported for disposal at an authorized facility (disposal manifest attached).

REPORT PREPARATION

Project Manager: Russell C. Ford PM Reg. No.: 1502 Expiration Date: 7/16/2005

Company: HBC/Terracon City: Austin State: TX Zip: 78735

Phone No.: (512) 442-1122 Fax No.: (512) 442-1181

Signature: [Handwritten Signature] Date: 8/2/04

Corrective Action Specialist Rep: Hilary Johns CAS No.: 825 Expiration Date: 2/25/05

Company: HBC/Terracon City: Austin State: TX Zip: 78735

Phone No.: (512) 442-1122 Fax No.: (512) 442-1181

Signature: [Handwritten Signature] Date: 8/2/04

Name of Responsible Party contact: Mr. Jamal Mansour

Telephone No.: (901) 434-8458 Fax No.: (901) 434-9235

Signature: Jamal m. mansour Date: 7-30-04

Attachments:

- Table of cumulative recovery by month
- Graph of cumulative product recovered versus time



July 6, 2004

Mr. Saul Garza
 HBC-Terracon
 5307 Industrial Oaks Blvd
 Austin, TX 78735-

Subject: High Vacuum Multi-phase Extraction (HVME)
 8 Hr HVME Event with Offgas Treatment (750-CFM Thermal Oxidizer)

HVME Event No. 1
 Federal Express
 5811 Technicenter
 Austin, TX

DTW ~ 35'
 * No time indicated on coc for 3rd Infl. Sample
 * approved a 24 hr event with subpumps?
 * TCEQ scales show 16.5 lbs (2.85 gal) removed, not reported. 49.45 (7.98 gal) reported.

Dear Mr. Garza:

The following report summarizes data collected during the 8-hour High Vacuum Multi-phase Extraction (HVME) event conducted at the above subject site on 5/18/2004, by Envac Environmental Services. The objective of the HVME treatment (HVME Event No.1 - 8-hour event) was to remove both vapor and phase separated hydrocarbons (PSH) from groundwater monitor wells. Offgas vapors from the KingVac emission stacks were destroyed using a propane-fired 750-SCFM thermal oxidizer.

Groundwater Drawdown Information

Groundwater elevation and PSH thickness data were recorded prior to and immediately following HVME Event No.1. The data is located in TABLE 4 of the attached Field Data Record. Prior to the event, 3 of the 6 monitor wells gauged reported measurable levels of phase-separated-hydrocarbons. The maximum reported PSH thickness prior to and after the HVME event was 0.48 to 0.00 feet. Final changes in corrected water level elevations measured in the monitor wells ranged between approximately -2.33 feet to -3.09 feet (see TABLE 4 - Groundwater Drawdown Data). Following the HVME event, 0 of the 6 monitor wells had measurable amounts of PSH (see TABLE 4 - Groundwater Drawdown Data). All extraction wells were gauged within ten minutes of removal from the extraction array.

A combined estimated total of 7.98 equivalent gallons of petroleum hydrocarbons were removed during HVME Event No.1. The combined volume of hydrocarbons removed was comprised of approximately 0 gallons (0 pounds) as PSH and approximately 7.98 equivalent gallons (49.45 pounds) as offgas vapor. At the conclusion of HVME Event No.1, approximately 2162 gallons of recovered liquids were measured in the vacuum tank.

Summary of Field Activities

Activities during the 8-hour HVME event progressed as follows:

5/18/2004

08:10 AM Saturday	Envac personnel arrived on site, gauged monitor wells, set up KingVac for vapor treatment (i.e., 750 SCFM thermal oxidizer).
9:00 AM	Began extraction from monitor well MW-1. Set stinger approximately 2.0 feet below the PSH/groundwater interface in monitor well MW-1. Started MW-5 within 5 minutes. Noted high groundwater production rate.
9:35 AM	Differential pressure readings from monitor well MW-3 are located in TABLE 3 of the attached data sheets.
10:00 AM	Alternated monitor wells MW-1, MW-5, and MW-6 as extraction wells. Due to the distance between wells, the depth to groundwater and highgroundwater extraction rates, Envac focused on extraction from generally one well at a time to improve hydrocarbon removal rates. High liquid recharge rates caused generally lower hydrocarbon vapor removal rates than expected. Site likely needs to be set up with downhole pump and large capacity storage container for preliminary pumping (24-hours) before MDPE event.
5:05 PM	Concluded HVME Event No.1. Gauged extraction wells, and gauged vacuum tank for total liquid volume and

should have been sub pump. See PA-19 workplan dated 4/26/04 and CART, dated 4/22/04 where sub pump was proposed & pre-approved to depress WT. exactly!

finalized manifest. Technician offloaded recovered liquids (2162 gallons) to USFilter for reclamation.

Differential Pressure (Soil Vacuum Influence) Information

Recorded differential pressure readings from monitor wells (see TABLE 3 – *Differential Pressure Data*).

Observation Well	Extraction Well	Distance
MW-3	MW-1	34

Air Removal Rates

Air removal rates were calculated from velocity measurements recorded at the influent pipe to the thermal oxidizer. The cumulative airflow measurements ranged between approximately 440 SCFM and 440 SCFM throughout the event (see TABLE 1 – *Cumulative Removal Data*). A portion of the total air volume measured at the emission stacks were attributable to air, which was “bled” into extraction wellheads through breather ports. This “bleed” air was introduced to the monitor well for the purpose of enhancing liquid recovery rates. Atmospheric airflow attributable to breather port apertures at each extraction well is recorded in TABLE 2 (*Wellhead Data*) of the attached HVME Field Data Record. Atmospheric airflow at this site was also introduced through a dilution or “relief” valve inlet located on the liquid ring pump (designed to prevent pump cavitation). The atmospheric air introduced through the “relief” valve inlet on the liquid ring pump served to maintain a safe operating vacuum and to lower the concentration of petroleum hydrocarbons in the offgas effluent. The lowering of offgas concentrations due to the increase in airflow rate allows for increased accuracy in hydrocarbon concentration readings, while maintaining high mass removal rates.

Offgas Vapor Treatment

Hydrocarbon vapors produced by the HVME process were diverted from the KingVac emissions stacks into propane fired, 750 SCFM-thermal-oxidizer, where 99.5% of generated gases were destroyed before reaching the atmosphere. In accordance with 30TAC106.533 and 106.262, the thermal oxidizer was operated at a minimum temperature of 1400° F.

Disposition of Fluids

Approximately 2,162 gallons of liquid was extracted from the monitor wells during HVME Event No.1. All fluids extracted were transferred to USFilter for reclamation.

Thank you for this opportunity to serve the environmental needs of HBC-Terracon. We look forward to working with you in the future to provide innovative and cost effective environmental solutions at this and other sites.

Sincerely,

Brian W. Burgess

EnVac Environmental Services



Company		SiteID	Contact	Professional	Operator
HBC-Terracon		455	Garza	Burgess	Odell
Site Name:		Event Hrs	Equipment	Start	End
Federal Express		8	KingVac	5/18/2004	5/18/2004
5811 Technicenter Austin, TX		EventID	Liquid No	Fuel Type	Disposal Facility
		1373	555446	Gasoline	USFilter
		Stack Dia	MW of Prod	Total Fluids	PSH (gallons)
		6	86	2162	0

MDPE Event No: 1

Print Date: 07/06/04

Table 1 -- Cumulative Removal Data

Time	Discharge				Inlet Vac		TO
	ppm	CFM	ER	VOC lbs.	In-Hg	Temp	
9:00 AM	2300	440.00	-	-	22	1421	
9:05 AM	1900	440.00	12.48	1.04	21	1415	
9:30 AM	1800	440.00	10.40	4.33	21	1408	
9:40 AM	1800	440.00	10.11	1.68	21	1416	
10:00 AM	1500	440.00	9.81	3.27	21	1424	
10:20 AM	1100	440.00	7.73	2.58	21	1418	
10:45 AM	900	440.00	5.94	2.48	21	1407	
11:00 AM	1200	440.00	6.24	1.56	21	1426	
11:30 AM	1100	440.00	6.84	3.42	22	1408	
12:00 PM	1000	440.00	6.24	3.12	22	1432	
1:00 PM	900	440.00	5.65	5.65	22	1405	
2:00 PM	800	440.00	5.05	5.05	22	1427	
2:20 PM	960	440.00	5.23	1.74	22	1408	
3:00 PM	840	440.00	5.35	3.57	22	1404	
3:30 PM	820	440.00	4.93	2.47	22	1435	
4:00 PM	920	440.00	5.17	2.58	22	1409	
4:30 PM	810	440.00	5.14	2.57	22	1405	
5:00 PM	760	440.00	4.67	2.33	22	1423	

Table 3 - Differential Pressure Data

Observation Well	MW-3
Extraction Well (EW)	MW-1
Distance (ft) to EW	34
Maximum Change	-0.97
9:35 AM	-0.54
10:30 AM	-0.69
11:30 AM	-0.89
12:45 PM	-0.97

TX Removal Data Summary

Removal	lbs	Gallons
PSH	0	0
Vapor	49.45	7.98
Totals	49	8

lab samples collected
avg conc. 293 ppm

16.53 lbs. 2.8 gals

2.07 lbs/hv

Table 2
Well Head Data

Date	Time	EventID	MW-1		MW-5		MW-6	
			BPRV	VAC	BPRV	VAC	BPRV	VAC
05/18	9:00 AM	1373	0	1	-	-	-	-
05/18	9:05 AM	1373	0	1	0	1	-	-
05/18	9:30 AM	1373	-	-	0	1	-	-
05/18	9:40 AM	1373	0	1	-	-	-	-
05/18	10:00 AM	1373	0	1	0	1	0	1
05/18	10:20 AM	1373	0	1	-	-	-	-
05/18	10:30 AM	1373	-	-	0	1	-	-
05/18	10:45 AM	1373	0	1	-	-	-	-
05/18	11:00 AM	1373	0	1	0	1	-	-
05/18	11:30 AM	1373	0	1	-	-	0	1
05/18	12:00 PM	1373	0	1	0	1	0	2
05/18	12:30 PM	1373	-	-	0	1	-	-
05/18	1:00 PM	1373	0	1	0	1	-	-
05/18	1:30 PM	1373	-	-	0	1	-	-
05/18	2:00 PM	1373	0	1	0	1	-	-
05/18	2:20 PM	1373	0	1	-	-	-	-
05/18	2:30 PM	1373	-	-	-	-	0	2
05/18	3:00 PM	1373	0	1	0	1	-	-
05/18	3:30 PM	1373	0	1	0	1	-	-
05/18	4:00 PM	1373	0	1	0	1	-	-
05/18	4:30 PM	1373	0	1	0	1	-	-
05/18	5:00 PM	1373	0	1	0	1	-	-



Company		SiteID	Contact	Professional	Operator
HBC-Terracon		455	Garza	Burgess	Odell
Site Name:		Event Hrs	Equipment	Start	End
Federal Express		8	KingVac	5/18/2004	5/18/2004
5811 Technicenter Austin, TX		EventID	Liquid No	Fuel Type	Disposal Facility
		1373	555446	Gasoline	USFilter
		Stack Dia	MW of Prod	Total Fluids	PSH (gallons)
		6	86	2162	0

MDPE Event No: 1

Print Date: 07/06/04

Table 4 - Groundwater Draw

Well Data			Prior to MDPE			After MDPE			Static WL Changes	Comments
Well ID	Dia	TD	DTP	DTW	PSH	DTP	DTW	PSH		
MW-6			32.95	33.09	0.14	-	35.36	0.00	-2.37	
MW-5			32.51	32.90	0.39	-	35.09	0.00	-2.48	
MW-4			-	30.39	0.00	-				
MW-3	4		-	31.09	0.00	-	33.42	0.00	-2.33	
MW-2			-	30.28	0.00	-				
MW-1	4		28.28	28.76	0.48	-	31.49	0.00	-3.09	

Legend

BPRV. Breather Port Relief Valve	In.Hg Inches Mercury	PSH Phase Separated Hydrocarbon
CFM Cubic Feet per Minute	Inlet Va Vacuum Tank Vacuum	R.S. Removed Sock before gauging
Dia Diameter	lbs pounds	TD Total Depth
DTP Depth to Phase	LRRV. Liquid Ring Relief Valve	Temp Temperature
DTW Depth to Water	MDPE Mobile Dual Phase Extraction	T.O. Thermal Oxidizer
ER Emissions Rate	MW Molecular Weight	VAC Vacuum
EW Extraction Well	NA Not Available	VOC Volatile Organic Compound
HVME High Vacuum Multiphase Extraction	ppm Parts per Million	WL Water Level

Explanation of Tables:

- Table 1 -- Cumulative Removal Data** Indicates vapor concentration, air flow (CFM), emission rate, and KingVac Tank vacuum.
- Table 2 -- Well Head Data** Indicates vacuum (inches-Hg.) and ambient bleedair volume (CFM) at wellhead.
- Table 3 -- Differential Pressure Data** Indicates differential pressure (inches water column) at nearby observation wells during extraction process.
- Table 4 -- Groundwater Drawdown Data** Groundwater and PSH levels and PSH thickness immediately before and after the MDPE event.

Comments

Note 1: HBC-Terracon provided all Tedlar air sample bags.
 Note 2: Influent air collected at 10:50 AM.
 Note 3: Air influent collected at 10:55 AM.

Air Sample Analysis

		Date:	Time	#			Date:	Time	#
Field Screen Air Sample	No. 1				Lab Sample	No. 1			
	No. 2					No. 2			
	No. 3					No. 3			



May 24, 2004

Russ Ford
HBC Engineering
5307 Industrial Oaks Blvd., Suite 160
Austin, Texas 78735

TEL: (512) 442-1122
FAX (512) 442-1181

RE: Fedex

Dear Russ Ford:

Order No.: 0405077

DHL Analytical received 4 samples on 5/18/04 for the analyses presented in the following report.

There were no problems with the analyses and all data for associated QC met EPA or laboratory specifications except where noted in the Case Narrative and all estimated uncertainties of results are within method specifications.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

A handwritten signature in black ink, appearing to read "John DuPont".

John DuPont

QA Manager

DHL Analytical

Date: 24-May-04

CLIENT: HBC Engineering
Project Name: Fedex
Project No: 96007145
Lab Order: 0405077

Client Sample ID: Influent #1
Lab ID: 0405077-01
Collection Date: 5/18/04 11:00:00 AM
Matrix: AIR

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TPH AIR AS HEXANE		SW8015B					Analyst: LY
TPH: C4-C10 as Hexane	591	8.0	25.0		ppmV	1	5/19/04 3:10:44 PM

Qualifiers: ND - Not Detected at the Method Detection Limit
J - Analyte detected between MDL and RL
B - Analyte detected in the associated Method Blank

S - Spike Recovery outside control limits
C - Sample Result or QC discussed in Case Narrative
E - TPH pattern not Gas or Diesel Range Pattern

DHL Analytical

Date: 24-May-04

CLIENT: HBC Engineering
Project Name: Fedex
Project No: 96007145
Lab Order: 0405077

Client Sample ID: Influent #2
Lab ID: 0405077-02
Collection Date: 5/18/04 2:20:00 PM
Matrix: AIR

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
VOLATILES IN AIR BY GC		SW8021B		Analyst: LY			
Benzene	1.55	0.10	0.200		ppmV	1	5/19/04 2:15:57 PM
Ethylbenzene	0.659	0.20	0.600		ppmV	1	5/19/04 2:15:57 PM
Toluene	2.24	0.20	0.700		ppmV	1	5/19/04 2:15:57 PM
Xylenes, Total	4.53	0.20	0.600		ppmV	1	5/19/04 2:15:57 PM
TPH AIR AS HEXANE		SW8015B		Analyst: LY			
TPH: C4-C10 as Hexane	196	8.0	25.0		ppmV	1	5/20/04 1:29:16 PM

Qualifiers: ND - Not Detected at the Method Detection Limit
J - Analyte detected between MDL and RL
B - Analyte detected in the associated Method Blank

S - Spike Recovery outside control limits
C - Sample Result or QC discussed in Case Narrative
E - TPH pattern not Gas or Diesel Range Pattern

DHL Analytical

Date: 24-May-04

CLIENT: HBC Engineering
Project Name: Fedex
Project No: 96007145
Lab Order: 0405077

Client Sample ID: Influent #3
Lab ID: 0405077-03
Collection Date: 5/18/04 4:00:00 PM
Matrix: AIR

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TPH AIR AS HEXANE		SW8015B					Analyst: LY
TPH: C4-C10 as Hexane	108	8.0	25.0		ppmV	1	5/20/04 11:51:54 AM

Qualifiers: ND - Not Detected at the Method Detection Limit
J - Analyte detected between MDL and RL
B - Analyte detected in the associated Method Blank

S - Spike Recovery outside control limits
C - Sample Result or QC discussed in Case Narrative
E - TPH pattern not Gas or Diesel Range Pattern

DHL Analytical

Date: 24-May-04

CLIENT: HBC Engineering
Project Name: Fedex
Project No: 96007145
Lab Order: 0405077

Client Sample ID: Effluent #1
Lab ID: 0405077-04
Collection Date: 5/18/04 11:00:00 AM
Matrix: AIR

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
VOLATILES IN AIR BY GC		SW8021B		Analyst: LY			
Benzene	ND	0.10	0.200		ppmV	1	5/19/04 1:45:29 PM
Ethylbenzene	ND	0.20	0.600		ppmV	1	5/19/04 1:45:29 PM
Toluene	ND	0.20	0.700		ppmV	1	5/19/04 1:45:29 PM
Xylenes, Total	ND	0.20	0.600		ppmV	1	5/19/04 1:45:29 PM
TPH AIR AS HEXANE		SW8015B		Analyst: LY			
TPH: C4-C10 as Hexane	ND	8.0	25.0		ppmV	1	5/19/04 1:50:43 PM

Qualifiers: ND - Not Detected at the Method Detection Limit
J - Analyte detected between MDL and RL
B - Analyte detected in the associated Method Blank

S - Spike Recovery outside control limits
C - Sample Result or QC discussed in Case Narrative
E - TPH pattern not Gas or Diesel Range Pattern

CLIENT: HBC Engineering
Project: Fedex
Lab Order: 0405077

CASE NARRATIVE

Samples were analyzed using the methods outlined in the following references:

- Method SW8015B - TPH Air as Hexane
- Method SW8021B - Volatiles in Air by GC

All method blanks, laboratory spikes, and/or laboratory duplicates met quality assurance objectives.

DHL Analytical

Sample Receipt Checklist

Client Name **HBC Engineering**

Date Received: **5/18/04**

Work Order Number **0405077**

Received by **MKS**

Checklist completed by _____

Signature

M. F. 5-18-04

Date

Reviewed by _____

JD

Initials

5/18/04

Date

Carrier name: Hand Delivered

- | | | | |
|---|--|------------------------------|---|
| Shipping container/cooler in good condition? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | Not Present <input checked="" type="checkbox"/> |
| Custody seals intact on shipping container/cooler? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | Not Present <input checked="" type="checkbox"/> |
| Custody seals intact on sample bottles? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | Not Present <input checked="" type="checkbox"/> |
| Chain of custody present? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| Chain of custody signed when relinquished and received? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| Chain of custody agrees with sample labels? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| Samples in proper container/bottle? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| Sample containers intact? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| Sufficient sample volume for indicated test? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| All samples received within holding time? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| Container/Temp Blank temperature in compliance? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| Water - VOA vials have zero headspace? | No VOA vials submitted <input checked="" type="checkbox"/> | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| Water - pH acceptable upon receipt? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | NotApplicable <input checked="" type="checkbox"/> |

Adjusted? _____ Checked by _____

Any No response must be detailed in the comments section below.

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action Taken: _____

CLIENT: HBC Engineering
 Work Order: 0405077
 Project: Fedex

ANALYTICAL QC SUMMARY REPORT

RunID: GC4_040519A

Sample ID: MB-040519	Batch ID: R18144	TestNo: SW8015B	Units: ppmV
SampType: MBLK	Run ID: GC4_040519A	Analysis Date: 5/19/04 1:18:49 PM	Prep Date: 5/19/04

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
TPH: C4-C10 as Hexane	ND	25								

Sample ID: 0405077-01A DUP	Batch ID: R18144	TestNo: SW8015B	Units: ppmV
SampType: DUP	Run ID: GC4_040519A	Analysis Date: 5/19/04 4:18:21 PM	Prep Date: 5/19/04

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
TPH: C4-C10 as Hexane	523.9	25	0	0	0	0	0	12.1	30	

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits
 S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits
 B - Analyte detected in the associated Method Blank

CLIENT: HBC Engineering
 Work Order: 0405077
 Project: Fedex

ANALYTICAL QC SUMMARY REPORT

RunID: GC4_040520A

Sample ID: MB-040520	Batch ID: R18156	TestNo: SW8015B	Units: ppmV							
SampType: MBLK	Run ID: GC4_040520A	Analysis Date: 5/20/04 10:51:56 AM	Prep Date: 5/20/04							
Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

TPH: C4-C10 as Hexane ND 25

Sample ID: 0405077-03A DUP	Batch ID: R18156	TestNo: SW8015B	Units: ppmV							
SampType: DUP	Run ID: GC4_040520A	Analysis Date: 5/20/04 12:13:33 PM	Prep Date: 5/20/04							
Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

TPH: C4-C10 as Hexane 91.6 25 0 0 0 0 0 16.8 30

Sample ID: 0405077-02A DUP	Batch ID: R18156	TestNo: SW8015B	Units: ppmV							
SampType: DUP	Run ID: GC4_040520A	Analysis Date: 5/20/04 1:51:02 PM	Prep Date: 5/20/04							
Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

TPH: C4-C10 as Hexane 164.1 25 0 0 0 0 0 17.6 30

Qualifiers: ND - Not Detected at the Reporting Limit R - RPD outside accepted recovery limits
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank
 S - Spike Recovery outside accepted recovery limits

CLIENT: HBC Engineering
Work Order: 0405077
Project: Fedex

ANALYTICAL QC SUMMARY REPORT

RunID: GC9_040519A

Sample ID: MB-040519	Batch ID: R18145	TestNo: SW8021B	Units: ppmV
SampType: MBLK	Run ID: GC9_040519A	Analysis Date: 5/19/04 12:52:36 PM	Prep Date:

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.2								
Ethylbenzene	ND	0.6								
Toluene	ND	0.7								
Xylenes, Total	ND	0.6								

Sample ID: 0405077-02A DUP	Batch ID: R18145	TestNo: SW8021B	Units: ppmV
SampType: DUP	Run ID: GC9_040519A	Analysis Date: 5/19/04 2:48:24 PM	Prep Date:

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.505	0.2	0	0	0	0	0	2.63	30	
Ethylbenzene	0.4355	0.6	0	0	0	0	0	0	30	
Toluene	2.047	0.7	0	0	0	0	0	8.87	30	
Xylenes, Total	3.907	0.6	0	0	0	0	0	14.8	30	

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits
 S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits
 B - Analyte detected in the associated Method Blank



SHIPPING DOCUMENT

RECOVERY SERVICES MID-ATLANTIC INC.

SHIPPER NAME *Federal Express*
ADDRESS *5811 Technicenter* CITY *Chesapeake* STATE *VA*

TRUCK # *30725* VCF #
ZIP

PHONE # *512 921 3168*

CONTACT PERSON *Sam*

~~Vivendi Water Transport, Inc.~~
1657 Commerce Dr., Suite 10B
South Bend, IN 46628

PHONE (800) 355-2383

STATE REGISTRATIONS TX # 86469 A85702

U.S. EPA I.D. # INR000022798

U.S. D.O.T. REGISTRATION # 828559

STATE REGISTRATIONS #

U.S. EPA I.D. #

U.S. D.O.T. REGISTRATION #

2107 Quincy St.
Dallas, Texas 75212
(800) 355-2380
EPA#: TXD987988359

14420 Union St.
Little Rock, AR 72206
(800) 355-2382
EPA#: ARD983286485

697 Highway 167
Opelousas, LA 70570
(337) 826-8001
EPA#: LAR000049114

2800 Wicks Street
Kilgore, TX 75662
(800) 880-7769
EPA#: TXD982560005

320 Scoggins Road
Springtown, TX 76082
(800) 252-6444
EPA#: TXD988036026

2200 East Pierce
Luling, TX 78648
(800) 875-3260
EPA#: TXD982759748

2124 East Hwy 31
Corsicana, TX 75109
(903) 874-1188
EPA#: TXD988059291

1122 US Hwy 190 W.
Port Allen, LA 70767
(800) 357-8362
EPA#: LAR000002030

4415 East Greenwood
Baytown, TX 77520
(800) 355-2383
EPA#: TXD988089421

315 Pronto Street
Odessa, TX
(915) 550-2533
EPA#: TXR000015610

9617 Wallisville Road
Houston, TX 77013
(713) 670-0200
EPA#: TXR000032870

4320 S.W. 29th Street
Oklahoma City, OK 73119
(405) 681-0759
EPA#: OKR000017111

- HM
- Non-hazardous Industrial Wastewater
 - Used Filters/Absorbants, Non DOT Regulated
 - Oily Water, Non-hazardous
 - Recycled Fuel Oil, Non DOT Regulated
 - Fuel Oil, Combustible liquid, 3, NA 1993, PGIII
 - RQ, Other regulated substances, Liquid, n.o.s., 9, NA 3082, PGIII (ethylene glycol)
 - Combustible Liquid, n.o.s., (petroleum oil), 3, NA 1993, PGIII
 - Flammable Liquid, n.o.s., (petroleum product), 3, UN 1993, PGIII
 -

✓ 2168

SHIPPER'S CERTIFICATION: I hereby declare the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled, and are in all respects in proper condition for transport by highways according to applicable international and national governmental regulations. I certify that the material removed from the above premises is not hazardous waste as identified in 40 CFR Part 261, and does not contain PCB's as identified in 40 CFR Part 761.

PRINT/TYPED NAME *BRIAN BURGESS FOR HSECTEACON* SIGNATURE *Brian Burgess* DATE *5-18-04*

PRINT/TYPED NAME *[Signature]* SIGNATURE *[Signature]* DATE *5-18-04*

PRINT/TYPED NAME *Jorge Chavarria* SIGNATURE *[Signature]* DATE *5-19-04*

White Copy - Generator Original Pink Copy - Accounting Canary Copy - Transporter
Green Copy - Return to Generator Blue Copy - Designated Facility

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION
PETROLEUM STORAGE TANK

LPST SITE CLOSURE REQUEST FORM

This form is to be used to request closure for Leaking Petroleum Storage Tank (LPST) cases. The soil and groundwater cleanup goals must be met prior to submitting this form. These cleanup goals should be derived from either:

- the TWC *Guidance Manual for LPST Cleanups in Texas*, January 1990 so long as these goals were achieved prior to November 8, 1995, or
- the TNRCC *Risk-Based Corrective Action for Leaking Storage Tank Sites* document, January 1994 (RG-36).

Submission of this Site Closure Request constitutes certification by the Responsible Party, Corrective Action Specialist (CAS), and Corrective Action Project Manager (CAPM) that all necessary corrective actions have been completed and final closure of the subject site is appropriate at this time. By signing this Site Closure Request, the Responsible Party, CAS, and CAPM acknowledges that no further corrective actions, with the exception of activities subsequently approved by the TNRCC, will be eligible for reimbursement after the RP's signature date. Although costs for activities such as groundwater monitoring or remediation system operation and maintenance may have been approved for an annual period, these activities should cease upon submission of the Site Closure Request as these activities will not be considered eligible for reimbursement beyond the date of the Site Closure Request. Additionally, any costs relating to site assessment or other corrective action activities will not be eligible for reimbursement if the activities are conducted after the date of the Site Closure Request, unless specifically approved by the TNRCC. If, upon review by the TNRCC, the TNRCC concurs that the site meets the conditions for final closure, the costs for closure activities necessary to restore the site to its original condition will be reviewed and approved as appropriate. If the TNRCC determines that the site does not meet the conditions for final closure, the TNRCC will request a workplan and cost proposal for the next appropriate corrective action activity necessary to proceed towards final closure unless appropriate activities have previously been approved. The only type of proposal that should be attached to the Site Closure Request is for site closure costs. Any proposals attached to the Site Closure Request for activities other than site closure will not be processed and will be withdrawn from consideration.

If any of the following apply, the site is not ready for closure and this form should not be submitted:

- The appropriate LPST cleanup goals have not been met (a proposal for the next appropriate step should be submitted instead);
- Phase-separated hydrocarbons (>0.1 feet) currently exist at the site;
- The contaminant plume is increasing in size; or
- All wastes and other material generated from the site have not been properly disposed;

Do not use this form:

- if the release was not from a regulated underground or aboveground storage tank;
- for tank removal-from-service activities not associated with an LPST site (use the *Release Determination Report Form* (TNRCC-0621) or other appropriate format);
- for situations where the second set of confirmation samples collected during tank removal-from-service activities confirms suitability for closure (use the *Release Determination Report Form* (TNRCC-0621) or other appropriate format); or
- for shutdown of remediation systems or for plugging of monitor wells when site closure is not yet appropriate.

If asked to initiate additional activities, submit a workplan and preapproval request for those activities on sites eligible for reimbursement. Please review the document entitled *Preapproval for Corrective Action Activities* (RG-111) for procedures on preapproval requests and the other PST guidance pamphlets and rules for additional information on LPST sites.

Complete all blanks and check "yes" or "no" for all inquiries. **IF A COMPLETED ASSESSMENT REPORT FORM (TNRCC-0562) WAS PREVIOUSLY SUBMITTED, YOU DO NOT NEED TO ANSWER THE QUESTIONS WITHIN THE DARK OUTLINED AREAS UNLESS THE INFORMATION HAS CHANGED.** If the question is not applicable to this site, indicate with N/A. If the answer to the question is unknown, please indicate. If space for supplemental information is needed, insert numbered footnote and provide brief supporting discussion in Section VI, Justification for Closure.

SITE CLOSURE REQUEST FORM

I. GENERAL INFORMATION

LPST ID No.: 111747 Facility ID No.: 0029044

Responsible Party: Federal Express Corporation

Responsible Party Address: 3620 Hacks Cross Boulevard, Building B City: Memphis State: TN Zip: 38125

Facility Name: Federal Express Facility

Facility Street Address: 5811 Technicenter Drive

Facility City: Austin County: Travis

What is the current use of site? (indicate all that apply):

Residence¹ School or Day Care center Commercial/Industrial¹ Recreational Agricultural

What is the anticipated future use of the site? (indicate all that apply):

Residence¹ School or Day Care center Commercial/Industrial¹ Recreational Agricultural

Adjacent property use (indicate all that apply):

Residence¹ School or Day Care Center Commercial/Industrial¹ Recreational Agricultural

Distance to nearest off-site residence from property line: 1,000 feet in Northwest direction.

Distance to nearest school or day care center from property line: 100 feet in West direction.

II. CLOSURE SCREENING INFORMATION

Based on the *Limited Site Assessment Report* form or the *Risk-Based Assessment Report Form* (TNRCC-0562), the site is currently a **Priority** 4.1 site. If the site priority has changed, list the other priorities that previously pertained to this site: _____

Yes No Have non-aqueous phase liquids (NAPL) ever been present at this site (including tankpit observation wells)? If yes, is NAPL present now (thickness ≥ 0.1 feet)? Yes No Current thickness: 0.00 ft. If NAPL is currently present, stop here and do not submit this form for case closure. Initiate or continue activities necessary for the removal of all recoverable NAPL at the site.

Yes No Were all soils, recovered contaminated groundwater, and any phase-separated hydrocarbons properly disposed of, treated, recycled or reused in accordance with TNRCC requirements? If No, stop here and do not submit this form. Provide a proposal (if the site is eligible for reimbursement) to properly dispose or otherwise manage the wastes/materials or, if the site is not eligible for reimbursement, provide documentation of proper disposition of the wastes.

Yes No Do contaminant concentrations show a consistent decreasing or low static trend? If No, is the contaminant plume increasing in size? Yes No If Yes, stop here, do not submit this form, and initiate activities to control plume migration.

¹ See definition in 30 TAC 334.202

III. RELEASE ABATEMENT/REMEDIATION

Date Release Discovered: 10/1996

Substance(s) released: (check all that apply) Gasoline Alcohol-blended fuel (Type and percentage of alcohol: _____)
 Diesel Used Oil Jet Fuel (type: _____) Aviation Gasoline Other: (be specific) _____

Source of Release (specify all that apply):

Spills/overfills Piping leaks Dispenser leaks Tank corrosion Other: _____

Yes No Has a receptor survey been conducted?
 Yes No Has a water well inventory been conducted?

Yes No Have vapor impacts to buildings or utility lines ever been associated with this release? If Yes, specify the measures taken to abate the impact and indicate the latest date that an impact was noted:

Yes No Have subsurface utilities ever been affected with NAPL or vapors by this release? If Yes, indicate the latest date that an impact was noted:

If not already provided in *Release Determination Report Form* (TNRCC-0621), or if the information has changed since submittal of the *Release Determination Report*, indicate number of tanks currently and formerly located at this site (attach pages as necessary): No changes since *Release Determination Report* submitted.

	Type (UST/AST)	Product Type	Size (approx. gal)	
Current:	_____	_____	_____	
	_____	_____	_____	
	_____	_____	_____	
	_____	_____	_____	
	_____	_____	_____	
Former:	_____	_____	_____	
	_____	_____	_____	
	_____	_____	_____	
	_____	_____	_____	
	_____	_____	_____	

Date Removed from Service

Yes No If the tanks were permanently removed from service, were native soil samples collected from beneath the tanks and the entire length of the piping? If No, explain why not:

Yes No Was a new UST system installed? If Yes, indicate the date, number of tanks and their contents:

Yes No Are there any open excavations at the site? If Yes, state size, location, purpose, and status for each of the excavations:

Type(s) of soil remediation and time periods the remediation method was operational (indicate all that apply):

- Excavation _____ to _____ (dates), and
 - Aboveground Bioremediation/Aeration _____ to _____ (dates), or
 - Thermal Treatment _____ to _____ (dates), or
 - Disposal _____ to _____ (dates).
- Soil Vapor Extraction 9/00 to 5/01 (dates).
- In-Situ Bioremediation _____ to _____ (dates).
- None

III. RELEASE ABATEMENT/REMEDATION (Continued)

Type(s) of groundwater remediation and time periods the remediation method was operational (indicate all that apply):

- Groundwater Pump and Treat _____ to _____ (dates)
- Air Sparging/SVE _____ to _____ (dates)
- In-Situ Bioremediation _____ to _____ (dates)
- Other: _____ to _____ (dates)
- None

Yes No Were copies of all receipts and manifests to document disposition of all wastes submitted to the TNRCC? If No, attach copies to this form.

Measured total volume of NAPL recovered: 2,476 gallons.

Estimated total volume of soil treated/removed: _____ cubic yards (exclude soil cuttings removed from borings).

Estimated total volume of groundwater treated/removed: 5043 gallons (if known).

Estimated pounds of hydrocarbons removed or treated from soil (if known): _____

Estimated pounds of hydrocarbons removed or treated from groundwater (if known): _____

Estimated percent of total contaminants removed or treated (if known): _____

IV. SOIL DATA VALIDATION

Are there now affected surface soils (contamination exceeding health-based target concentrations) present within 2 feet below the ground surface? Yes* No Unknown

Type of surface cover over affected surface soil area:

Paved [Asphalt or Concrete] Percent of affected soils covered? Unpaved

Other: _

Is there public access to the uncovered affected surface soil area? Yes No

*- Affected area (TP-10) currently being remediated and closure documentation will be submitted within 2 weeks.

Total number of borings: 11 (including those completed as monitor wells)

Yes No Was the vertical and horizontal extent of soil impacts defined (to the more stringent of health-based target or groundwater protective soil concentrations horizontally and to groundwater or nondetect vertically) by the borings?

Yes No Are shallow (0-15 feet below ground surface) soils affected (contaminant levels exceed health-based target concentrations) on adjacent properties (including right-of-way properties).

Yes No Were all soil sample collection, handling, transport, and analytical procedures conducted in accordance with TNRCC and EPA requirements? If No, provide justification: _____

Soil Contaminants	Sample Date	Sample Location	MAXIMUM SOIL CONCENTRATION LEVELS			Target Cleanup Goals** (indicate source of target cleanup goals: 1990 or 1994 [Plan A or B] guidance)
			Depth (in feet below ground surface)	Analytical Method	Maximum Concentration* (mg/kg)	
Benzene	2/5/97	MW-6	36.5'-37.5'	8260	11.4	0.45
Toluene	2/5/97	MW-6	36.5'-37.5'	8260	56.5	466
Ethylbenzene	2/5/97	MW-6	36.5'-37.5'	8260	23.8	289
Total Xylenes	2/5/97	MW-6	36.5'-37.5'	8260	164	2,433
TPH	2/5/97	MW-6	36.5'-37.5'	1005	4,000	NA
Other Total Lead	2/5/97	MW-6	36.5'-37.5'	6020	<10	500
Other Naphthalene	10/29/96	B-1	30.5'-31.5'	8015	8.61	389
Other _____						

* Enter maximum soil analytical results for soils remaining beneath the site (take into account all available data, including information obtained during the release determination (tank removal from service, minimal site assessment, etc)).

** If Plan A cleanup goals were used, provide the potential groundwater beneficial use category and a justification of how it was determined in Section VI.

1990 cleanup goals may be used only if all activities necessary to meet those goals were completed by November 8, 1995.

*** Arsenic value risk-based derived using calculations and default values contained in RG-36.

V. GROUNDWATER DATA VALIDATION

Is groundwater at the site impacted? Yes No

Did the assessment document that groundwater was not impacted? Yes No If No or unsure, provide justification for not determining whether there is a groundwater impact: _____

Total number of monitoring wells installed: 11 Number of monitor wells remaining at the site: 11

Will any of the remaining wells be used in the future? Yes No If Yes, specify exactly which well(s) will be used: _____

If No, they must be plugged in accordance with Water Code 32.017 **after** obtaining approval for site closure. **Do not** plug the wells until you receive concurrence on site closure. Costs of well plugging may be allowable for reimbursement if all eligibility requirements are met and if the wells were installed under the direction of the TNRCC specifically to address the confirmed release at the site. Provide a proposal with this form (if the site is eligible for reimbursement) for costs of the well plugging.

Measured total dissolved solids (TDS) concentration in groundwater: 478 mg/l. From which monitor well(s) was/were the sample(s) collected? MW-3

Measured groundwater yield at the site: _____ gallons/day (as determined from well adequately screened in the impacted aquifer). Not determined.

Measured groundwater depth at the site ranges between 32 and 37 feet below the top of well casing.

Time period of groundwater monitoring at the site (dates): November, 1996 to January, 2004 .

Total number of groundwater monitoring events: 19.

What type of aquifer is impacted? (unconfined, confined, semi-confined): Unconfined

Distance from maximum plume concentration point to nearest existing downgradient well location (not monitor well): >0.5 mile ft. in _____ direction (Input ">0.5 mile" if there is no well within 0.5 mile downgradient)

Are any water supply wells impacted or immediately threatened? Yes No
If Yes, specify type of well: Drinking water Non-drinking water

Are there any existing water wells located within the area of impacted groundwater? Yes No
If Yes, specify type of well: Drinking water Non-drinking water

Has surface water been affected? Yes No

Will the groundwater contaminants likely discharge to a surface water body? Yes No

What is the potential impact of affected groundwater discharge on surface water?
 Current impact Discharges within 500 ft. Discharges within 500 to 0.25 miles
 No potential impact

Yes No Were groundwater sample collection, handling, transport, and analytical procedures conducted and documented in accordance with TNRCC requirements? If no, provide justification: _____

V. GROUNDWATER DATA VALIDATION (Continued)

Yes No Is the extent of groundwater contamination defined (to MCL concentrations)? If No, provide justification for not defining the plume: _____

Yes No Have groundwater impacts from this release been detected on adjacent properties? If No, is off-site migration probable? Yes No Is there documentation that off-site migration has not occurred (sample results from off-site sampling point)? Yes No

Yes No Was the static groundwater level above the top of the well screen in any monitor wells during any of the last 4 monitoring events? If Yes, provide a statement of validity regarding these samples: _____

Yes No Have groundwater samples from all monitor wells met the target cleanup goals for the last four consecutive sampling events?
No, however, the concentrations are either reducing or are stable.

MAXIMUM GROUNDWATER CONCENTRATIONS

Groundwater Contaminants	Sample Date	Sample Location	Laboratory Method	Maximum Concentration* (mg/l)	Target Cleanup Goals** (indicate source of target cleanup goals: 1990 or 1994 [Plan A or B] guidance)
Benzene	11/11/96	MW-3	8260	1.920	0.0294
Toluene	3/27/02	MW-11	8260	5.17	7.3
Ethylbenzene	3/27/02	MW-2	8260	1.04	3.65
Total Xylenes	12/27/01	MW-2	8260	10.6	73
TPH	9/24/01	MW-2	1005	189.0	None established
Other MTBE	12/27/01	MW-5	8260	2.85	0.47
Other Naphthalene	4/4/01	MW-2	8015	1.86	1.46
Other					

* Enter maximum groundwater analytical results from the most recent 12 months of monitoring.

** 1990 cleanup goals may be used only if all activities necessary to meet those goals were completed by November 8, 1995.

*** NA-Not Applicable. These constituents were not detected in groundwater.

VI. JUSTIFICATION FOR CLOSURE

Please provide a brief summary supporting this request for site closure, including footnoted discussions for the above entries as necessary. Include discussions providing necessary justifications for any site conditions which deviate from the specific requirements of TNRCC rules and policies, including the document *Risk-Based Corrective Action for Leaking Storage Tank Sites*. Provide documentation to justify case closure, including information which addresses the potential for future exposure, the existence of impervious cover or other actions which may prevent exposure or limit infiltration, the absence of receptors, etc.

The most recently conducted mobile dual-phase extraction (MDPE) event was performed on May 18, 2004 and included removal of fluids and vapor from the 3 wells on site which contained measurable NAPL thickness (MW-1, MW-5, and MW-6). The MDPE data report is summarized in the attached Product Recovery Report form. NAPL thickness prior to the event ranged from 0.48 feet in MW-1 to 0.14 feet in MW-6. The MDPE event was conducted for approximately 8 hours at which time it was terminated due to diminishing hydrocarbon recovery rates (see MDPE data report and influent air analytical data in attached Product Recovery Report). A total of 7.98 gallons of NAPL was removed during the event as off-gas vapor. A total of 2,162 gallons of contaminated groundwater was also generated during the event and was properly disposed offsite at a permitted facility (see waste disposal manifest in attached Product Recovery Report). The wells were gauged immediately following the MDPE event and no NAPL was observed in any of the wells. Additionally, the MDPE event resulted in the lowering of the water table in the 3 wells by about 2 ½ to 3 feet. Subsequent gauging events conducted on May 28, June 8, and June 16, 2004 have found no measurable NAPL in any of the site wells (see attached fluid gauging summary table). The groundwater analytical data collected from the site wells indicates either stable or reducing petroleum hydrocarbon concentrations. Based on the lack of any measurable NAPL in the site wells and the relative reduction and stability of the dissolved hydrocarbon plume, as documented by the analytical data collected to date, no additional NAPL removal or groundwater monitoring appears necessary and the site is eligible for closure.

VII. REPORT PREPARATION

Based on the results of the site investigation and the additional information presented herein, I certify that the site investigation activities performed either by me, or under my direct supervision, including subcontracted work, were conducted in accordance with accepted industry standards/practices and further, that all such tasks were conducted in compliance with applicable TNRCC published rules, guidelines and the laws of the State of Texas. I have reviewed the information included within this report, and consider it to be complete, accurate and representative of the conditions discovered during the site investigation. I acknowledge that if I intentionally or knowingly make false statements, representations, or certifications in this report, I may be subject to administrative, civil, and/or criminal penalties. **I certify that the site has met all requirements for closure and that closure is appropriate.**

Project Manager: Russell C. Ford CAPM No.: 1502 Expiration date: 7/16/05

Company: HBC Engineering, a division of Terracon

Address: 5307 Industrial Oaks Boulevard, Suite 160 City: Austin State: TX Zip: 78735

Telephone No.: (512) 442-1122 Fax No.: (512) 442-1181

Signature:  Date: 8/2/04

By my signature affixed below, I certify that I am the duly authorized representative of the Correction Action Specialist named and that I have personally reviewed the site investigation results and other relevant information presented herein and considered them to be in accordance with accepted standards/practices and in compliance with the applicable TNRCC published rules, guidelines and the laws of the State of Texas. Further, that the information presented herein is considered complete, accurate and representative of the conditions discovered during the site investigation. I acknowledge that if I intentionally or knowingly make false statements, representations, or certifications in this report, I may be subject to administrative, civil, and/or criminal penalties. **I certify that the site has met all requirements for closure and that closure is appropriate.**

Corrective Action Specialist: Hilary Johns CAS No.: 00825 Expiration date: 2/25/05

Company: HBC Engineering, a division of Terracon

Address: 5307 Industrial Oaks Boulevard, Suite 160 City: Austin State: TX Zip: 78735

Telephone No.: (512) 442-1122 Fax No.: (512) 442-1181

Signature:  Date: 8/2/04

By my signature affixed below, I certify that I have reviewed this report for accuracy and completeness of information regarding points of contact and the facility and storage tank system history and status. I acknowledge that if I intentionally or knowingly make false statements, representations, or certifications in this report related to the contact information, and the facility and storage tank system history and status information, I may be subject to administrative, civil, and/or criminal penalties. I attest that I have reviewed this report for accuracy and completeness. I understand that I am responsible for addressing this matter. **I certify that the site has met all requirements for closure and that closure is appropriate.**

Name of Responsible Party contact: Jamal Mansour

Telephone No.: (901) 434-8458 Fax No.: (901) 434-9235

Signature:  Date: 7-30-04

THE FOLLOWING ITEMS MUST BE SUBMITTED WITH THIS FORM IF NOT PREVIOUSLY SUBMITTED:

- A site map illustrating the locations of the entire UST and/or AST system (including piping, dispensers, observation wells, etc.), all soil borings and monitoring wells and all other sampling points, subsurface utilities, and surface water within 500 feet.
- A copy of the latest groundwater gradient map (if monitor wells were completed).
- Summary tables of all soil, groundwater and surface water analytical results, including samples collected from any tank removal from service activities, tank system repair activities, and those collected from borings and monitor wells. The tables must clearly identify the sample number, date of collection, sampling locations, depths (if applicable), and analytical results.
- Copies of any manifests or other waste receipts, and any other documents necessary for case closure.

FEDERAL EXPRESS CORPORATION

5811 Technicenter Drive, Austin, TX
 LPST # 111747

FLUID GAUGING DATA SUMMARY

DATE	MW-1			MW-2			MW-3			MW-4		
	DTW	NAPL	GWE	DTW	NAPL	GWE	DTW	NAPL	GWE	DTW	NAPL	GWE
9/24/2001	29.68	0.00	529.42	31.01	0.00	529.21	31.89	0.00	529.06	31.30	0.00	528.89
12/27/2001	27.79	0.00	531.31	29.13	0.00	531.09	30.01	0.00	530.94	29.33	0.00	530.86
3/27/2002	29.31	0.00	529.79	30.64	0.00	529.58	31.51	0.00	529.44	30.80	0.00	529.39
6/17/2002	30.56	0.00	528.54	31.98	0.00	528.24	32.80	0.00	528.15	32.06	0.00	528.13
10/22/2003	31.23	0.00	527.87	32.58	0.01	527.65	33.47	0.00	527.48	32.72	0.00	527.47
1/27/2004	32.25	0.51	527.23	33.18	0.00	527.04	34.02	0.00	526.93	33.43	0.00	526.76
3/5/2004	31.41	0.00	527.69	32.79	0.00	527.43	NA	NA	NA	NA	NA	NA
5/18/2004*	28.76	0.48	530.70	30.28	0.00	529.94	31.09	0.00	529.86	30.39	0.00	529.80
5/18/2004**	31.49	0.00	527.61	NA	NA	NA	33.42	0.00	527.53	NA	NA	NA
5/28/2004	31.05	0.00	528.05	32.51	0.00	527.71	33.35	0.00	527.60	32.68	0.00	527.51
6/8/2004	31.01	0.00	528.09	32.50	0.00	527.72	33.35	0.00	527.60	32.58	0.00	527.61
6/16/2004	31.11	0.00	527.99	32.21	0.00	528.01	32.95	0.00	528.00	32.22	0.00	527.97

MDPE
10/11/03

MDPE

Notes:

- 1) All measurements in feet
- 2) DTW-depth to water below top of surface casing
- 3) NAPL-non-aqueous phase liquid thickness
- 4) GWE-groundwater elevation (corrected for NAPL, using 0.75 specific gravity) in feet above mean sea level
- 5) NA-No groundwater gauging data collected
- 6) * Denotes prior to MDPE event
- 7) ** Denotes immediately after MDPE event

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 LPST # 111747

FLUID GAUGING DATA SUMMARY

off-site well (with arrow pointing to MW-5)
off-site well (with arrow pointing to MW-6)

DATE	MW-5			MW-6			MW-7			MW-8		
	DTW	NAPL	GWE	DTW	NAPL	GWE	DTW	NAPL	GWE	DTW	NAPL	GWE
9/24/2001	34.36	0.05	528.88	33.79	0.15	529.19	29.68	0.00	528.90	29.29	0.00	528.90
12/27/2001	32.32	0.00	530.88	31.86	0.08	531.07	27.74	0.00	530.84	27.25	0.00	530.94
3/27/2002	33.88	0.00	529.32	33.39	0.06	529.53	29.15	0.00	529.43	28.72	0.00	529.47
6/17/2002	35.06	0.00	528.14	34.30	0.01	528.58	30.43	0.00	528.15	30.00	0.00	528.19
10/22/2003	35.75	0.02	527.47	35.21	0.02	527.68	31.11	0.00	527.47	30.64	0.00	527.55
1/27/2004	36.42	0.12	526.87	37.08	1.51	526.92	31.69	0.00	526.89	31.30	0.00	526.89
3/5/2004	35.93	0.00	527.27	35.44	0.09	527.50	NA	NA	NA	NA	NA	NA
5/18/2004*	32.90	0.39	530.59	33.09	0.14	529.89	27.97	0.00	530.61	27.55	0.00	530.64
5/18/2004**	35.09	0.00	528.11	35.36	0.00	527.51	NA	NA	NA	NA	NA	NA
5/28/2004	35.65	0.00	527.55	35.11	0.00	527.76	31.00	0.00	527.58	30.63	0.00	527.56
6/8/2004	35.65	0.00	527.55	35.04	0.00	527.83	31.01	0.00	527.57	30.65	0.00	527.54
6/16/2004	35.21	0.00	527.99	34.71	0.00	528.16	30.65	0.00	527.93	30.21	0.00	527.98

MDPE 10/11/03

MDPE

NAPL appears in MW-6 @ 37' bgl, WL is about 34.7' bgl

Notes:

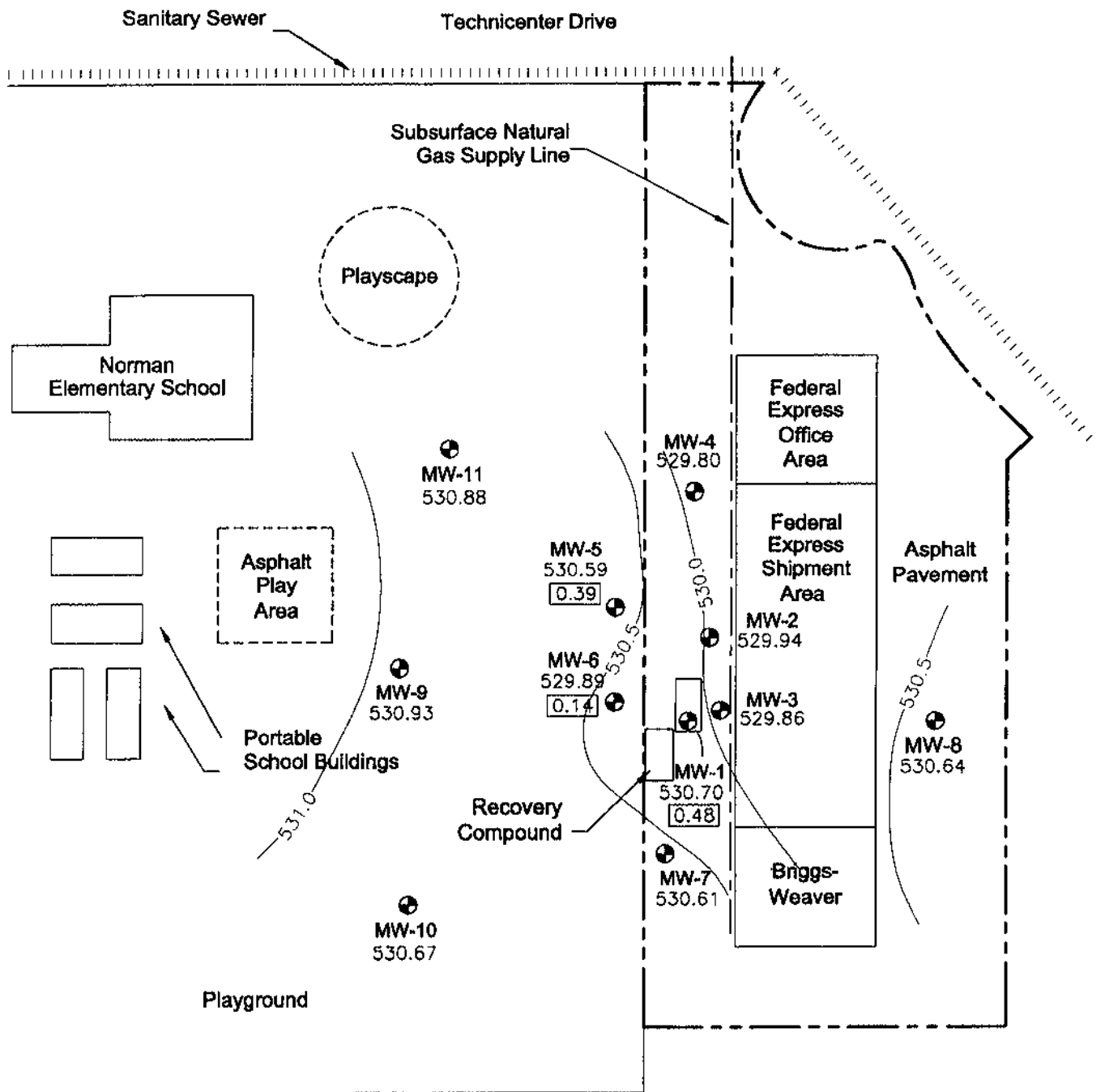
- 1) All measurements in feet
- 2) DTW-depth to water below top of surface casing
- 3) NAPL-non-aqueous phase liquid thickness
- 4) GWE-groundwater elevation (corrected for NAPL using 0.75 specific gravity) in feet above mean sea level
- 5) NA-No groundwater gauging data collected
- 6) * Denotes prior to MDPE event
- 7) ** Denotes immediately after MDPE event

FEDERAL EXPRESS CORPORATION5811 Technicenter Drive, Austin, TX
LPST # 111747**FLUID GAUGING DATA SUMMARY**




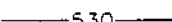
DATE	MW-9			MW-10			MW-11		
	DTW	NAPL	GWE	DTW	NAPL	GWE	DTW	NAPL	GWE
9/24/2001	34.70	0.00	529.21	34.29	0.00	528.70	34.49	0.00	529.14
12/27/2001	32.80	0.00	531.11	32.22	0.00	530.77	32.55	0.00	531.08
3/27/2002	34.32	0.00	529.59	33.70	0.00	529.29	34.10	0.00	529.53
6/17/2002	35.48	0.00	528.43	34.90	0.00	528.09	35.24	0.00	528.39
10/22/2003	36.19	0.00	527.72	35.58	0.00	527.41	36.00	0.00	527.63
1/27/2004	36.78	0.00	527.13	36.23	0.00	526.76	36.62	0.00	527.01
3/5/2004	NA	NA	NA	NA	NA	NA	NA	NA	NA
5/18/2004*	32.98	0.00	530.93	32.32	0.00	530.67	32.75	0.00	530.88
5/18/2004**	NA	NA	NA	NA	NA	NA	NA	NA	NA
5/28/2004	36.02	0.00	527.89	35.51	0.00	527.48	35.80	0.00	527.83
6/8/2004	36.03	0.00	527.88	35.45	0.00	527.54	35.88	0.00	527.75
6/16/2004	35.60	0.00	528.31	35.11	0.00	527.88	35.42	0.00	528.21

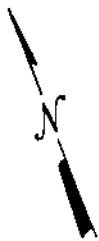
Notes:

- 1) All measurements in feet
- 2) DTW-depth to water below top of surface casing
- 3) NAPL-non-aqueous phase liquid thickness
- 4) GWE-groundwater elevation (corrected for NAPL using 0.75 specific gravity) in feet above mean sea level
- 5) NA-No groundwater gauging data collected
- 6) * Denotes prior to MDPE event
- 7) ** Denotes immediately after MDPE event

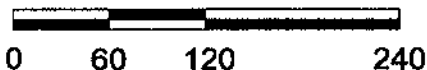


LEGEND

-  Monitoring Well Locations
-  530.70 Groundwater Elevation (Ft. MSL)
-  0.48 NAPL Thickness (Ft.)
-  530 Groundwater Elevation Contour (Ft. MSL)



SCALE-FEET

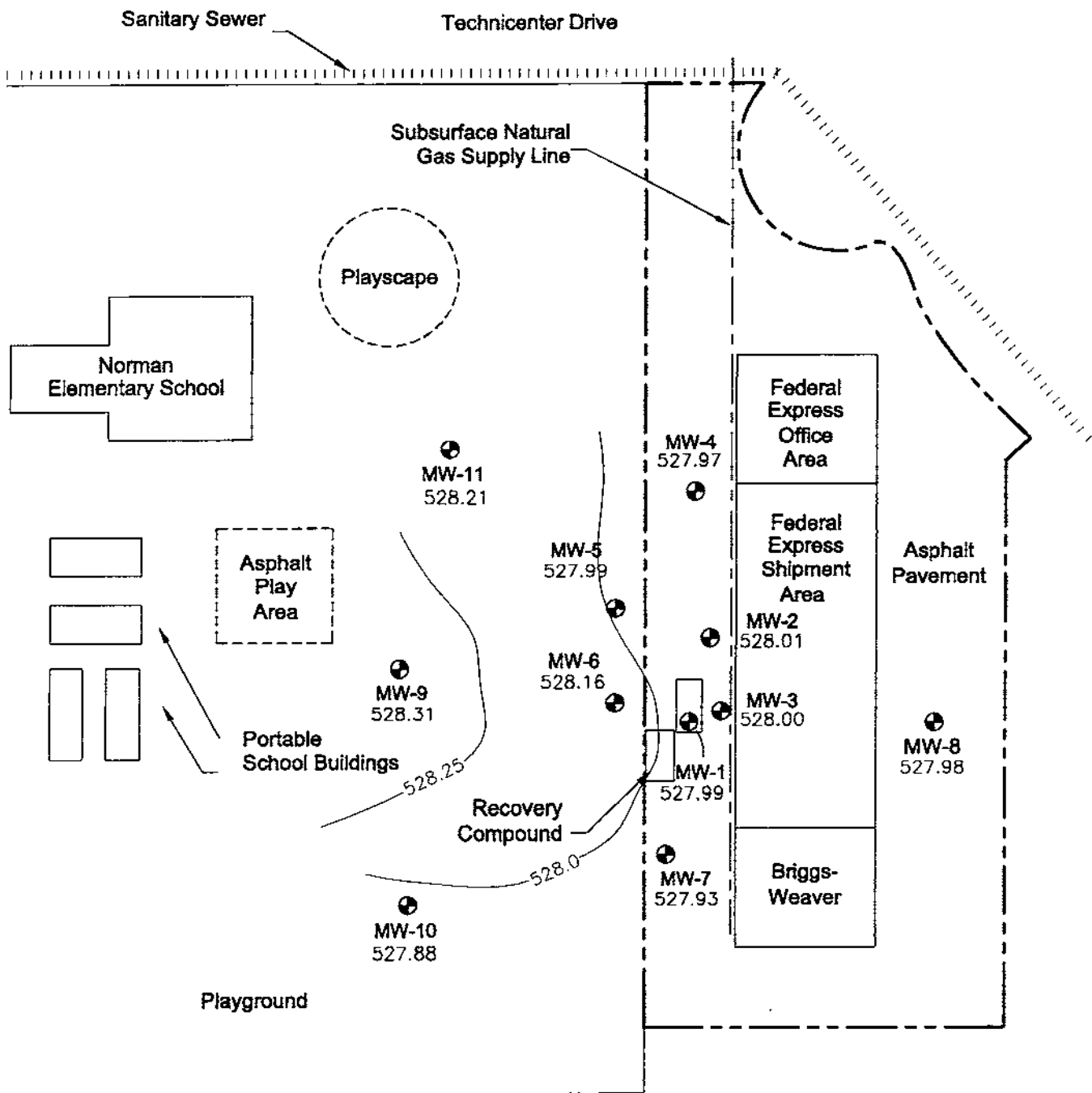


Groundwater Elevation Map


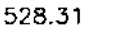
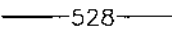
(5/18/2004)
Federal Express
Austin, Texas

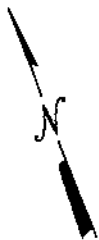
HBC Project No. 96007145

HBC ENGINEERING, INC.

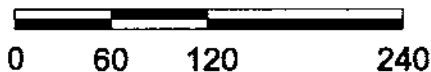


LEGEND

-  Monitoring Well Locations
-  528.31 Groundwater Elevation (Ft. MSL)
-  -528- Groundwater Elevation Contour (Ft. MSL)



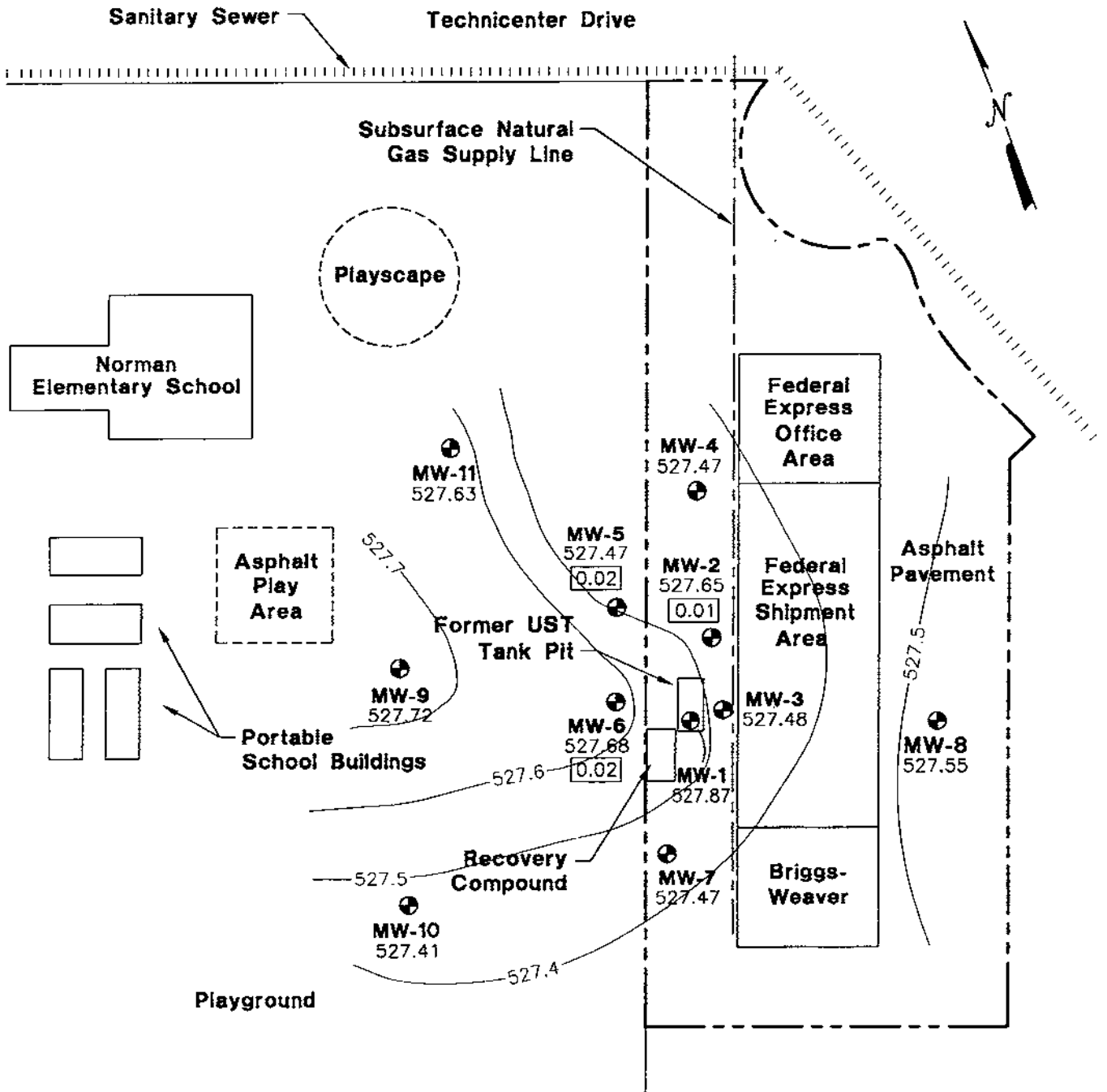
SCALE-FEET





Groundwater Elevation Map

(6/16/2004)
 Federal Express
 Austin, Texas

HBC Project No. 96007145



LEGEND

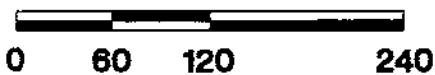
-  Monitoring Well Locations
- 528.43 Groundwater Elevation (Ft. MSL)
-  NAPL Thickness (Ft.)
- 526.9— Groundwater Elevation Contour (Ft. MSL)

Groundwater Elevation Map

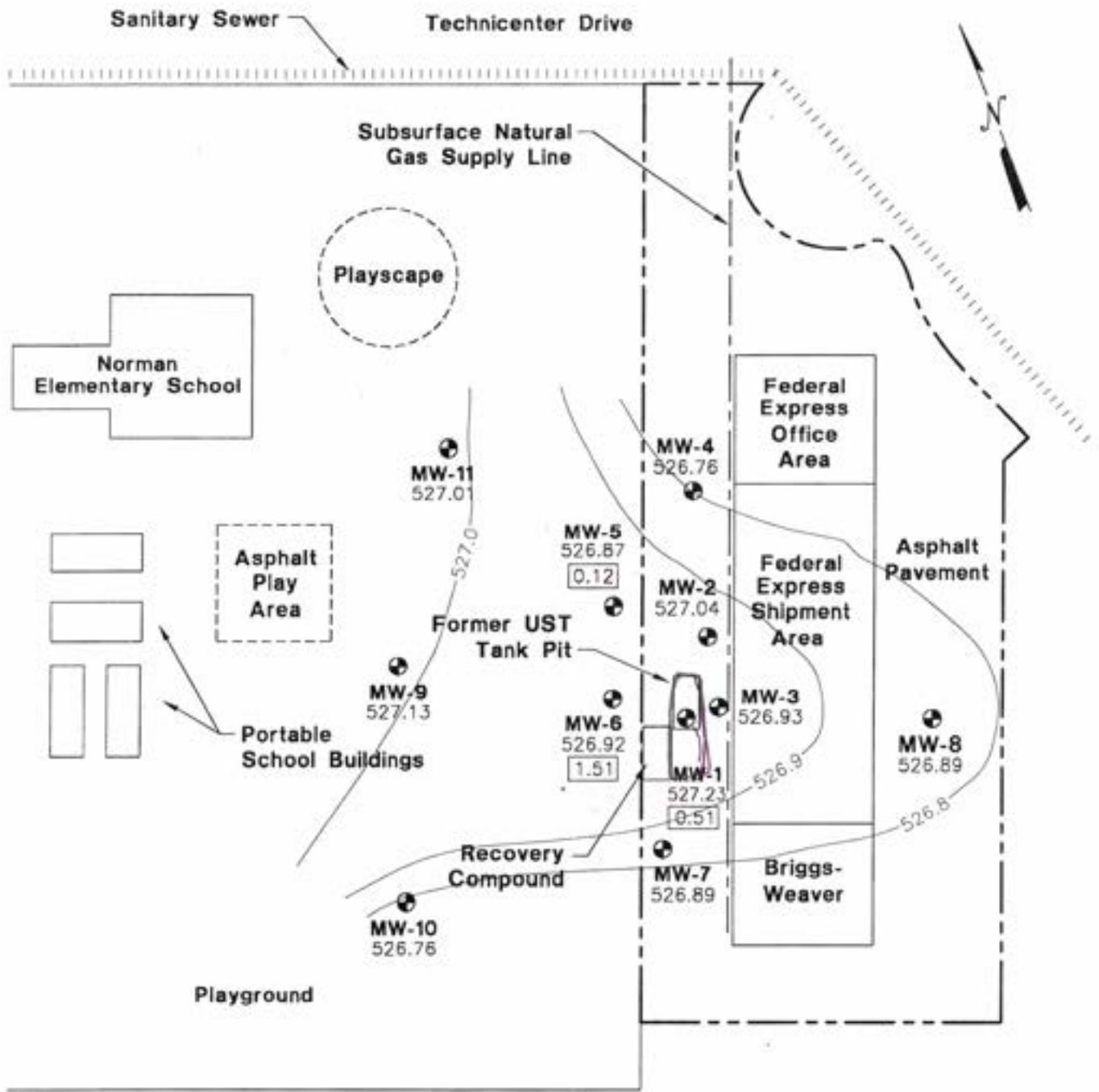
(10/22/03)

Federal Express
Austin, Texas

SCALE-FEET



HBC Project No. 96007145



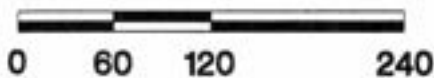
LEGEND

- Monitoring Well Locations
- 528.43 Groundwater Elevation (Ft. MSL)
- NAPL Thickness (Ft.)
- 526.9- Groundwater Elevation Contour (Ft. MSL)

Groundwater Elevation Map

(1/27/04)
 Federal Express
 Austin, Texas

SCALE-FEET



HBC Project No. 96007145

FEDERAL EXPRESS CORPORATION

5811 Technicenter Drive, Austin, TX
 LPST # 111747

GROUNDWATER ANALYTICAL DATA SUMMARY

(all concentrations in mg/L)

MW-1										
DATE	PAH	TDS	TPH (C6-C12)	TPH (C12-C28)	TPH (C28-C35)	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
11/11/1996	NAPL									
7/16/1998	NAPL									
10/5/2000	NAPL									
4/4/2001	NA	NA	14.1(C6-C10)	43.0(>C10-C28)	NA	0.480	1.240	0.226	6.010	0.113
9/24/2001	NA	NA	55.40	6.67	<4.84	0.253	0.685	0.196	6.990	0.062
12/27/2001	NA	NA	12.90	<4.85	<4.85	0.129	0.364	0.105	2.380	0.054
3/27/2002	NA	NA	5.82	2.88	<1.95	0.045	0.107	0.041	0.952	0.040
6/17/2002	NA	NA	4.81	<1.94	<1.94	0.036	0.108	0.039	0.954	<0.080
10/22/2003	NA	NA	23.50	4.41	<1.98	0.025	0.109	0.066	1.790	0.067
1/28/2004	NAPL									

MW-2										
DATE	PAH	TDS	TPH (C6-C12)	TPH (C12-C28)	TPH (C28-C35)	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
11/11/1996	NAPL									
7/16/1998	NAPL									
10/5/2000	NAPL									
4/4/2001	1.877*	NA	55.2(C6-C10)	109(>C10-C28)	NA	0.045	2.330	0.175	8.610	0.313
9/24/2001	0.636**	NA	149.00	40.50	<4.72	0.265	2.180	0.442	6.400	0.458
12/27/2001	1.669***	NA	104.00	24.70	<4.87	0.036	2.480	0.927	10.600	0.249
3/27/2002	0.525****	NA	35.60	7.59	<1.94	0.032	0.804	1.040	8.740	0.197
6/17/2002	0.356*****	NA	24.0	4.2	<1.95	0.055	0.486	0.934	8.010	<0.020
10/22/2003	NAPL									
1/28/2004			217.0	142.0	<1.98	0.0269	0.194	0.438	5.240	0.163

*-Benzo(a)anthracene-0.0005, Benzo(b)fluoranthene-0.0007, Benzoperylene-0.0006, Benzo(k)fluoranthene-0.0007, Chrysene-0.0009, Fluoranthene-0.002, Naphthalene-1.86, Phenanthrene-0.01, Pyrene-0.001

**-Acenaphthene-0.004, Anthracene-0.0009, Benzo(a)anthracene-0.0003, Benzo(b)fluoranthene-0.0003, Benzoperylene-0.0003, Benzo(a)pyrene-0.0002, Chrysene-0.0003, Fluoranthene-0.0006, Fluorene-0.007, Naphthalene-0.619, Phenanthrene-0.003, Pyrene-0

***-Acenaphthene-0.017, Fluoranthene-0.007, Fluorene-0.030, Naphthalene-1.60, Phenanthrene-0.014, Pyrene-0.006

****-Acenaphthene-0.0009, Fluorene-0.001, Naphthalene-0.522, Phenanthrene-0.0005

*****-Acenaphthene-0.0004, Fluorene-0.0007, Naphthalene-0.355, Phenanthrene-0.0003

FEDERAL EXPRESS CORPORATION

5811 Technicenter Drive, Austin, TX
 LPST # 111747

GROUNDWATER ANALYTICAL DATA SUMMARY

(all concentrations in mg/L)

MW-3										
DATE	PAH	TDS	TPH (C6-C12)	TPH (C12-C28)	TPH (C28-C35)	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
11/11/1996	NA	478	10(Total)	NA	NA	1.920	2.250	0.313	2.880	1.150
7/16/1998	NAPL									
10/5/2000	NAPL									
4/4/2001	NA	NA	7.22(C6-C10)	13.3(>C10-C28)	NA	0.219	0.162	0.111	0.888	0.024
9/24/2001	NA	NA	19.70	<4.75	<4.75	0.241	0.072	0.114	0.906	0.056
12/27/2001	NA	NA	<4.85	<4.85	<4.85	0.096	0.023	0.027	0.266	0.017
3/27/2002	NA	NA	2.05	<1.96	<1.96	0.135	0.015	0.045	0.151	0.034
6/17/2002	NA	NA	3.48	<2.0	<2.0	0.121	0.015	0.051	0.222	0.028
10/22/2003	NA	NA	3.07	0.88	<1.97	0.220	0.053	0.099	0.381	0.097
1/28/2004	NA	NA	6.50	1.70	<2.02	0.310	0.176	0.135	0.631	0.140

MW-4										
DATE	PAH	TDS	TPH (C6-C12)	TPH (C12-C28)	TPH (C28-C35)	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
2/18/1997	NA	NA	<0.50(Total)	NA	NA	0.004	<0.001	<0.001	<0.001	<0.001
7/16/1998	NAPL									
10/5/2000	NAPL									
4/4/2001	NA	NA	14.6(C6-C10)	43.1(>C10-C28)	NA	0.174	0.656	0.419	2.630	0.320
9/24/2001	NA	NA	20.90	<4.73	<4.73	1.030	1.770	0.364	3.460	0.155
12/27/2001	NA	NA	18.50	5.15	<4.84	1.290	2.780	0.596	6.370	0.216
3/27/2002	NA	NA	20.40	4.48	<1.93	1.270	3.510	0.408	5.500	0.420
6/17/2002	NA	NA	11.00	2.64	<1.96	0.551	1.100	0.246	2.570	<0.020
10/22/2003	NA	NA	23.10	3.27	<1.95	0.125	0.343	0.121	1.160	0.321
1/28/2004	NA	NA	47.40	19.20	<1.99	0.577	2.940	0.735	8.050	0.574

FEDERAL EXPRESS CORPORATION

5811 Technicenter Drive, Austin, TX
 LPST # 111747

GROUNDWATER ANALYTICAL DATA SUMMARY

(all concentrations in mg/L)

MW-5										
DATE	PAH	TDS	TPH (C6-C12)	TPH (C12-C28)	TPH (C28-C35)	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
2/18/1997	0.0006*	NA	3.9(Total)	NA	NA	0.520	0.811	0.096	1.070	0.449
7/16/1998	NAPL									
10/5/2000	NAPL									
4/4/2001	NAPL									
9/24/2001	NAPL									
12/27/2001	NA	NA	28.60	5.88	<4.81	3.57	3.98	0.62	6.07	2.85
3/27/2002	NA	NA	10.30	3.61	<1.99	2.90	2.29	0.40	2.36	2.04
6/17/2002	NA	NA	16.50	2.47	<1.93	3.09	2.74	0.50	3.21	2.13
10/22/2003	NAPL									
1/28/2004	NAPL									

MW-7										
DATE	PAH	TDS	TPH (C6-C12)	TPH (C12-C28)	TPH (C28-C35)	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
2/18/1997	NA	NA	<0.5(Total)	NA	NA	<0.001	<0.001	<0.001	<0.001	<0.01
7/16/1998	NA	NA	<5.1(C6-C10)	<5.1(>C10-C28)	NA	<0.001	<0.001	<0.001	<0.002	<0.02
11/19/1998	NA	NA	<4.4(C6-C10)	<4.4(>C10-C28)	NA	<0.005	<0.005	<0.005	<0.005	<0.005
10/5/2000	NA	NA	<5(C6-C10)	<5(>C10-C28)	NA	<0.005	<0.005	<0.005	<0.005	<0.005
4/4/2001	NA	NA	<6.44(C6-C10)	<6.44(>C10-C28)	NA	<0.002	<0.004	<0.004	<0.004	<0.004
9/24/2001	NA	NA	<4.78	<4.78	<4.78	<0.002	<0.004	<0.004	<0.004	<0.004
12/27/2001	NA	NA	<4.84	<4.84	<4.84	<0.002	<0.004	<0.004	<0.004	<0.004
3/27/2002	NA	NA	<1.98	<1.98	<1.98	<0.002	<0.004	<0.004	<0.004	<0.004
6/17/2002	NA	NA	<1.95	<1.95	<1.95	<0.002	<0.004	<0.004	<0.004	<0.004
10/22/2003	NA	NA	NA	NA	NA	<0.0008	<0.002	<0.002	<0.003	<0.002
1/28/2004	NA	NA	NA	NA	NA	<0.0008	<0.002	<0.002	<0.003	<0.002

*-Fluorene detected at 0.006 mg/L

FEDERAL EXPRESS CORPORATION

5811 Technicenter Drive, Austin, TX

LPST # 111747

GROUNDWATER ANALYTICAL DATA SUMMARY

(all concentrations in mg/L)

MW-8										
DATE	PAH	TDS	TPH (C6-C12)	TPH (C12-C28)	TPH (C28-C35)	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
2/18/1997	NA	NA	<0.05(Total)	NA	NA	0.005	0.003	<0.001	0.004	<0.01
7/20/1998	NA	NA	<4.9(C6-C10)	<4.9(>C10-C28)	NA	0.034	0.004	0.007	0.020	<0.02
11/19/1998	NA	NA	<6(C6-C10)	<6(>C10-C28)	NA	<0.005	<0.005	<0.005	<0.005	<0.005
10/5/2000	NA	NA	<5(C6-C10)	<5(>C10-C28)	NA	0.007	<0.005	<0.005	<0.005	<0.005
4/4/2001	NA	NA	<4.67(C6-C10)	<4.67(>C10-C28)	NA	0.029	0.005	<0.004	0.011	0.004
9/24/2001	NA	NA	<4.89	<4.89	<4.89	0.014	0.010	<0.004	0.114	0.006
12/27/2001	NA	NA	<4.90	<4.90	<4.90	0.011	<0.004	<0.004	<0.004	0.006
3/27/2002	NA	NA	<1.97	<1.97	<1.97	0.015	<0.004	<0.004	0.020	0.012
6/17/2002	NA	NA	<1.95	<1.95	<1.95	<0.002	<0.004	<0.004	<0.004	<0.004
10/22/2003	NA	NA	NA	NA	NA	<0.0008	<0.002	<0.002	<0.003	<0.002
1/28/2004	NA	NA	NA	NA	NA	<0.0008	<0.002	<0.002	<0.003	<0.002

MW-9										
DATE	PAH	TDS	TPH (C6-C12)	TPH (C12-C28)	TPH (C28-C35)	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
3/24/1997	NA	NA	1.2(Total)	NA	NA	0.106	0.120	0.008	0.135	0.038
7/16/1998	NA	NA	<5.3(C6-C10)	<5.3(>C10-C28)	NA	<0.001	<0.001	<0.001	0.002	0.035
11/19/1998	NA	NA	<4.1(C6-C10)	<4.1(>C10-C28)	NA	0.012	<0.005	<0.005	<0.005	0.178
10/5/2000	0.002*	NA	<5(C6-C10)	<5(>C10-C28)	NA	0.149	<0.005	<0.005	<0.005	0.225
4/4/2001	NA	NA	<5.5(C6-C10)	<5.5(>C10-C28)	NA	0.154	<0.004	<0.004	<0.004	0.454
9/24/2001	NA	NA	<4.95	<4.95	<4.95	0.005	<0.004	<0.004	<0.004	0.129
12/27/2001	NA	NA	<4.87	<4.87	<4.87	<0.002	<0.004	<0.004	<0.004	0.060
3/27/2002	NA	NA	<1.98	<1.98	<1.98	<0.002	<0.004	<0.004	<0.004	0.034
6/17/2002	NA	NA	<1.95	<1.95	<1.95	<0.002	<0.004	<0.004	<0.004	0.074
10/22/2003	NA	NA	NA	NA	NA	<0.0008	<0.002	<0.002	<0.003	<0.002
1/28/2004	NA	NA	NA	NA	NA	<0.0008	<0.002	<0.002	<0.003	0.128

*-Naphthalene detected at 0.002 mg/L

FEDERAL EXPRESS CORPORATION

5811 Technicenter Drive, Austin, TX

LPST # 111747

GROUNDWATER ANALYTICAL DATA SUMMARY

(all concentrations in mg/L)

MW-10										
DATE	PAH	TDS	TPH (C6-C12)	TPH (C12-C28)	TPH (C28-C35)	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
3/24/1997	NA	NA	<0.5(Total)	NA	NA	<0.001	<0.001	<0.001	<0.001	<0.01
7/16/1998	NA	NA	<4.8(C6-C10)	<4.8(>C10-C28)	NA	<0.001	<0.001	<0.001	0.002	<0.02
11/19/1998	NA	NA	<4.7(C6-C10)	<4.7(>C10-C28)	NA	<0.005	<0.005	<0.005	<0.005	<0.005
10/5/2000	NA	NA	<5(C6-C10)	<5(>C10-C28)	NA	<0.005	<0.005	<0.005	<0.005	<0.005
4/4/2001	NA	NA	<4.89(C6-C10)	<4.89(>C10-C28)	NA	<0.002	<0.004	<0.004	<0.004	<0.004
9/24/2001	NA	NA	<4.84	<4.84	<4.84	<0.002	<0.004	<0.004	<0.004	<0.004
12/27/2001	NA	NA	<4.81	<4.81	<4.81	<0.002	<0.004	<0.004	<0.004	<0.004
3/27/2002	NA	NA	<1.97	<1.97	<1.97	<0.002	<0.004	<0.004	<0.004	<0.004
6/17/2002	NA	NA	<1.95	<1.95	<1.95	<0.002	<0.004	<0.004	<0.004	<0.004
10/22/2003	NA	NA	NA	NA	NA	<0.0008	<0.002	<0.002	<0.003	0.116
1/28/2004	NA	NA	NA	NA	NA	<0.0008	<0.002	<0.002	<0.003	<0.002

MW-11										
DATE	PAH	TDS	TPH (C6-C12)	TPH (C12-C28)	TPH (C28-C35)	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
3/24/1997	NA	NA	<0.50(Total)	NA	NA	<0.001	<0.001	<0.001	<0.001	<0.01
7/16/1998	NA	NA	<5(C6-C10)	<5(>C10-C28)	NA	0.053	0.009	0.003	0.012	0.026
11/19/1998	NA	NA	25.3(C6-C10)	<4.4(>C10-C28)	NA	1.850	2.200	0.036	2.210	<0.005
10/5/2000	NA	NA	<5(C6-C10)	<5(>C10-C28)	NA	<0.005	<0.005	<0.005	<0.005	<0.005
4/4/2001	NA	NA	<5.28(C6-C10)	<5.28(>C10-C28)	NA	1.770	3.570	0.399	2.600	0.525
9/24/2001	NA	NA	9.67	<4.79	<4.79	1.620	3.080	0.625	2.480	0.134
12/27/2001	NA	NA	<4.85	<4.85	<4.85	0.071	0.085	0.088	0.142	0.040
3/27/2002	NA	NA	16.10	3.88	<1.96	1.010	5.170	0.894	4.350	0.409
6/17/2002	NA	NA	11.00	2.09	<1.96	0.952	3.550	0.523	2.390	<0.020
10/22/2003	NA	NA	4.78	<1.95	<1.95	0.049	0.616	0.209	0.774	0.239
1/28/2004	NA	NA	3.51	<2.0	<2.0	0.0416	0.336	0.116	0.475	0.145

**TEXAS NATURAL RESOURCE CONSERVATION COMMISSION
 PETROLEUM STORAGE TANK DIVISION
 CORRESPONDENCE IDENTIFICATION SHEET**

111747
 OMPR ✓

Date: March 24, 2000
 Site Name: Federal Express Corporation
 Site Address: 5811 Technicenter Drive
Austin, Texas

VKM

LPST ID No.: 111747
 Facility ID No.: 0029044

This checklist **must** accompany all correspondence submitted to the RPR Section and should be affixed to the front of your submittal as a cover page. Please check the appropriate box for the type of correspondence which you have submitted to the RPR Section. Check all boxes that apply if you are submitting more than one type of correspondence. If you cannot find an appropriate category, please complete the "other" section.

PROPOSALS		
<input type="checkbox"/> Initial Abatement (1)	<input type="checkbox"/> Tank Removal (2)	<input type="checkbox"/> Excavation (3)
<input type="checkbox"/> Waste Treatment (4)	<input type="checkbox"/> Site Assessment (5)	<input type="checkbox"/> Aquifer Testing (6)
<input type="checkbox"/> VES/Sparge Testing (7)	<input type="checkbox"/> Qtrly. GW Monitoring (8)	<input type="checkbox"/> CAP Prep. (9)
<input type="checkbox"/> GW Extrac./Treatment (10)	<input type="checkbox"/> Soil Vapor Extrac. (11)	<input type="checkbox"/> Operation & Main. (12)
<input type="checkbox"/> Site Closure (13)	<input type="checkbox"/> Plan A Risk Ass. (14)	<input type="checkbox"/> Plan B Risk Ass. (15)
<input type="checkbox"/> Semi-annual GW Mon. (16)*	<input type="checkbox"/> Annual GW Mon. (18)	<input type="checkbox"/> Product Recovery (19)
<input type="checkbox"/> Other proposal _____		

REPORTING FORMS		RECEIVED
<input type="checkbox"/> Assessment Report Form (TNRCC-0562)	<input type="checkbox"/> LPST Case Questionnaire	<div style="color: red; font-weight: bold; font-size: 1.2em;">APR 11 2000</div> <div style="font-size: 0.8em;">TNRCC, #SRCC-0013</div> <div style="font-size: 0.8em;">RPR #RCC-0461</div>
<input type="checkbox"/> Product Recovery Report Form (TNRCC-0016)	<input type="checkbox"/> Release Report Form (TNRCC-0621)	
<input type="checkbox"/> Site Closure Request Form (TNRCC-0028)	<input type="checkbox"/> Monitoring Event Summary and Status Report (TNRCC-0013)	
<input type="checkbox"/> Final Site Closure Report Form (TNRCC-0038)	<input type="checkbox"/> Priority 4 LPST Case Closure Request Form (TNRCC-0461)	
<input type="checkbox"/> Other form _____		

REPORTS		
<input type="checkbox"/> Tank Closure/Removal	<input type="checkbox"/> Plan A Risk Assessment	<input type="checkbox"/> Annual Groundwater Monitoring
<input checked="" type="checkbox"/> O&M/Performance Mon.	<input type="checkbox"/> Plan B Risk Assessment	<input type="checkbox"/> CAP Installation/Modification
<input type="checkbox"/> Property Divestiture/Phase I ESA	<input type="checkbox"/> Corrective Action Plan (CAP)	<input type="checkbox"/> Aquifer/Pilot Test Results

MISCELLANEOUS	
<input type="checkbox"/> Off-site access assistance	<input type="checkbox"/> Deadline Extension Request
<input type="checkbox"/> Tank tightness test results	<input type="checkbox"/> Request for State-Lead
<input type="checkbox"/> Request for LPST Waste Code	<input type="checkbox"/> Class V ReInjection Request
<input type="checkbox"/> Notice to Owner/Operator for CAS Services	<input type="checkbox"/> Petroleum-Substance Waste Manifest
<input type="checkbox"/> Notice of Continuation of Groundwater Monitoring	<input type="checkbox"/> Underground Storage Tank Registration Form
<input type="checkbox"/> Notice of Continuation of Operation and Maintenance	<input type="checkbox"/> Aboveground Storage Tank Registration Form
<input type="checkbox"/> Other _____	

* The proposal for semi-annual monitoring and annual report (Proposal Activity 17) has been discontinued. For semi-annual monitoring, use Proposal Activity 16.

I attest that all work has been conducted in accordance with accepted industry standards/practices and adhered to TNRCC guidance and rules. I certify that I am aware that misrepresentation of any of the above claims is a violation of 30 TAC 33.4453(b)(1)(E) and that this violation may result in the disciplinary actions set forth in 30 TAC 334.453 and or 334.463 and 334.465.

If a proposal is attached for preapproval, has the proposed work, in part or in whole, already been performed or in progress? Yes No

If yes, what work? _____

HBC Engineering 00387 5/30/00
(Registered Corrective Action Specialist) (RCAS Reg. No.) (Expiration date)

George D. Czart 4-10-00
(Signature) (Date)

(512) 442-1122 (512) 442-1181
(Telephone #) (FAX #)

Richard M. Pollard
Aites M. Piller 00341 12/29/00
(Project Manager) (CAPM Reg. No.) (Expiration date)

Aites M. Piller 04/04/00
(Signature) (Date)

(Telephone #) (FAX #)

By signature below, I certify that documents checked above are included.

Mr. Jamal Mansour Federal Express Corporation
(Name of Responsible Party Contact) (Company)

Jamal M. Mansour 3-26-00
(Signature) (Date)

(901) 395-4063 (901) 395-6664
(Telephone #) (FAX #)

RECEIVED

APR 11 2000

TNRCC / PSI
RPR



April 10, 2000

Ms. Vicki Montgomery
 Texas Natural Resource Conservation Commission
 Petroleum Storage Tank Division
 Responsible Party Remediation Section
 P.O. Box 13087
 M.C. 137
 Austin, Texas 78711-3087

Re: Operation, Monitoring, and Performance Report Submittal
 Federal Express Facility
 5811 Technicenter Drive
 Austin, Texas
 LPST #111747

Dear Ms. Montgomery:

As requested in the TNRCC Fax Transmittal Dated March 3, 2000, attached is the completed Operation, Monitoring, and Performance Report (OMPR) for the referenced site. As we discussed on the telephone the other day and as documented in the OMPR, the remediation system, a soil vapor extraction/internal combustion engine (SVE/IC) unit was installed at the site, during late May and early June of 1998. The system was installed as designed in the approved Corrective Action Plan (CAP) and was activated on June 2, 1998. Following an initial start up and fine tuning period, the system generally operated as designed during the months of June, July, and August of 1998. System monitoring data collected during that time period indicated that the SVE system was developing a vacuum zone of influence within the subsurface which encompassed the area of phase separated hydrocarbons (PSH). Additionally, fluid level data collected from the recovery wells indicated that the vacuum was causing the PSH to mound up within the recovery wells indicating that the SVE was effectively capturing the PSH plume. Analytical data and field PID readings collected from the influent and effluent sample ports indicated that a hydrocarbon destruction rate of greater than 90 to 95% was being achieved during this initial three month period. The destruction rate began to drop significantly beginning in September 1998. The manufacturer (Vaportek) was contacted and the unit was serviced numerous times during September and October. Vaportek decided to replace the entire catalytic oxidizer unit, however, destruction rates remained below the target goals. Based upon the inability of the Vaportek unit to achieve the desired destruction rate, it was determined to shut down the unit and remove it from the facility in January 1999.

The recently submitted pre-approval request includes costs to reinstall a different manufacturer (Acu Vac Remediation, Inc.) SVE/IC unit and operate the unit for 6-months. The unit will be installed and hooked up to the existing recovery well manifold. Acu Vac has a proven track record in Texas and the southwest for maximizing operating hours while meeting all air emission standards. A copy



Ms. Vicki Montgomery

April 10, 2000

Page 2

of the operating specifications for the proposed unit is attached.

We trust that with the submittal and review of the attached OMPR that approval of the request to install and operate a different manufacturer SVE/IC unit as outlined in the previously submitted pre-approval request will be forthcoming. Should you have any questions or require any additional information, please do not hesitate to call me at (512) 442-1122.

Sincerely,

HBC ENGINEERING, INC.

A handwritten signature in black ink, appearing to read "Russell C. Ford", is written over the company name.

Russell C. Ford, C.P.G.
Senior Hydrogeologist

ACUVAC SYSTEM - SVE I-6

OPERATING SPECIFICATIONS

300 Cubic Inch/4.9 Liter/6 Cylinder IC Engine

Electrical Requirements	None
Engine RPM	1,800 RPM to 2,500 RPM/site specific. Calculations below based upon 2,200 RPM
Fuel Source	Well flow/contamination (or) natural gas (or) propane (or) combination well flow and alternate fuel
Fuel Consumption/Propane	^{1.} Maximum usage 4.8 gallons/hour Actual usage 3.0 gallons/hour
Fuel Consumption/Natural Gas	^{1.} Maximum usage 4.39 therms/hr Actual usage 2.74 therms/hr
Fuel Consumption/Well Flow	Site specific, 0 to 4.5 gal/hr projected
Fuel Consumption/BTUs	^{1.} Maximum usage 432,000 BTUs/hour Actual usage 274,000 BTUs/hour
Total Fresh Air/Fuel Flow	Maximum usage 160 cfm Actual usage 90 - 120 cfm
Well Flow	0 to 120/site specific
Fresh Air Flow	0 to 80/site specific
Combustion Efficiency with Catalytic Converters	^{2.} 87% ^{2.} 99.9% (less than .9 lbs VOC/day)
Vacuum/Well Manifold	0" to 15" HG/site specific Actual 0.25" to 3.00" HG
Noise Level	Less than 50 db at 20 feet
Ambient Temperature	-20°F to + 120°F

1. Maximum usage and actual usage differ because of the load factor on the engine. Actual information has been obtained from field data. Fuel usage stated for propane and natural gas assumes no BTU value from well flow.
2. This efficiency rating assumes the engine is maintained and tuned and the catalysts are in good working order.

AcuVac System SVE I-6 Specifications

Engine - Power Source/Thermal Oxidizer

Make: Ford internal combustion engine with power with power take-off
Model: CSG-649P Year: 1998
300 cubic inch displacement (4.9), 120 HP, 6 cylinders
Propane or natural gas co-fired

Catalytic Converter

Make: NAPA
Model: ICEN 703
100 cfm, temperature 600-1500°F
Anticipated life 4,000 hours; performance examination
recommended every 500 hours; three in series

Vacuum Pump

Make: Dresser-Roots Model: 33 RAI Universal
Engine driven, maximum flow 155 scfm,
Actual operating flow rates 20 - 70 scfm

*Air Injection Pump

Make: Dresser-Roots Model: 22 RAI Universal
Engine driven, maximum flow 55 scfm,
Actual operating flow rates 18 - 40 scfm
Heat Exchanger: Stainless Steel Fin Tube

System Dimensions

8.0' length, 4.0' width, 6.5' height
(with trailer 12' 6" L X 4' 9" W x 8' H; 2,900 lbs)
Tank size: 3.0' diameter, 5.0' height
Trailer: Custom made by Manufacturer

Stack

Height: 10'
Temperature: 700 - 850°F
Exhaust Pipe: 2 1/2"

Other

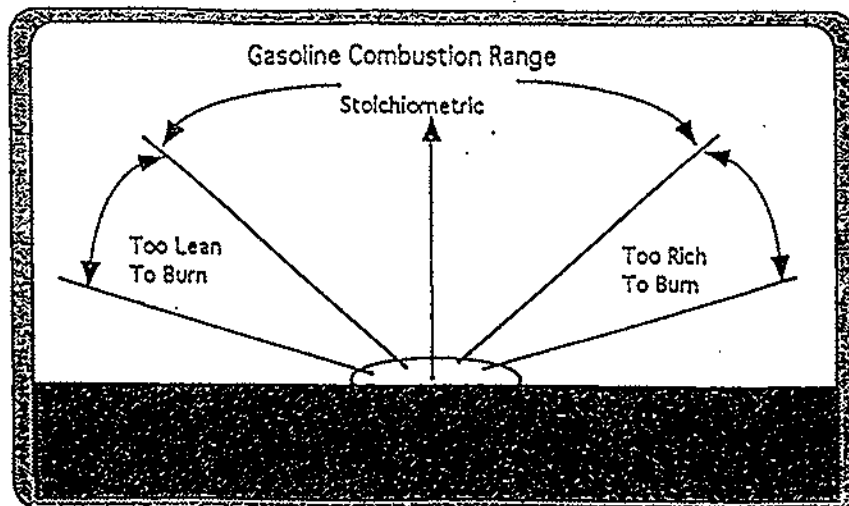
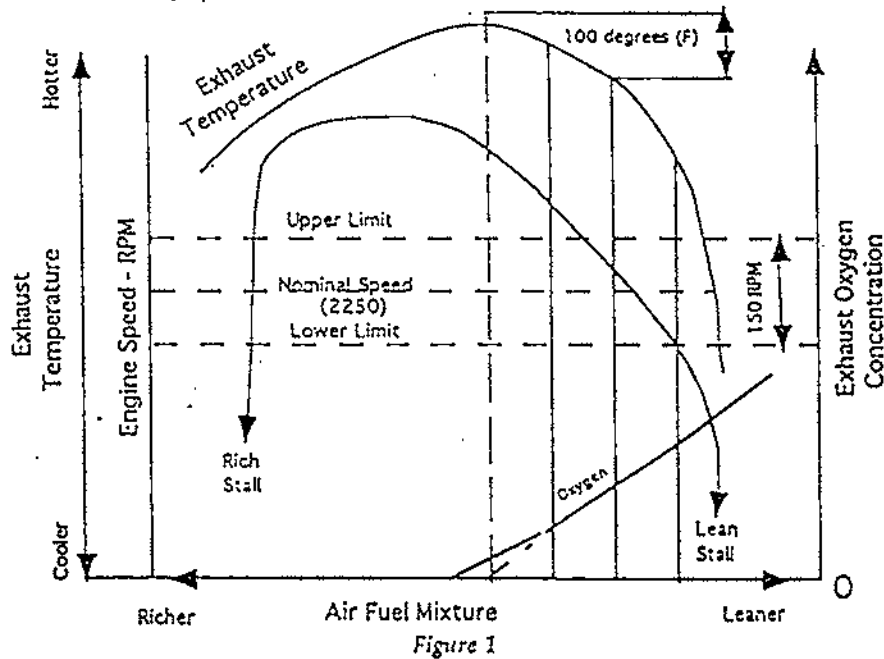
Flow Gauges: Dwyer (including flow sensors)
Instrumentation & Safety Shut-off; Murphy Gauges
Electrical: 12 volts, HD battery
Air Intake Filter: Ford Industrial
Valves: Heavy Duty Brass
Moisture Knockout Tank: Custom made by Manufacturer
Moisture Knockout Filter: Custom made by Manufacturer
Leveling Jacks: Custom made by Manufacturer
Vacuum Connection Hose to SVE Manifold (2.0 inch HD)

*Optional Equipment

Engine Control System

The S.A.V.E.TM engine control system is designed to optimize cleanup from vapor extraction wells and optimize run time by automatically adjusting alternate fuel, dilution air and well valves. In systems which include Dual Phase Vacuum Extraction (DPVE), the tank vacuum is also controlled by the Phoenix 1000 engine control system.

The Phoenix 1000 controller starts the engine running on dilution air and alternate fuel through an idle and warm-up period. After warm-up, the system slowly begins opening the well/tank valve. As the well/tank valve is opening, the controller constantly adjusts all of the other valves to maintain the set RPM and to hold a near stoichiometric fuel ratio in the engine. The system continuously increases the well/tank valve while decreasing the alternate fuel and dilution air inlet valves. If the well is very rich (high concentration of hydrocarbons), the alternate fuel valve will eventually close. The control system will close the dilution air valve if the well is very lean. The well/tank valve will continue to open until one of several possible events occur; either the alternate fuel or the dilution valves completely opens or closes, the RPM strays too far from the set point, or the rate of change of the RPM exceeds a predetermined level. As the well conditions change, the system will continuously adjust to maintain the maximum flow from the wells/tank. On the units equipped with a DPVE tank, the Servo Valve is connected to the controller. The quantity of air coming from the well is controlled in order to maintain vacuum and flow from the tank. Please refer to Figures 1 and 2 for graphical illustration of system operation.



**TEXAS NATURAL RESOURCE CONSERVATION COMMISSION
PRODUCT STORAGE TANK
OPERATION, MONITORING, AND PERFORMANCE REPORT (OMPR)**

GENERAL INFORMATION

LPST ID No.: <u>111747</u>	Facility ID No.: <u>0029044</u>	Report Date: <u>3/24/00</u>
Responsible Party: <u>Federal Express Corporation</u>		
Facility Name: <u>Federal Express Corporation</u>		
Facility Address: <u>5811 Techni Center Drive</u>		
Facility City: <u>Austin</u>	County: <u>Travis</u>	

SECTION I: OPERATION AND MAINTENANCE DATA

Type of remediation system: (Check all that apply.)		
<input type="checkbox"/> air sparging	<input type="checkbox"/> bioventing	<input type="checkbox"/> groundwater extraction
<input type="checkbox"/> natural attenuation	<input type="checkbox"/> thermal desorption	<input type="checkbox"/> dual-phase extraction
	<input type="checkbox"/> other _____	<input checked="" type="checkbox"/> soil vapor extraction
		<input type="checkbox"/> in-situ bioremediation
Dates this reporting period covers: from <u>May 23, 1998</u> to <u>March 24, 2000</u>		
Total number of site visits this period (including PSH recovery): <u>26</u>		
Date CAP was approved by TNRCC: <u>February 11, 1998</u>		
Dates initial system was installed: <u>May 23, 1998 - June 2, 1998</u>		
Date system initially activated: <u>June 2, 1998</u>		
If system has been enhanced with an additional remedial method, please explain modification and dates system modifications installed: _____		
Number of days system has been actively operated this period: <u>131</u>		
Please explain any non-operational periods greater than 24 hours: <u>System was temporarily non-operational from October 1, 1998 to October 27, 1998, while vapor tek installed a new catalytic oxidizer. The system was permanently shut down on December 1, 1998, because the hydrocarbon destruction efficiency was less than 98%.</u>		
Were any major repairs performed this reporting period: <input checked="" type="checkbox"/> yes <input type="checkbox"/> no		
If yes, please explain: _____		
<u>A new catalytic oxidizer was installed in October, 1998, to improve destruction efficiency.</u>		

SECTION I: OPERATION AND MAINTENANCE DATA (Cont'd)

Have the risk-based target cleanup goals been determined?	<input checked="" type="checkbox"/> yes	<input type="checkbox"/> no
If no, please explain how and when they will be determined: _____		
If yes, please indicate the method used: <input checked="" type="checkbox"/> Plan A <input type="checkbox"/> Plan B <input type="checkbox"/> other _____		
Please provide the target soil concentrations (ppm) for: benzene <u>0.74</u> toluene <u>503</u> ethylbenzene <u>835</u> xylenes <u>968</u> <input type="checkbox"/> no soil contamination		
Please provide the target groundwater concentrations (ppm) for: benzene <u>0.0294</u> toluene <u>7.3</u> ethylbenzene <u>3.65</u> xylenes <u>73</u> <input type="checkbox"/> no groundwater contamination		
If any other chemicals of concern are present, please provide the chemical name and target concentration (ppm) in soil and/or groundwater as appropriate: _____		
Potential groundwater beneficial use category (I-IV): <u>II</u> TDS (ppm): <u>478</u>		

SECTION II: PHASE-SEPARATED HYDROCARBONS (PSH) RECOVERY DATA

Are phase-separated hydrocarbons (PSH) present:	<input checked="" type="checkbox"/> yes	<input type="checkbox"/> no	If no, go to Section III.
Number of wells affected by PSH:	<u>6</u>	Number of wells with greater than 0.01 ft of PSH:	<u>6</u>
Maximum PSH thickness (ft):	<u>1.84</u>	Well with greatest PSH thickness (currently):	<u>MW-6</u>
PSH recovery method(s) (excluding total fluid recovery):	<input checked="" type="checkbox"/> continuous	<input type="checkbox"/> manual	
If manual, number of site visits this reporting period: _____			
Total volume of PSH recovered this reporting period (gallons):	<u>Approx. 300</u>		
Total volume of PSH recovered to date (gallons):	<u>2,050</u>		
Method of PSH management/disposal:	<u>Thermal destruction</u>		

SECTION III: GROUNDWATER RECOVERY DATA

No Groundwater Recovery Performed - PSH Only

Are dissolved-phase hydrocarbons present:	<input checked="" type="checkbox"/> yes	<input type="checkbox"/> no	
If no, and groundwater recovery is not being performed, go to Section IV.			
Number of wells affected by dissolved-phase:	<u>3</u>	Well with the max. benzene concentration:	<u>MW-11</u>
Primary purpose(s) of groundwater recovery: (Check all that apply.)	<input type="checkbox"/> groundwater treatment	<input type="checkbox"/> plume containment	<input type="checkbox"/> groundwater depression <input type="checkbox"/> other, please specify _____
Method(s) of groundwater recovery: (Check all that apply.)	<input type="checkbox"/> vacuum enhanced pumping	<input type="checkbox"/> other, please specify _____	<input type="checkbox"/> direct dumping
Is groundwater recovery:	<input type="checkbox"/> continuous	<input type="checkbox"/> pulsed	<input type="checkbox"/> other, please specify _____

Number of groundwater recovery wells: _____

SECTION III: GROUNDWATER RECOVERY DATA (Cont'd)

Has a groundwater recovery trench been installed? yes no If yes, please indicate length (ft) _____
depth (ft) _____ approximate location _____

Design groundwater flow rate (gpm): _____ Observed groundwater flow rate (gpm): _____
If the design flow rate is different from the observed flow rate, please explain: _____

Total volume of groundwater recovered during this reporting period (gallons): _____
Total volume of groundwater recovered to date (gallons): _____

Maximum influent groundwater concentrations this reporting period (ppm): benzene _____
BTEX _____ TPH _____ other(s) _____

Are influent groundwater concentrations less than the permitted discharge concentrations: yes no
If yes, please explain why groundwater treatment is necessary: _____

Recovered groundwater treatment method(s): air stripping air sparging
 carbon adsorption other, please specify _____

Maximum effluent groundwater concentrations this reporting period (ppm): benzene _____
BTEX _____ TPH _____ other(s), please specify _____

How is the recovered/treated groundwater managed/discharged? _____

Are any permits required for discharge? yes no If yes, complete the following:
Types(s) of Permit(s): _____ Date(s) issued: _____
Permitting Authority: _____
Permit(s) expiration date(s): _____

Did any discharge excursions occur during this reporting period? yes no
If yes, please explain: _____

Is groundwater reinjection or infiltration in use? yes no If no, go to Section IV.
If yes, how many injection or infiltration points are in use? _____
Method(s) of groundwater reinjection: injection well infiltration gallery
 other, please specify _____
Design groundwater reinjection rate (gpm): _____ Observed groundwater reinjection rate (gpm): _____
If the design reinjection rate is different from the observed rate, please explain: _____

Location(s) of injection point(s): _____

SECTION IV: VAPOR RECOVERY DATA

Is vapor recovery/treatment being performed? <input checked="" type="checkbox"/> yes <input type="checkbox"/> no If no, go to Section V.	
Method(s) of vapor recovery: <input type="checkbox"/> soil vapor extraction <input type="checkbox"/> dual-phase vacuum extraction <input checked="" type="checkbox"/> vacuum enhanced vapor extraction <input type="checkbox"/> other, please specify _____	
Number of vapor recovery points: <u> 3 </u> Extraction point with max. vapor concentration: _____	
Design vapor flowrate (ft ³ /min): <u> 80-100 </u> Observed vapor flowrate (ft ³ /min): <u> 116-135 </u> If the design vapor flowrate is different from the observed flowrate, please explain: _____ <u> Ambient air intake was reduced in July, resulting in increased flow. </u>	
Is in-situ air sparging in use? <input type="checkbox"/> yes <input checked="" type="checkbox"/> no If yes, how many sparging points are in use? _____ Design air injection flowrate (ft ³ /min): _____ Observed air injection flowrate (ft ³ /min): _____ If the designed air injection rate at any well is different from the observed injection rate, please explain: _____	
Design air injection pressure (psi): _____ Observed air injection pressure (psi): _____ If the design air injection rate at any well is different from the observed pressure at that well, please explain: _____	
Max. influent vapor concentrations this reporting period (ppm): benzene <u> 129 </u> BTEX <u> 3,248 </u> TPH <u> 19,900 </u> other(s), please specify _____	
Is vapor treatment required? <input checked="" type="checkbox"/> yes <input type="checkbox"/> no If no, please go to Section V. If yes, please check the appropriate vapor treatment equipment in use: <input type="checkbox"/> carbon system <input checked="" type="checkbox"/> catalytic oxidizer <input type="checkbox"/> thermal incinerator <input type="checkbox"/> biofilter <input type="checkbox"/> other, please explain: _____	
Please indicate any operating temperature and/or pressure ranges of the above equipment, if applicable: • Optimal operating temperature range _____ Observed temperature range _____ • Optimal operating pressure range _____ Observed pressure range _____ If the optimal operating parameter(s) is/are different from the observed, please explain: _____	
Maximum effluent vapor concentrations this reporting period (ppm): benzene <u> 7.51 </u> BTEX <u> 9.10 </u> TPH <u> 13,604 </u> other(s), please specify _____	
Are any permits required for discharge? <input checked="" type="checkbox"/> yes <input type="checkbox"/> no If yes, complete the following: Type(s) of Permit(s): <u> Standard Exemption 68 </u> Date(s) issued: <u> January 9, 1998 </u> Permitting Authority(s): <u> TNRCC </u> Permit(s) expiration date(s): _____	
Does vapor treatment need to be continued? <input checked="" type="checkbox"/> yes <input type="checkbox"/> no If yes, how much longer is it anticipated that vapor treatment will be necessary: <u> Six months to one year. </u>	

SECTION IV: SOIL VAPOR RECOVERY DATA (Cont'd)

If the vapor treatment unit is no longer in use, has it been decommissioned?	<input checked="" type="checkbox"/> yes	<input type="checkbox"/> no
If yes, please provide: The date the unit was last used <u>December 1, 1998</u>		
The date the unit was decommissioned <u>January 15, 1999</u>		
If the vapor treatment unit is no longer in use, but has not been decommissioned, are there any plans to reactivate the unit in the near future?		
	<input type="checkbox"/> yes	<input type="checkbox"/> no
If yes, please explain: <u>A new system will be installed, pending pre-approval.</u>		

SECTION V: PERFORMANCE EVALUATION DATA

Estimated time remaining to achieve the target cleanup goals (months/years): <u>6-12 months</u>
Total estimated mass of hydrocarbons present at time of system startup (lb) by phase ¹ .
<input checked="" type="checkbox"/> PSH <u>30,900</u> <input type="checkbox"/> vapor-phase _____ <input type="checkbox"/> dissolved-phase _____
Total estimated mass of hydrocarbons currently remaining (lb) by phase:
<input checked="" type="checkbox"/> PSH <u>29,050</u> <input type="checkbox"/> vapor-phase _____ <input type="checkbox"/> dissolved-phase _____
What were the projected hydrocarbon removal rates (lb/hr) at time of system startup ¹ .
<input checked="" type="checkbox"/> PSH <u>0.304</u> <input type="checkbox"/> benzene _____ <input type="checkbox"/> BTEX _____
<input type="checkbox"/> other(s), please specify _____
What are the current observed hydrocarbon removal rates (lb/hr):
<input checked="" type="checkbox"/> PSH <u>0.68</u> <input type="checkbox"/> benzene _____ <input type="checkbox"/> BTEX _____
<input type="checkbox"/> other(s), please specify _____
Total mass of hydrocarbons recovered this reporting period (lb) by phase:
<input checked="" type="checkbox"/> PSH <u>1,850</u> <input type="checkbox"/> vapor-phase _____ <input type="checkbox"/> dissolved-phase _____
Total mass of hydrocarbons recovered to date (lb) by phase:
<input checked="" type="checkbox"/> PSH <u>12,800</u> <input type="checkbox"/> vapor-phase _____ <input type="checkbox"/> dissolved-phase _____
Are the projected hydrocarbon recovery rates being met? <input checked="" type="checkbox"/> yes <input type="checkbox"/> no
If no, please explain why not and what will be done to correct the problem: _____
The average cost per pound of hydrocarbons removed by the system (\$/lb) ² : _____

¹ The TNRCC is aware that this information may not be available for all existing systems. Therefore, this information should be provided if possible for existing systems but is not mandatory unless otherwise directed by this Office.

² Please note that this value should be obtained by dividing the sum of the system installation cost, and the total operation and maintenance cost since system activation by the total pounds by hydrocarbons removed to date. The graph of the average cost per unit pound of hydrocarbons removed should also be attached to this form.

Note: Wherever necessary, assume the specific gravity of gasoline to be 0.75 and the weight of 1 gallon of gasoline to be 6.25 lbs. If values other than these are used, please specify what values are being used and reference the source used.

Were the plans and specifications for the remediation system for this site properly sealed by a professional engineer licensed by the Texas State Board of Registration for Professional Engineers?	<input checked="" type="checkbox"/> yes	<input type="checkbox"/> no
Was the installation and/or construction of the remediation system for this site performed under the supervision of a professional engineer licensed by the Texas State Board of Registration for Professional Engineers?	<input checked="" type="checkbox"/> yes	<input type="checkbox"/> no

Based upon available site data and TNRCC rules and guidance documents, I certify that to the best of my knowledge, the information presented in this form is accurate and that the work was conducted in accordance with accepted industry standards and practices. I also certify that the remedial system is achieving its intended purpose. I certify that I am aware that misrepresentation of the above claims constitutes a violation of 30 TAC 334.453(b)(1)(E) and that this violation may result in disciplinary actions set forth in 30 TAC 334.453 and/or 334.463 and 334.465.

HBC ENGINEERING, INC. 00387
(Company) (RCAS #)

GEORGE D. COZART
(Corrective Action Specialist Representative)

George D. Cozart 4-10-00
(Signature) (Date)

(512) 442-1122 (512) 442-1181
(Telephone #) (Fax #)

Richard M. Pollard 00341
(Registered Corrective Action Project Manager) (CAPM #)

HBC Engineering, Inc.
(Company)

Richard M. Pollard 04/04/00
(Signature) (Date)

713-690-8989 713-690-8787
(Telephone #) (Fax #)

By my signature below, I certify that I have reviewed this report for completeness.

JAMAL M. MANSOUR FEDERAL EXPRESS CORP.
(Responsible Party) (Company)

Jamal M. Mansour 3-28-00
(Signature) (Date)

901-395-4064 901-395-6664
(Telephone #) (Fax #)

(If the remediation system was evaluated this reporting period by a Professional Engineer, please complete the following):

(Professional Engineer, P.E.) (P.E. Registration #)

(Signature) (Date)

(Telephone #) (Fax #)

ATTACHMENTS

The following information must be submitted with this document. All tables and graphs should contain up to date information:

- Site diagram with well locations, system components, and groundwater gradient
- Cumulative graph of hydrocarbon removal rate (lb/hr) for PSH, vapor phase, dissolved-phase, and total
- Cumulative graph of mass (lbs) of hydrocarbons recovered for PSH, vapor phase, dissolved-phase, and total
- Cumulative graph of cost per mass of hydrocarbons removed
- Cumulative table of estimated mass of hydrocarbons remaining
- ✓ Cumulative table of groundwater elevations from each monitor well
- ✓ Cumulative table of groundwater analytical data/PSH thickness from each monitor well
- Graph of system operational periods
- Graph of performance target goals
- Graph of cumulative decline rate for each well

The following information is technology specific and should be submitted when applicable. All tables and graphs should contain up to date information.

PSH Recovery

- * Cumulative table of recovery rate from each recovery well
- * Cumulative table of total PSH removed

Groundwater Extraction

- * Cumulative table of flow rate from each recovery well
- * Cumulative table of dissolved-phase influent concentrations from each recovery well
- * Cumulative table of dissolved-phase effluent concentrations
- * Cumulative table of total fluid recovered to date by month or recovery event
- * Site diagram with calculated area of influence
- * Cumulative table of groundwater discharged by month or discharge event
- * Table of depth to groundwater under static conditions, depth to groundwater under pumping conditions, and depth to pump intake for each recovery well

Groundwater Injection

- * Cumulative table of injection rate for each injection well
- * Cumulative table of dissolved-phase concentrations for each injection well
- * Cumulative table of total fluid injected

Soil Vapor Extraction (SVE)/Bioventing

- * - Cumulative table of flow rate from each vapor extraction well
- ✓ - Cumulative table of vapor influent concentrations from each extraction well
- ✓ - Cumulative table of vapor effluent concentrations
- ✓ Site diagram with calculated area of influence
- * Cumulative table of vapor discharged
- ✓ - Cumulative table of vacuum pressure at each well
- * Cumulative table of pore volume exchange rate (show sample calculation)

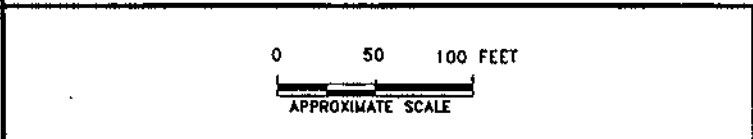
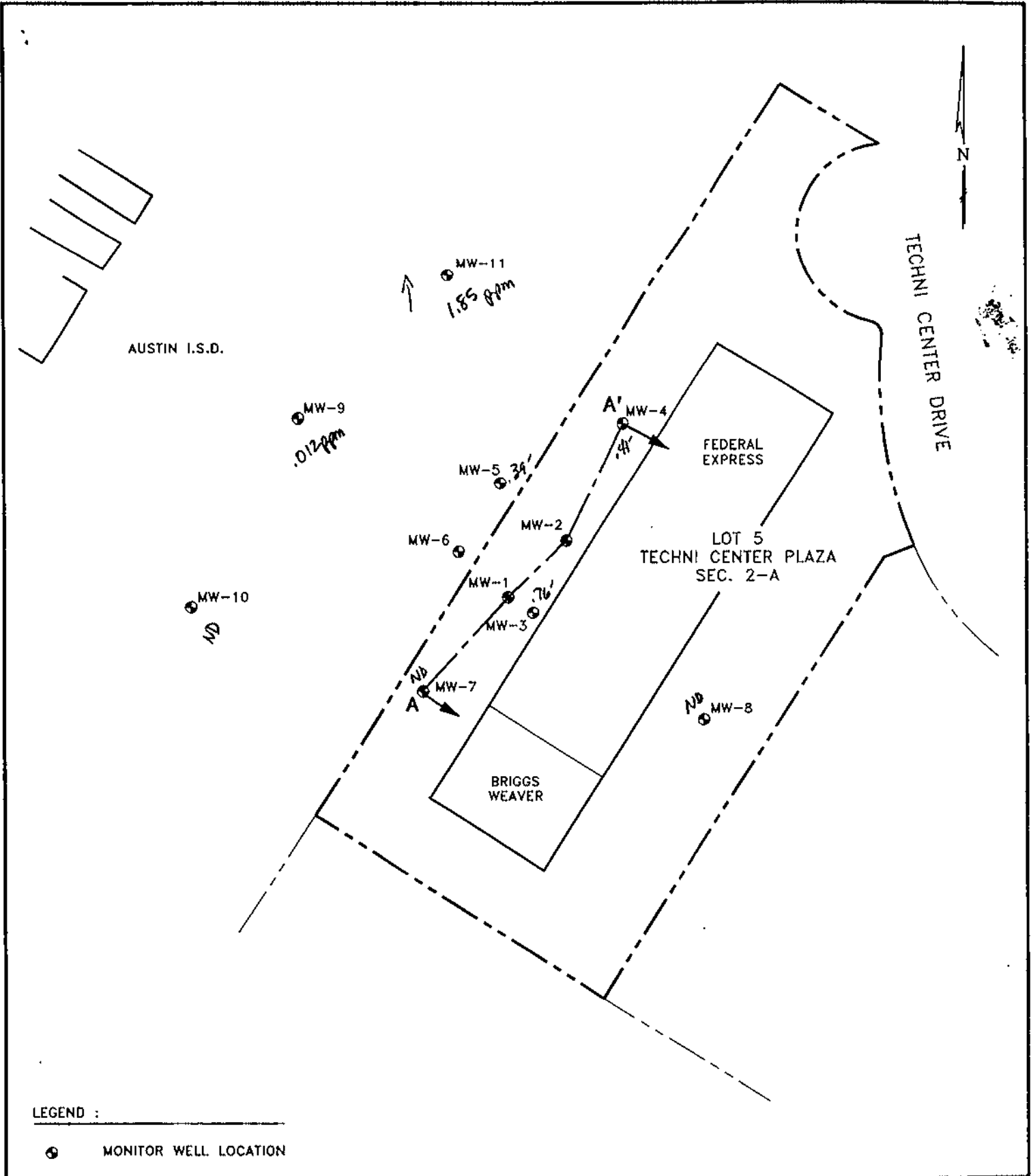
Sparging/Biosparging

- * Cumulative table of injection rate in each sparging well
- * Cumulative table of sparge pressure at each sparging well
- * Cumulative table of dissolved oxygen concentration in each sparging well
- * Site diagram with calculated area of influence

Ex-Situ Biodegradation

- * Cumulative table of sample analysis results with sample locations and dates

Please note that tables and graphs may be combined as long as the information requested above is presented in a clear and concise manner.



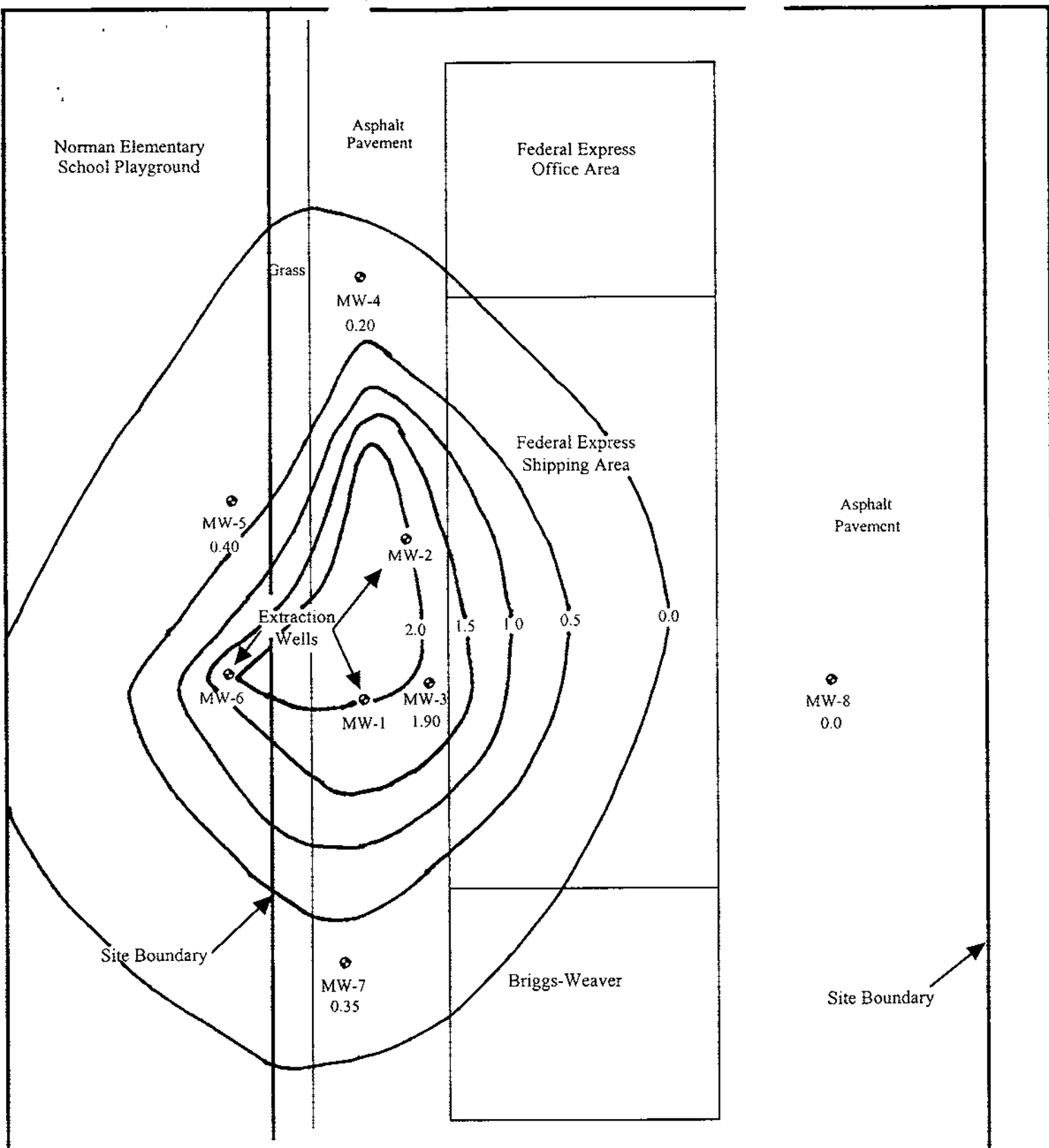
HBC Project No. 61-2260-96

FEDERAL EXPRESS CORPORATION
AUSTIN, TEXAS

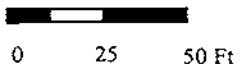
FIGURE 1: SITE MAP

**SUMMARY TABLE
WELL VACUUM PRESSURE**

WELL ID	DATE	VACUUM (inches of water)
MW-1	7/15/98	15.0
	8/12/98	17.0
	9/10/98	17.0
	9/22/98	20.0
	10/29/98	20.0
MW-2	7/15/98	15.0
	8/12/98	17.0
	9/10/98	17.0
	9/22/98	20.0
	10/29/98	20.0
MW-3	7/15/98	1.00
	8/12/98	1.55
	9/10/98	1.75
	9/22/98	1.90
	10/29/98	1.90
MW-4	7/15/98	0.08
	8/12/98	0.10
	9/10/98	0.10
	9/22/98	0.20
	10/29/98	0.20
MW-5	7/15/98	0.25
	8/12/98	0.35
	9/10/98	0.35
	9/22/98	0.40
	10/29/98	0.40
MW-6	7/15/98	15.0
	8/12/98	17.0
	9/10/98	17.0
	9/22/98	20.0
	10/29/98	20.0
MW-7	7/15/98	0.10
	8/12/98	0.10
	9/10/98	0.20
	9/22/98	0.35
	10/29/98	0.35
MW-8	7/15/98	0.0
	8/12/98	0.0
	9/10/98	0.0
	9/22/98	0.0
	10/29/98	0.0




Asphalt Pavement



Approximate Scale 1" = 50'

LEGEND

-  - Monitoring Well Location
- 1.90 - Well Vacuum pressure, inches of water
- 1.0 - Vacuum pressure contour

Vacuum Pressure Gradient Map
Federal Express
Austin, Texas
HBC Project No. 96007145

**SUMMARY OF VAPOR
LABORATORY ANALYTICAL DATA**

Federal Express Corporation
5811 Technicenter Drive

DATE	INFLUENT (ppmv)	EFFLUENT (ppmv)
6/12/98	Benzene 129 Toluene 467 Ethylbenzene 172 Xylenes 2,480 TPH 19,900	Benzene 7.51 Toluene 0.70 Ethylbenzene 0.11 Xylenes 0.78 TPH 182.00
9/10/98	TPH (C4-C10) 4,290	TPH(C4-C10) 2,825
9/22/98	TPH 577	TPH 405
11/3/98	TPH (C1-C3) 14,800 TPH (C4+) 505	TPH (C1-C3) 13,000 TPH (C4+) 604
11/18/98	TPH 124	TPH 188
11/24/98	TPH (C1-C3) 955 TPH (C4-C10) 50	TPH (C1-C3) 4,794 TPH (C4-C10) 186

**SUMMARY OF FLOW RATES
AT MANIFOLD**

**Federal Express Corporation
5811 Technicenter Drive**

DATE	Flow Rate (cfm)
6/2/98	64.0
6/3/98	63.0
6/4/98	63.0
6/5/98	63.0
6/8/98	69.0
6/10/98	64.0
6/12/98	73.0
7/15/98	119.0
8/12/98	116.0
9/10/98	119.0
9/22/98	135.0
10/29/98	134.0

Sample	Sampling Date	TPH (mg/L)	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Xylenes (mg/L)	MTBE (mg/L)	PAH (mg/L)	TDS (mg/L)
		>C10-C28 <4.4							
MW-8	2/18/97	<0.50	0.0045	0.0028	<0.0010	0.0042	<0.010	NA	NA
MW-8	7/20/98	<4.9	0.034	0.004	0.007	0.020	<0.020	NA	NA
MW-8	11/19/98	C6-C10 <6.0 >C10-C28 <6.0	<0.005	<0.005	<0.005	<0.005	<0.005	NA	NA
MW-9	03/24/97	1.20	0.106	0.120	0.0081	0.135	0.0382	NA	NA
MW-9	7/16/98	<5.3	<0.001	<0.001	<0.001	0.002	0.035	NA	NA
MW-9	11/19/98	C6-C10 <4.1 >C10-C28 <4.1	0.012	<0.005	<0.005	<0.005	0.178	NA	NA
MW-10	03/24/97	<0.50	<0.0010	<0.0010	<0.0010	<0.0010	<0.010	NA	NA
MW-10	7/16/98	<4.8	<0.001	<0.001	<0.001	0.002	<0.020	NA	NA
MW-10	11/19/98	C6-C10 <4.7 >C10-C28 <4.7	<0.005	<0.005	<0.005	<0.005	<0.005	NA	NA
MW-11	03/24/97	<0.50	<0.0010	<0.0010	<0.0010	<0.0010	<0.010	NA	NA
MW-11	7/16/98	<5.0	0.053	0.009	0.003	0.012	0.026	NA	NA
MW-11	11/19/98	C6-C10 25.3 >C10-C28 <4.4	1.85	2.20	0.0363	2.210	<0.005	NA	NA

NA - Not Analyzed

ATTACHMENT 16

**Summary Table
Groundwater and NAPL Gauging Data**

Well #	Date	Screen Interval (Ft. BGS)	T.O.C. Elevation (Ft.)	Depth to Groundwater (Ft. BGS)	NAPL Thickness (Ft.)	Groundwater Elevation (Ft.)	* NAPL Adjusted Groundwater Elevation (Ft.)
MW-1	10/31/96	20' to 40'	559.10	31.64	0.83	527.46	528.08
MW-1	11/01/96	"	"	32.00	1.21	527.10	528.01
MW-1	11/15/96	"	"	31.04	0.31	528.06	528.29
MW-1	02/18/97	"	"	31.78	1.61	527.32	528.53
MW-1	04/07/97	"	"	not measured	not measured	not measured	not measured
MW-1	07/16/98	"	"	28.82	1.48	530.28	531.39
MW-1	11/19/98	"	"	28.71	1.20	530.39	531.29
MW-1	3/23/00	"	"	32.83	1.21	526.27	527.18
MW-2	10/31/96	20' to 40'	560.22	35.08	4.05	525.14	528.18
MW-2	11/01/96	"	"	35.44	4.44	524.78	528.11
MW-2	11/15/96	"	"	34.02	2.86	526.20	528.35
MW-2	02/18/97	"	"	33.22	2.02	527.00	528.52
MW-2	04/07/97	"	"	not measured	not measured	not measured	not measured
MW-2	07/16/98	"	"	30.29	1.57	529.93	531.11
MW-2	11/19/98	"	"	30.16	1.28	530.06	531.02
MW-2	3/23/00	"	"	33.59	0.53	526.63	527.03
MW-3	10/31/96	20' to 40'	560.95	32.79	None	528.16	----

Well #	Date	Screen Interval (Ft. BGS)	T.O.C. Elevation (Ft.)	Depth to Groundwater (Ft. BGS)	NAPL Thickness (Ft.)	Groundwater Elevation (Ft.)	* NAPL Adjusted Groundwater Elevation (Ft.)
MW-3	11/01/96	"	"	not measured	None	not measured	----
MW-3	11/15/96	"	"	32.66	None	528.29	----
MW-3	02/18/97	"	"	32.45	None	528.50	----
MW-3	04/07/97	"	"	32.12	None	528.83	----
MW-3	07/16/98	"	"	30.13	0.81	530.82	531.43
MW-3	11/19/98	"	"	30.02	0.63	530.93	531.40
MW-3	3/23/00	"	"	34.11	0.05	526.84	526.88
MW-4	02/18/97	20' to 40'	560.19	31.70	None	528.49	----
MW-4	04/07/97	"	"	31.38	None	528.81	----
MW-4	07/16/98	"	"	29.39	0.44	530.80	531.13
MW-4	11/19/98	"	"	29.25	0.21	530.94	531.10
MW-4	3/23/00	"	"	33.72	0.58	526.47	526.91
MW-5	02/18/97	25' to 45'	563.20	34.74	None	528.46	----
MW-5	04/07/97	"	"	34.41	None	528.79	----
MW-5	07/16/98	"	"	32.44	0.39	530.76	531.05
MW-5	11/19/98	"	"	32.31	0.18	530.89	531.03
MW-5	3/23/00	"	"	36.54	0.24	526.66	526.84
MW-6	02/18/97	25' to 45'	562.87	36.18	2.40	526.69	528.49
MW-6	04/07/97	"	"	not measured	not measured	not measured	not measured
MW-6	07/16/98	"	"	35.35	4.58	527.52	530.96

Well #	Date	Screen Interval (Ft. BGS)	T.O.C. Elevation (Ft.)	Depth to Groundwater (Ft. BGS)	NAPL Thickness (Ft.)	Groundwater Elevation (Ft.)	* NAPL Adjusted Groundwater Elevation (Ft.)
MW-6	11/19/98	"	"	35.22	4.32	527.65	530.89
MW-6	3/23/00	"	"	37.30	1.84	525.57	526.95
MW-7	02/18/97	20' to 40'	558.58	30.07	None	528.51	----
MW-7	04/07/97	"	"	29.76	None	528.82	----
MW-7	07/16/98	"	"	27.86	None	530.72	----
MW-7	11/19/98	"	"	27.75	None	530.83	----
MW-7	3/23/00	"	"	31.68	None	526.90	----
MW-8	02/18/97	20' to 40'	558.19	29.64	None	528.55	----
MW-8	04/07/97	"	"	29.30	None	528.89	----
MW-8	07/16/98	"	"	27.28	None	530.91	----
MW-8	11/19/98	"	"	27.15	None	530.95	----
MW-8	3/23/00	"	"	31.26	None	526.93	----
MW-9	04/07/97	25' to 45'	563.91	35.15	None	528.76	----
MW-9	07/16/98	"	"	33.93	None	529.98	----
MW-9	11/19/98	"	"	33.82	None	530.09	----
MW-9	3/23/00	"	"	36.73	None	527.18	----
MW-10	04/07/97	25' to 45'	562.99	34.25	None	528.74	----
MW-10	07/16/98	"	"	32.97	None	530.02	----
MW-10	11/19/98	"	"	32.87	None	530.12	----
MW-10	3/23/00	"	"	36.17	None		----
MW-11	04/07/97	25' to 45'	563.63	34.89	None	528.74	----
MW-11	07/16/98	"	"	33.62	None	530.01	----

Well #	Date	Screen Interval (Ft. BGS)	T.O.C. Elevation (Ft.)	Depth to Groundwater (Ft. BGS)	NAPL Thickness (Ft.)	Groundwater Elevation (Ft.)	* NAPL Adjusted Groundwater Elevation (Ft.)
MW-11	11/19/98	"	"	33.53	None	530.10	----
MW-11	3/23/00	"	"	36.54	None		----

* NAPL adjusted groundwater elevations were calculated by multiplying the NAPL thickness by the specific gravity of gasoline (0.75) and adding that number to the groundwater elevation..

**TEXAS NATURAL RESOURCE CONSERVATION COMMISSION
PETROLEUM STORAGE TANK DIVISION
CORRESPONDENCE IDENTIFICATION SHEET**

11747
John B. P.
VC

Date: 12-8-97
Site Name: FEDEX-AUS
Site Address: 5811 TECHNICAL CENTER
AUSTIN

Vkm
4

LPST ID No.: 11747
Facility ID No.: _____

This checklist must accompany all correspondence submitted to the RPR Section and should be affixed to the front of your submittal as a cover page. Please check the appropriate box for the type of correspondence which you have submitted to the RPR Section. Check all boxes that apply if you are submitting more than one type of correspondence. If you cannot find an appropriate category, please complete the "other" section.

RECEIVED

DEC 10 1997

PROPOSALS

- | | | |
|--|---|---|
| <input type="checkbox"/> Initial Abatement (1) | <input type="checkbox"/> Tank Removal (2) | <input type="checkbox"/> Excavation (3) |
| <input type="checkbox"/> Waste Treatment (4) | <input type="checkbox"/> Site Assessment (5) | <input type="checkbox"/> Aquifer Testing (6) |
| <input type="checkbox"/> VES/Sparge Testing (7) | <input type="checkbox"/> Qtrly. GW Monitoring (8) | <input type="checkbox"/> CAP Prep. (9) |
| <input type="checkbox"/> GW Extrac./Treatment (10) | <input type="checkbox"/> Soil Vapor Extrac. (11) | <input type="checkbox"/> Operation & Main. (12) |
| <input type="checkbox"/> Site Closure (13) | <input type="checkbox"/> Plan A Risk Ass. (14) | <input type="checkbox"/> Plan B Risk Ass. (15) |
| <input type="checkbox"/> Semi-annual GW Mon. (16)* | <input type="checkbox"/> Annual GW Mon. (18) | <input type="checkbox"/> Product Recovery (19) |
| <input type="checkbox"/> Other proposal _____ | | |

REPORTING FORMS

- | | |
|--|--|
| <input type="checkbox"/> Assessment Report Form (TNRCC-0562) | <input type="checkbox"/> LPST Case Questionnaire |
| <input type="checkbox"/> Product Recovery Report Form (TNRCC-0016) | <input type="checkbox"/> Release Report Form (TNRCC-0621) |
| <input type="checkbox"/> Site Closure Request Form (TNRCC-0028) | <input type="checkbox"/> Monitoring Event Summary and Status Report (TNRCC-0013) |
| <input type="checkbox"/> Final Site Closure Report Form (TNRCC-0038) | <input type="checkbox"/> Priority 4 LPST Case Closure Request Form (TNRCC-0461) |
| <input type="checkbox"/> Other form _____ | |

REPORTS

- | | | |
|---|---|--|
| <input type="checkbox"/> Tank Closure/Removal | <input type="checkbox"/> Plan A Risk Assessment | <input type="checkbox"/> Annual Groundwater Monitoring |
| <input type="checkbox"/> O&M/Performance Mon. | <input type="checkbox"/> Plan B Risk Assessment | <input type="checkbox"/> CAP Installation/Modification |
| <input type="checkbox"/> Property Divestiture/Phase I ESA | <input type="checkbox"/> Corrective Action Plan (CAP) | <input type="checkbox"/> Aquifer/Pilot Test Results |

MISCELLANEOUS

- | | |
|---|---|
| <input type="checkbox"/> Off-site access assistance | <input type="checkbox"/> Deadline Extension Request |
| <input type="checkbox"/> Tank tightness test results | <input type="checkbox"/> Request for State-Lead |
| <input type="checkbox"/> Request for LPST Waste Code | <input type="checkbox"/> Class V ReInjection Request |
| <input type="checkbox"/> Notice to Owner/Operator for CAS Services | <input type="checkbox"/> Petroleum-Substance Waste Manifest |
| <input type="checkbox"/> Notice of Continuation of Groundwater Monitoring | <input type="checkbox"/> Underground Storage Tank Registration Form |
| <input type="checkbox"/> Notice of Continuation of Operation and Maintenance | <input type="checkbox"/> Aboveground Storage Tank Registration Form |
| <input checked="" type="checkbox"/> Other (anything that does not fit into one of the categories above) <u>SE 68 request for your records</u> | |

* The proposal for semi-annual monitoring annual report (Proposal Activity 17) has been discontinued. For semi-annual monitoring, use Proposal Activity 16.

I attest that all work has been conducted in accordance with accepted industry standards/practices and adhered to TNRCC guidance and rules. I certify that I am aware that misrepresentation of any of the above claims is a violation of 30 TAC 33.4453(b)(1)(E) and that this violation may result in the disciplinary actions set forth in 30 TAC 334.453 and or 334.463 and 334.465.

If a proposal is attached for preapproval, has the proposed work, in part or in whole, already been performed or in progress? Yes No

If yes, what work? _____

(Registered Corrective Action Specialist) (RCAS Reg. No.) (Expiration date)

(Signature) (Date)

(Telephone #) (FAX #)

(Project Manager) (CAPM Reg. No.) (Expiration date)

(Signature) (Date)

(Telephone #) (FAX #)

By signature below, I certify that documents checked above are included.

(Name of Responsible Party Contact) (Company)

(Signature) (Date)

(Telephone #) (FAX #)

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION
 APPLICATION FORM FOR STANDARD EXEMPTION
 FORM PI-7

Please mail to: TNRCC, Office of Air Quality, New Source Review Program, P.O. Box 13087, Austin, TX 78711-3087

I. Company Name Federal Express Corporation
 (Corporation, Company, Government Agency, Firm, etc.)
 Mailing Address 3975 Airways Blvd., Module E, Memphis, TN 38116
 Individual Authorized to Act for Applicant: Name V. Carl Tragesser, III Title Project Mgr. HBC Eng.
 Address 2313 W. Sam Houston Pkwy N. Ste. 107 Telephone 713 722-0700 FAX# 713 722-0788

II. LOCATION OF EXEMPT FACILITY (Latitude and Longitude must be to the nearest second):
 Name of Plant or Site Federal Express - AUS
 Street Address 5811 Techni Center
 Nearest City Austin County Travis Latitude 30° 16' 38" N Longitude 97° 40' 20" W
 SITE REQUIREMENTS: A. Submit a plot plan to scale of the property showing the location of plant boundaries, plant equipment, and surrounding area.
 B. Furnish an area map with a scale showing the facility location relative to highways and towns.

III. TYPE OF FACILITY:
 A. Applicable Standard Exemption Number(s) from TNRCC List 68
 B. Name of Facility and Company's Facility Number Federal Express/ 0029044
 C. TNRCC Account Identification Number 93-5862-P
 D. Previous Special Exemption or Permit Number 35862
 E. Operating Schedule: Hours/day 24 Days/week 7 Weeks/year 52
 F. Proposed Start of Construction 01/19/98 (Date) Operation 01/26/98 (Date)
 G. Permanent Portable
 H. Length of time at this site, if portable _____

IV. PROCESS INFORMATION
 Description of Process: Prepare and attach a written description of the exempt process and applicable checklists (when available). The description must be in sufficient detail to indicate that the facility will conform to the specified exemption.

V. EMISSIONS DATA
 Furnish a description of the basis for emission rates including fugitives. (Calculations, emission factors, measurement, NSPS, etc.)

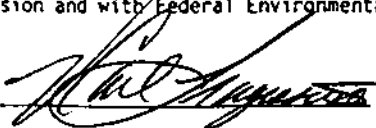
Emission Point Number	Name of Source	Name of Air Contaminant	Emission Rate of Each Air Contaminant			
			lb/hr		tons/yr	
			Gaseous	Particulate	Gaseous	Particulate
1	I/C Engine w/ catalytic oxidizer	TPH	14.55		63.7	

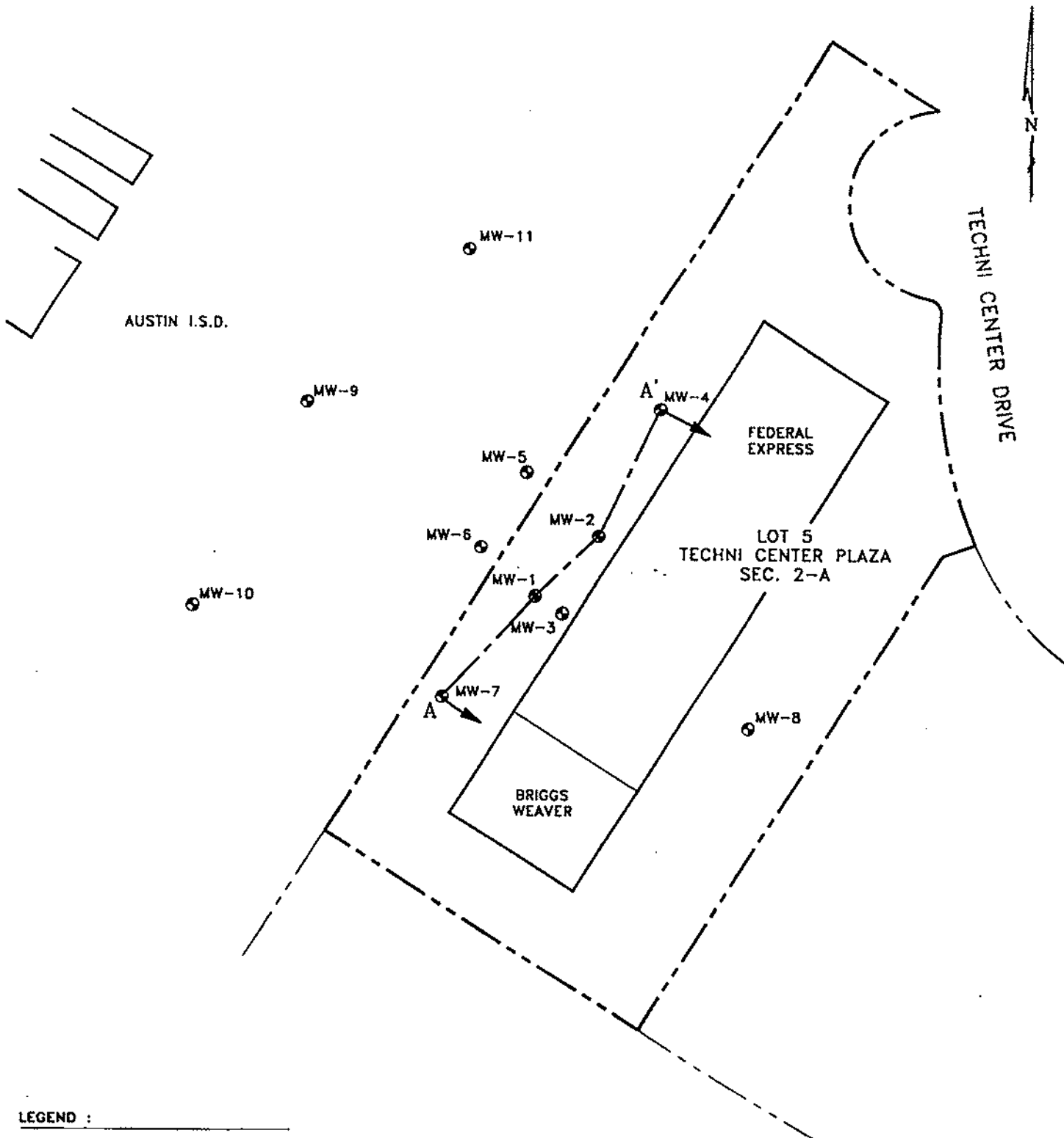
VI. A copy of the application is being sent to the Regional Office of the TNRCC: Yes No

VII. I. V. Carl Tragesser, III (Name) Project Manager HBC Engineering, Inc. (Title)

I state that I have knowledge of the facts herein set forth and that the same are true and correct to the best of my knowledge and belief. I further state that to the best of my knowledge and belief, the project will satisfy the conditions and limitations of the indicated exemption. The facility will operate in compliance with all Regulations of the Texas Natural Resource Conservation Commission and with Federal Environmental Protection Agency Regulations governing air pollution.

DATE December 5, 1997

SIGNATURE 



LEGEND :

- ⊕ MONITOR WELL LOCATION
- PLANE OF CROSS-SECTION










FEDERAL EXPRESS CORPORATION
5811 TECHNI CENTER DRIVE
AUSTIN, TEXAS

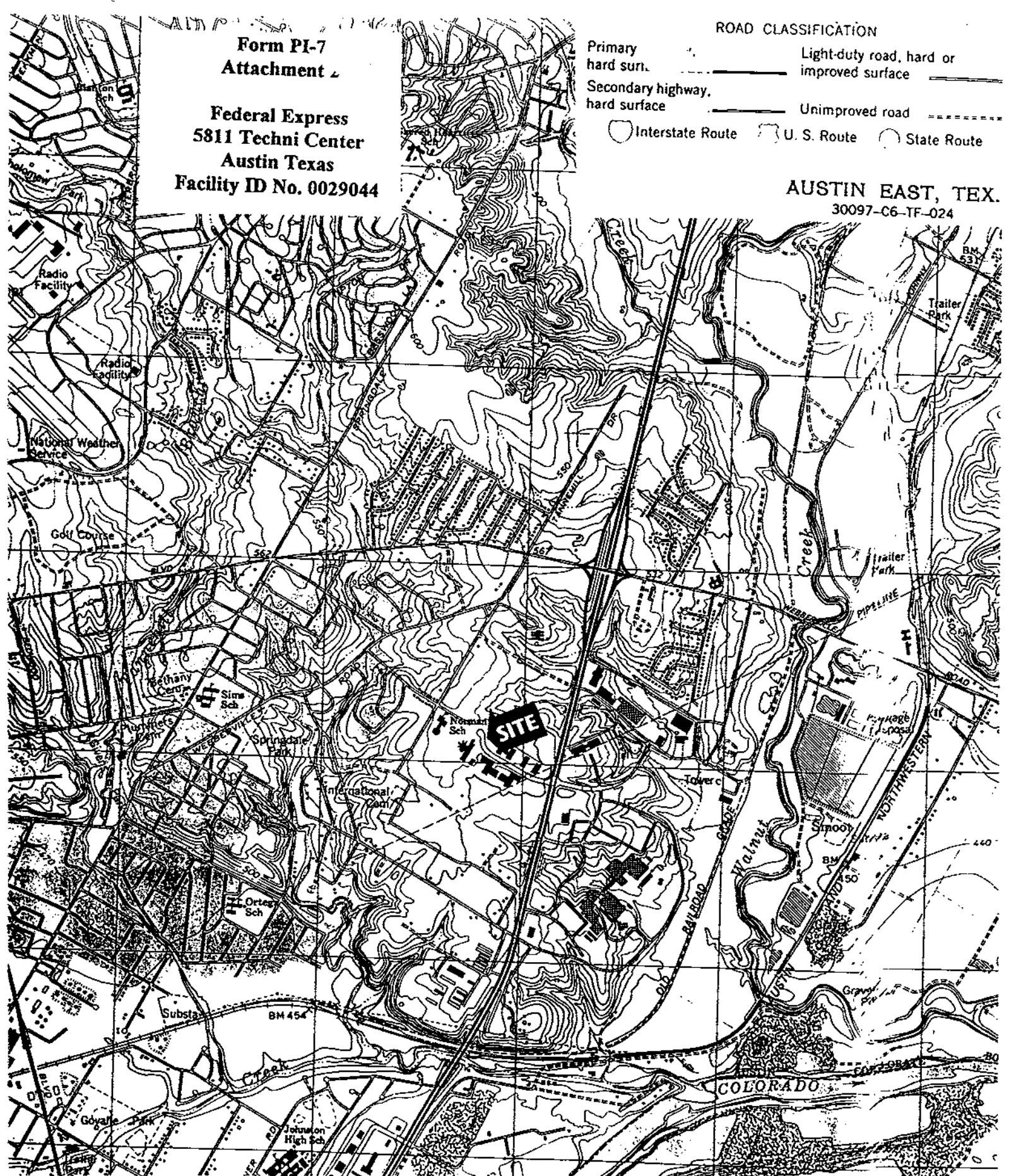
Form PI-7
Attachment 2

Federal Express
5811 Techni Center
Austin Texas
Facility ID No. 0029044

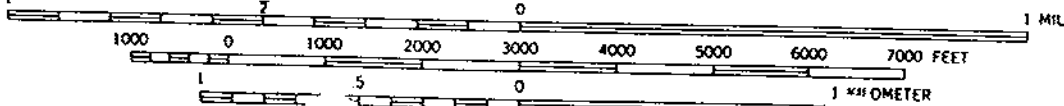
ROAD CLASSIFICATION

- Primary hard surf.  Light-duty road, hard or improved surface 
- Secondary highway, hard surface  Unimproved road 
-  Interstate Route  U. S. Route  State Route

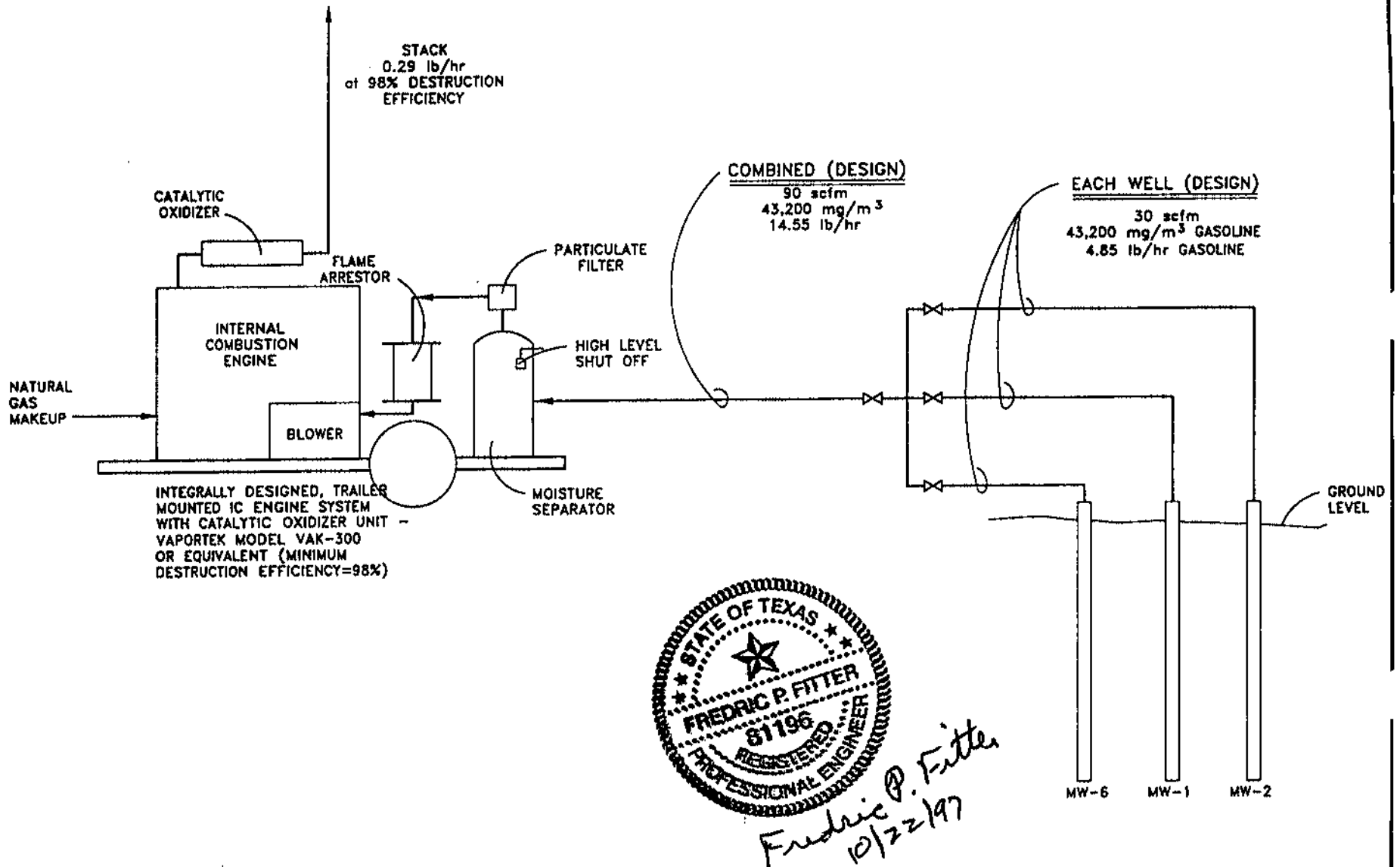
AUSTIN EAST, TEX.
30097-C6-TF-024



SCALE 1:24 000



CONTOUR INTERVAL 10 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929



HBC
ENGINEERING, INC.

NOT TO SCALE

FEDERAL EXPRESS CORPORATION
5811 TECHNI CENTER DRIVE
AUSTIN, TEXAS

HBC Project No.: 61-2260-96

FIGURE 9: PROCESS FLOW DIAGRAM

**Form PI-7
Attachment 3**

**Federal Express
5811 Techni Center
Austin, Texas
Facility ID No. 0029044**

Treatment Process

The proposed remedial system consists of an integrally designed, trailer mounted, internal-combustion (IC) engine with a catalytic oxidizer to polish the exhaust gas before it is emitted to the atmosphere. A Vaportek USA Model VAC-300, or equivalent trailer-mounted unit, is specified. To substitute an equivalent unit, specifications for the unit must be approved by the engineer-of-record two weeks prior to installation.

A process flow diagram for the remedial system is shown in Figure 9. The engine powers a blower which extracts soil vapor from the three extraction wells, MW-1, MW-2, and MW-6 through 3-inch PVC collection pipes connected to each well. At the treatment compound, the collection pipes are valved into a common manifold.

The trailer mounted unit separates free water from the extracted gas stream in a moisture separator. Particulates are then removed using a particulate filter. Prior to entering the carburetor, the vapor stream passes through a flame arrestor to prevent engine backfires from damaging the collection pipe/manifold system. Hydrocarbons in the extracted vapor are thermally oxidized in the cylinders of the IC engine. Exhaust gas is routed through a catalytic oxidizer and silencer before being emitted to the atmosphere.

Natural gas will be utilized as a make-up fuel for the engine. Initially, the extracted soil vapor will be rich in gasoline vapors and little make-up fuel will be necessary. As the free product is recovered, the TPH concentration in the extracted soil vapor declines, and additional make-up fuel is required. Prior to system shutdown, the engine will be fueled primarily by natural gas. Natural gas is specified as the make-up fuel to minimize the production of carbon dioxide and particulates associated with engines utilizing gasoline or diesel as the make-up fuel.

**Form PI-7
Attachment 4**

**Federal Express Corporation
5811 Techni Center
Austin, Texas
Facility ID No. 0029044**

Emission Rate Calculation

The emission rate was calculated based on data collected during the Soil Vapor Extraction (SVE) pilot test conducted on June 24, 1997. The emission rate is calculated as follows:

90 scfm = System design extraction rate (30 scfm/well x 3 wells)
43,200 mg/m³ gasoline

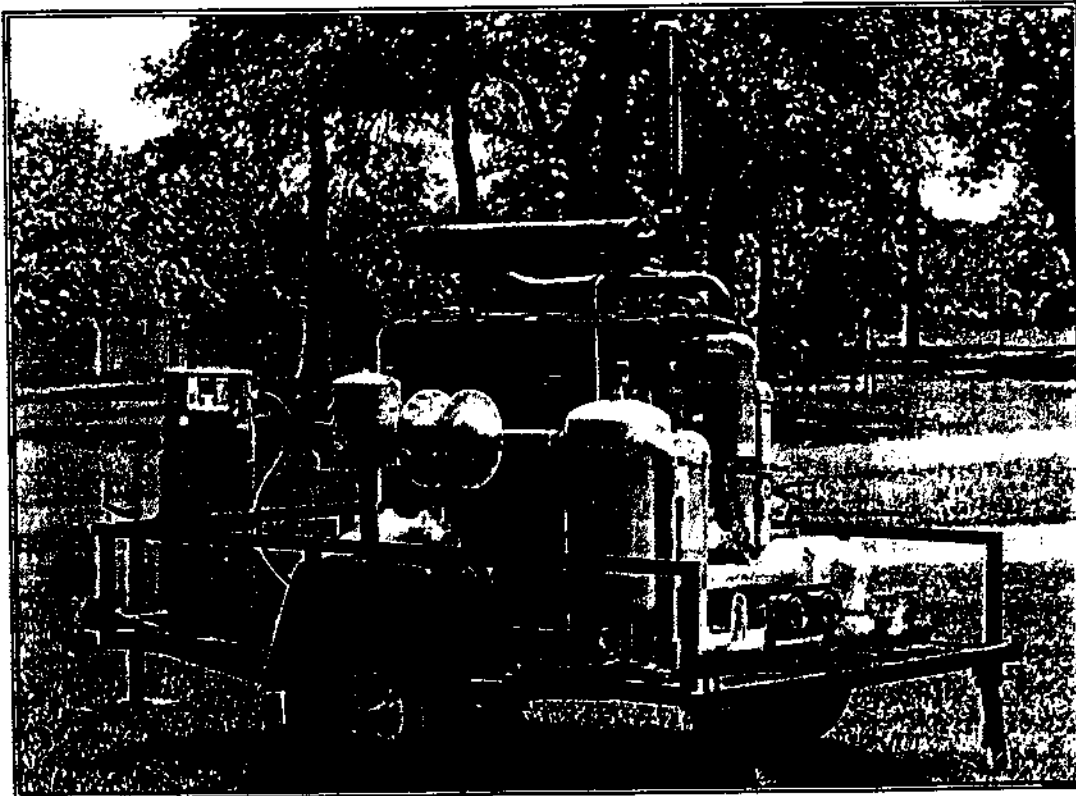
$$90 \text{ scfm} \times 43,200 \text{ mg/m}^3 = 14.55 \text{ lb/hr}$$

Introducing the

Vaportek USA

VAPOR RECOVERY ENGINE

for destruction of
Volatile Organic Compounds



Applications

The VaporTek vapor recovery engine is a mobile volatile organic compound (VOC) destruction unit. The VaporTek engine has a versatile design which can handle a variety of applications, including:

- Leaking underground storage tank remediation
- Organic contamination in soils
- Chemical tank cleaning

Theory of Operation

The VaporTek engine destroys organic compounds in the gas phase by thermal destruction. Organic vapors are converted into CO₂ and water at high temperatures. The energy released during combustion is used to drive the vacuum unit which in turn draws the VOC-laden gas into the VaporTek engine. Supplemental fuel is used to power the vacuum system whenever the VOC content of the gas is too lean to support the combustion process. This is accomplished automatically by means of an exhaust gas sensor with a feedback control loop which operates an auxiliary fuel valve. Auxiliary fuels include propane, natural gas, and diesel.

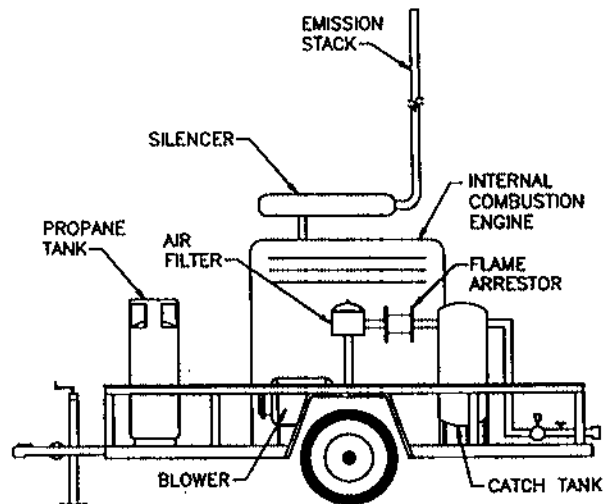
Automatic Operation

The VaporTek engine is designed to operate automatically in remote locations, unattended for several days at a time. It has built-in safety features for safe and efficient operation.

Environmentally Safe

The VaporTek engine removes VOCs from the contaminated gas and discharges inert, naturally occurring gasses. There are no waste by-products, no organically-laden carbon canisters, and no unburned by-products

in the emissions. In most states, no permits are required for the vapor recovery engine. The VaporTek engine is a low-profile system, designed for quiet, efficient operation.



Cost Effective

Because the VaporTek engine generates no waste by-products requiring disposal, and uses the organic vapors to derive its own power, it is the most cost-effective method yet developed to handle gas-phase VOCs.

Ease of Installation

The trailer-mounted VaporTek engine comes ready to operate. It contains its own supply of fuel and only needs to be connected to the vapor recovery well before it is ready to run.

Rent or Purchase

VaporTek USA provides both rental and purchase options to best suit the needs of the customer. Terms are available upon request.

**VaporTek USA
Vapor Recovery Engine
Model No. VAK-300
Equipment Specification**

Engine

Manufacturer	Ford	
Type	Industrial	
Displacement	4.9	Liter
Cylinders	6	
Maximum Continuous Speed	2,800	RPM
Recommended Operating Speed	1,200-1,800	RPM

Fuel Control

Fuels	LPG or Natural Gas	
Carburetor type	IMPCO 125	
Carburetor controls	Computerized Microprocessor	
Fuel System Analyzer	Carbon monoxide	
LPG Consumption Rate	2.0	gal/hour
Natural Gas Consumption Rate	200	cfh

Blower

Manufacturer	Roots/Dresser	
Type	Rotary	
Model	RAI-36	
Capacity	50-150	scfm
Vacuum	10-14	In.Hg

Accessories

LPG tank	10	gallon
----------	----	--------

Flame Arrester

Model No.	T-802-IL-CAC
Manufacturer	Enardo

Chassis

Maximum Towing Speed	55	mph
Maximum GVW	3,500	pounds
Actual dead weight	1,200	pounds

MODEL VAK-300 OPERATING INSTRUCTIONS INTRODUCTION

PURPOSE

The Vapor Extraction Unit is designed to remove hydrocarbons from contaminated soil. By means of extraction and combustion, this unit will remove, as well as dispose of, combustable contaminants. This process provides a simple, effective, cost efficient, and environmentally safe alternative to other means of disposal such as carbon absorption, atmospheric ventilation, and extensive excavations. Vapor extraction provides effective, efficient remediation with little or no interruption of normal daily routines.

OPERATION

The LP or CNG fueled engine powers a positive displacement blower which draws contaminated air from the recovery well. The vacuum created in the recovery well pulls air into perimeter air inlet wells, then through the contaminated soil, and into the recovery well. The air is then drawn through a liquid knock-out tank and a filter before reaching the blower. Upon leaving the blower, the air is forced through another filter before reaching the engine carburetor. The air containing hydrocarbons is drawn - or forced, as in supercharging - into the engine where it is burned by the internal combustion process. Propane or natural gas is added as necessary to maintain the proper air to fuel mixture ratio which is controlled by an oxygen sensor and a fuel control computer. The engine exhaust is passed through a catalytic converter which oxidizes hydrocarbons that were not burned in the internal combustion process.

MODEL VAK-300

OPERATING INSTRUCTIONS

STARTING

- I. Pre-Start Check
 - A. Visually check entire system
 - B. Check fluid level
 1. Motor Oil
 2. Coolant
 3. Fuel
 - C. Check throttle operation
 - D. Check fuel selector as required

- II. Turn on Fuel
 - A. Natural Gas
 - B. Open ball valve in natural gas inlet line
 - C. Ignition switch "ON"
 - D. Check inlet fuel pressure
 - E. Prime as required; wait 3 to 15 seconds before starting
 - F. LP Gas (Propane)
 - G. Open tank shut-off valve
 - H. Prime as required - primer is located on the propane converter - hold in while starting

- III. Open ambient air valve

- IV. Open throttle one turn (CCW) from fully closed

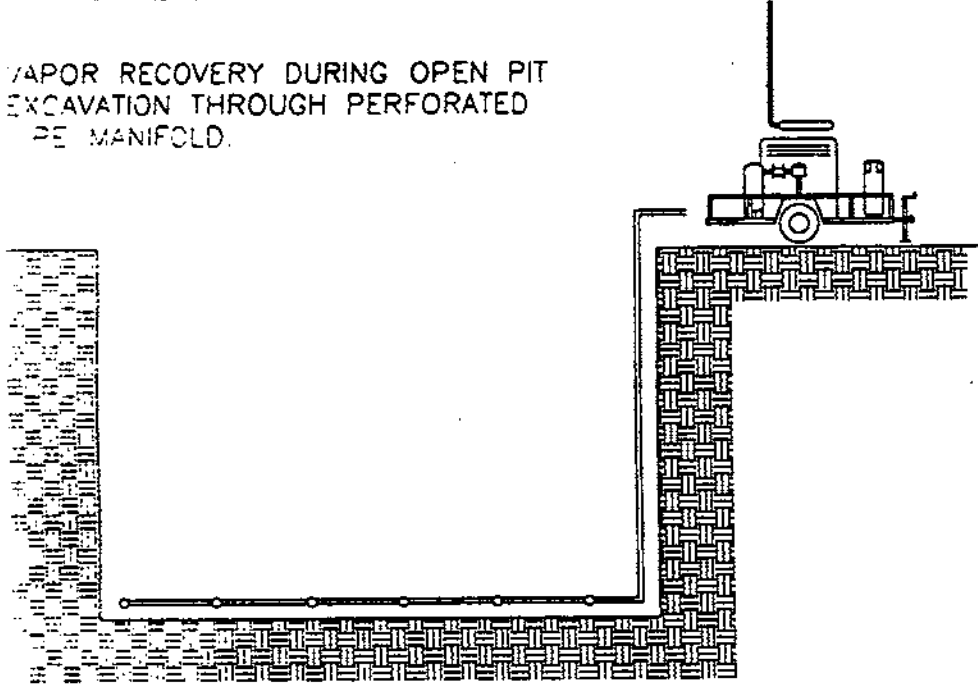
- V. Depress and hold oil pressure/ignition override button

- VI. Turn key to engage starter; release when engine starts

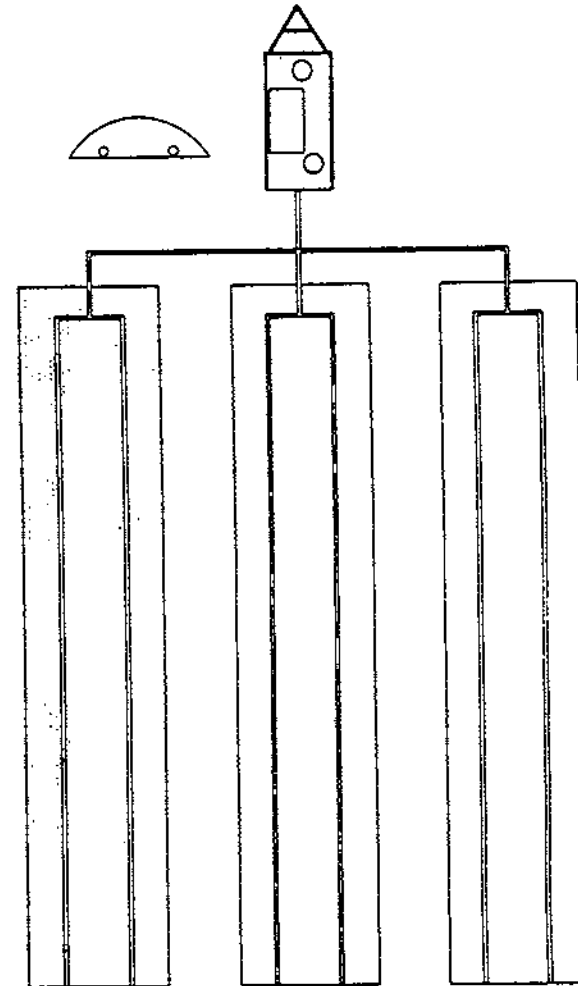
- VII. After the engine starts, release the oil pressure/ignition override button
(NOTE: Should the engine stop for any reason, the electrical system is disconnected)

- VIII. Adjust throttle to 1,100 RPM and maintain until operating temperature is reached.

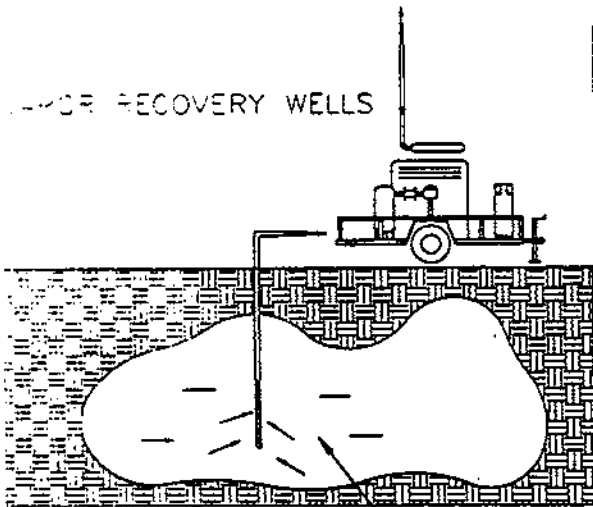
VAPOR RECOVERY DURING OPEN PIT
EXCAVATION THROUGH PERFORATED
PIPE MANIFOLD.



VAPOR RECOVERY OF CONTAMINATED STOCKPILE
PLACED ON PERFORATED PIPE MANIFOLDS



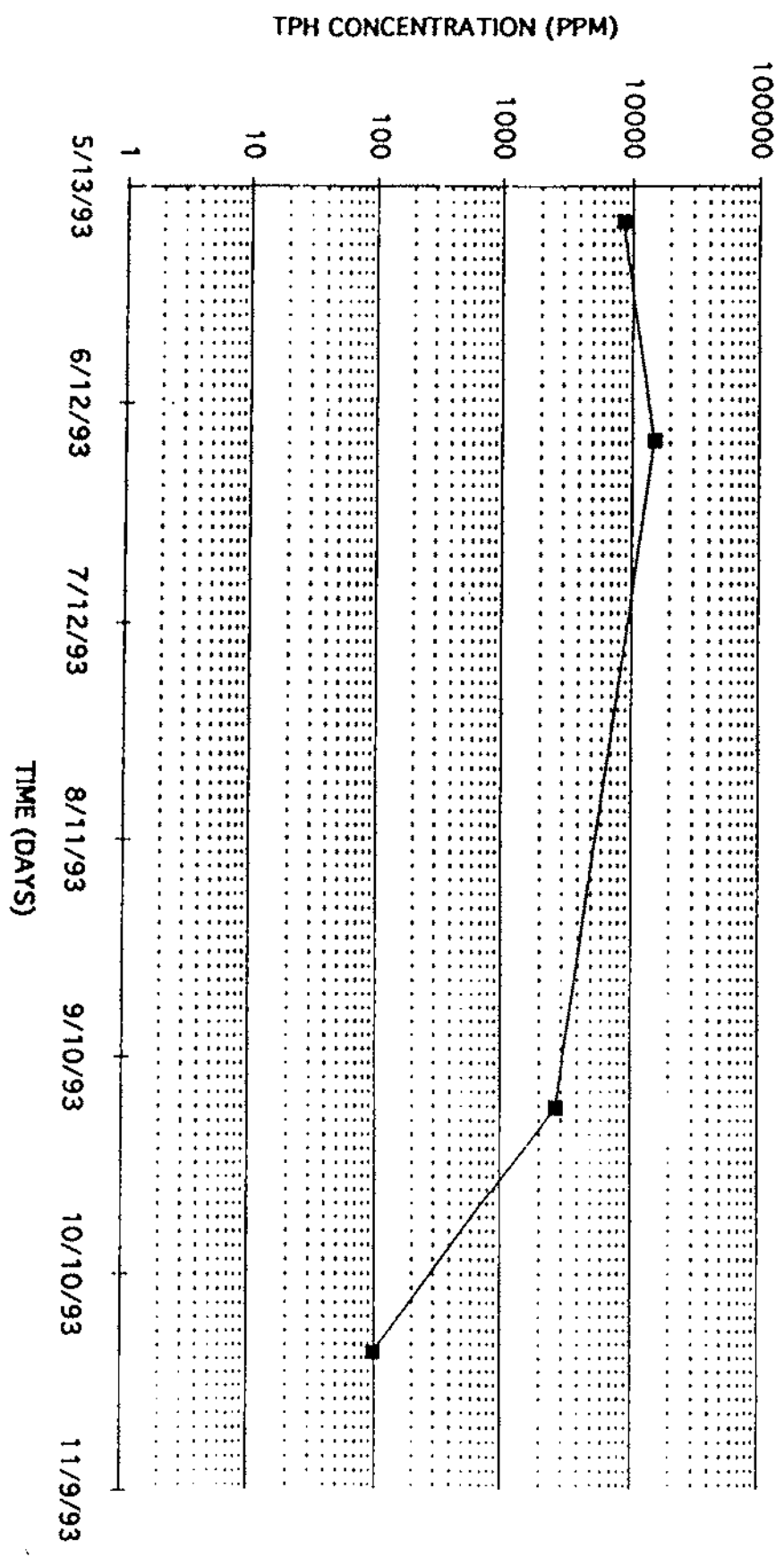
VAPOR RECOVERY WELLS



VAPOR RECOVERY ENGINE
DESTROYS 99.9% OF RECOVERED
VOLATILE ORGANIC COMPOUNDS

CONTAMINATED
PLUME

TPH IN SOIL (ppm)



TENNECO #116-08 VAPOR RECOVERY ENGINE INSTALLATION
 4400 N. FEDERAL HIGHWAY, FT. LAUDERDALE, FLORIDA
 AUGUST 28-29, 1990 TEST RESULTS

	RUN #6 VRW-4	RUN #7 VRW-5	RUN #8 VRW-6	RUN #9 VRW-7	RUN #10 VRW-8					
DATE	8/28/90	8/29/90	8/29/90	8/29/90	8/29/90					
ENGINE TIME (TOTAL HOURS)	1549.1	1561.6	1562.3	1562.8	1563.3					
ENGINE SPEED (RPM)	1200	1500	1400	1500	1500					
MANIFOLD INLET FLOW (SCFM)	15	25	26	25	25					
VACUUM (INCHES OF WATER)	20	18	20	19	20					
INFLUENT & EFFLUENT CONCENTRATIONS (mg/m ³)										
	<u>INF</u> <u>EFF</u>		<u>INF</u> <u>EFF</u>		<u>INF</u> <u>EFF</u>		<u>INF</u> <u>EFF</u>		<u>INF</u> <u>EFF</u>	
BENZENE	9.46	<0.01	7.01	<0.01	6.50	<0.01	1.82	<0.01	<0.01	<0.01
TOLUENE	6.55	<0.01	1.25	<0.01	1.57	<0.01	2.13	<0.01	<0.01	<0.01
ETHYLBENZENE	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
XYLENE	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
TOTAL BTEX	16.01	<0.01	8.26	<0.01	8.07	<0.01	3.95	<0.01	<0.01	<0.01
DESTRUCTION RATE (%)										
BENZENE	>99.89		>99.86		>99.85		>99.45		-----	
TOLUENE	>99.85		>99.20		>99.36		>99.53		-----	
ETHYLBENZENE	-----		-----		-----		-----		-----	
XYLENE	-----		-----		-----		-----		-----	
TOTAL BTEX	>99.94		>99.88		>99.88		>99.75		-----	

For Further Information, contact:

VaporTek USA

Crystal Park Plaza, 2700 East Bypass, Suite 4600
College Station, Texas 77845
(800)444-7640 • (409)764-7640 • Fax: (409)693-6729

Expectations

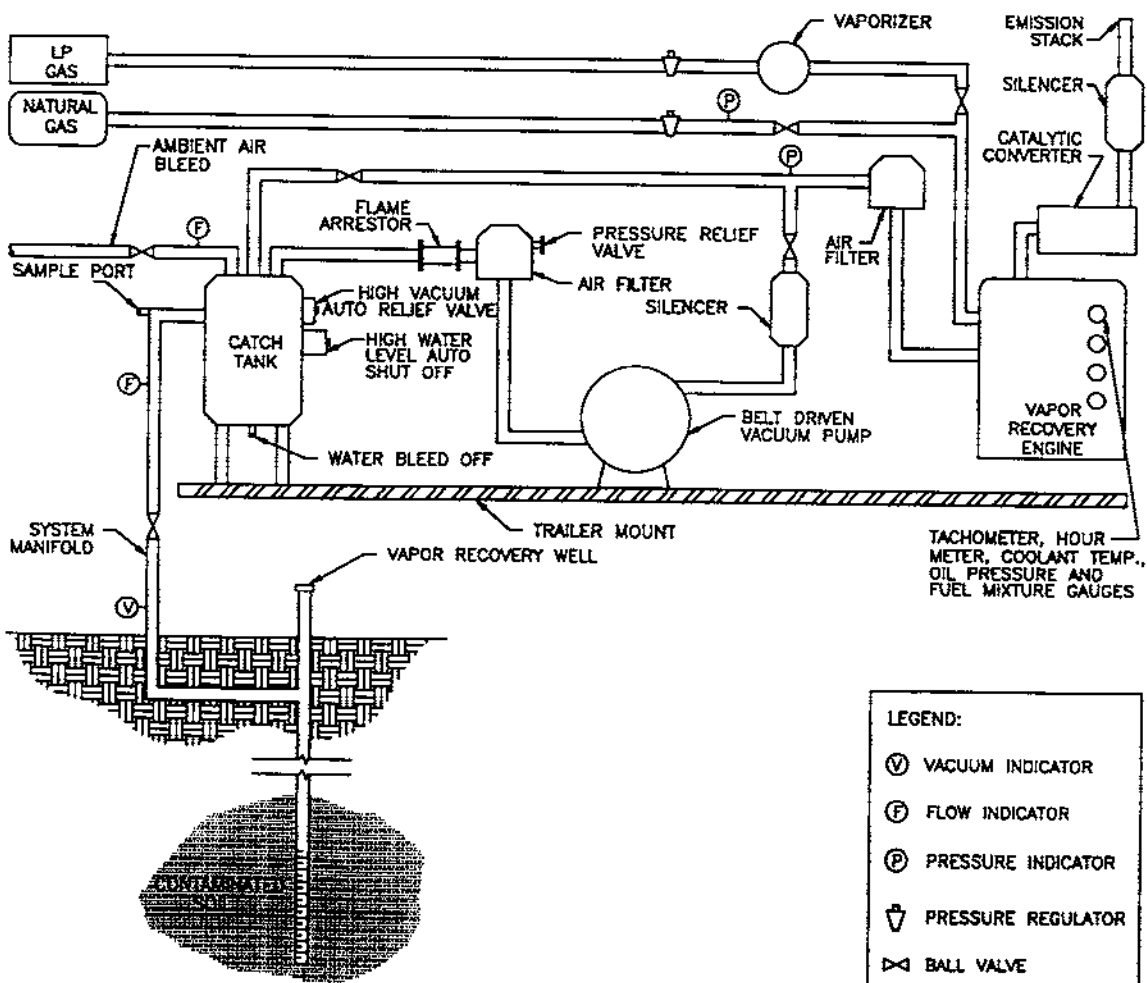
The VaporTek engine user can expect:

- Low operating expense
- Low maintenance costs
- Minimal startup and installation costs
- Regulatory compliance
- User-friendliness
- No sidestreams or external wastes requiring disposal

Options

The VaporTek engine can be equipped with special options that can be added as required by the user:

- Remote alarms
- Recorders, timers, and dataloggers
- Additional options available upon request



Schematic of the VaporTek System

Sanitary Sewer

Technicenter Drive

Subsurface Natural Gas Supply Line

Playscape

Norman Elementary School

Federal Express Office Area

Federal Express Shipment Area

Asphalt Pavement

MW-11
529.44

MW-4
529.29

MW-5
529.22

MW-2
529.43

MW-6
529.10
0.05

MW-3
529.30

MW-9
529.67

MW-1
529.65

MW-8
529.27

Asphalt Play Area

Portable School Buildings

Recovery Compound

Briggs-Weaver

MW-10
529.54

MW-7
529.29

Playground

LEGEND



Monitoring Well Locations

530.70

Groundwater Elevation (Ft. MSL)

0.05

NAPL Thickness (Ft.)

—530—

Groundwater Elevation Contour (Ft. MSL)

SCALE-FEET



0 60 120 240



Terracon

Groundwater Elevation Map

(4/29/05)

Federal Express
Austin, Texas

Terracon Project No. 96007145

FEDERAL EXPRESS CORPORATION FLUID GAUGING DATA SUMMARY
 5811 Technicenter Drive, Austin, TX
 LPST # 111747

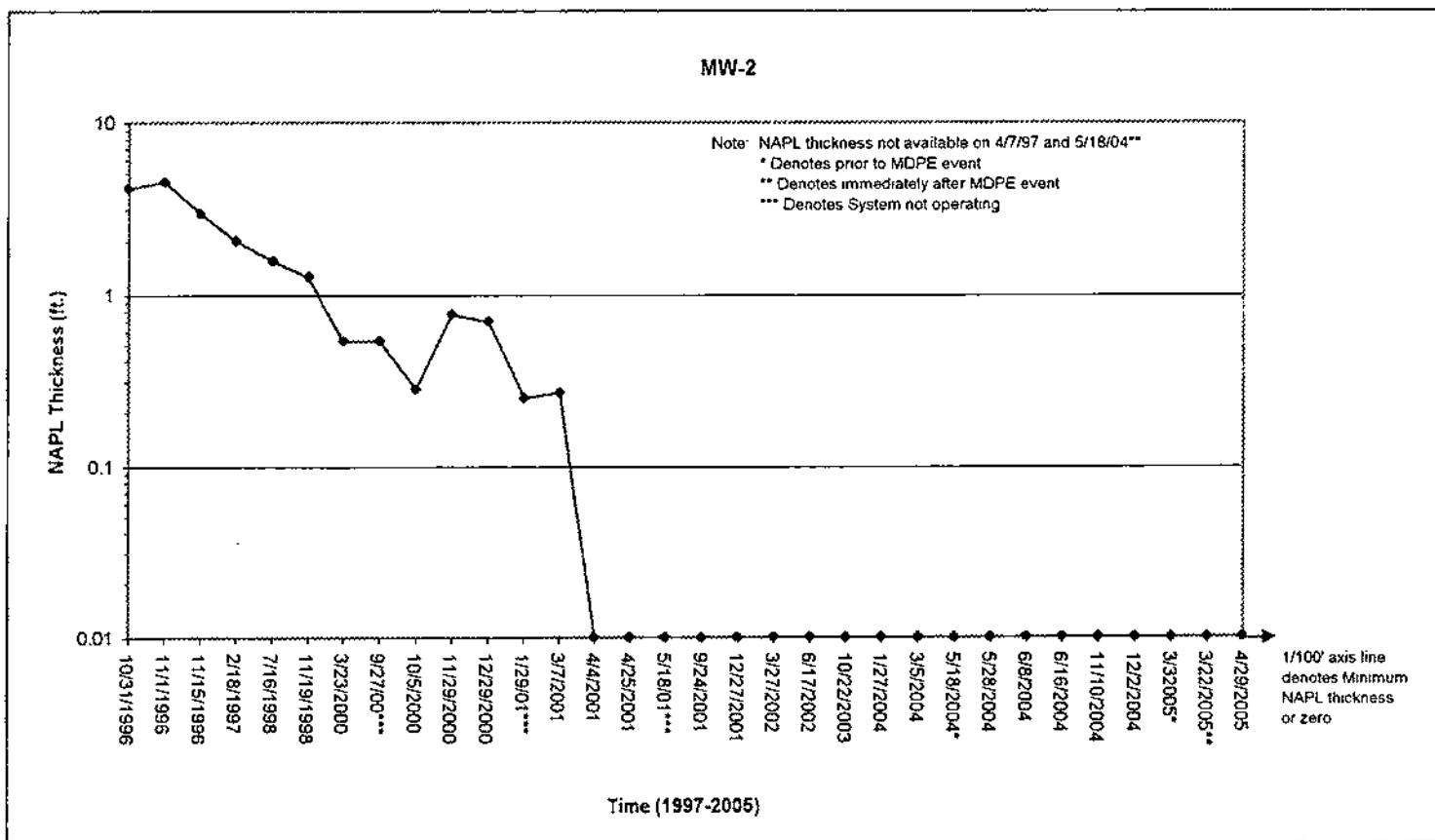
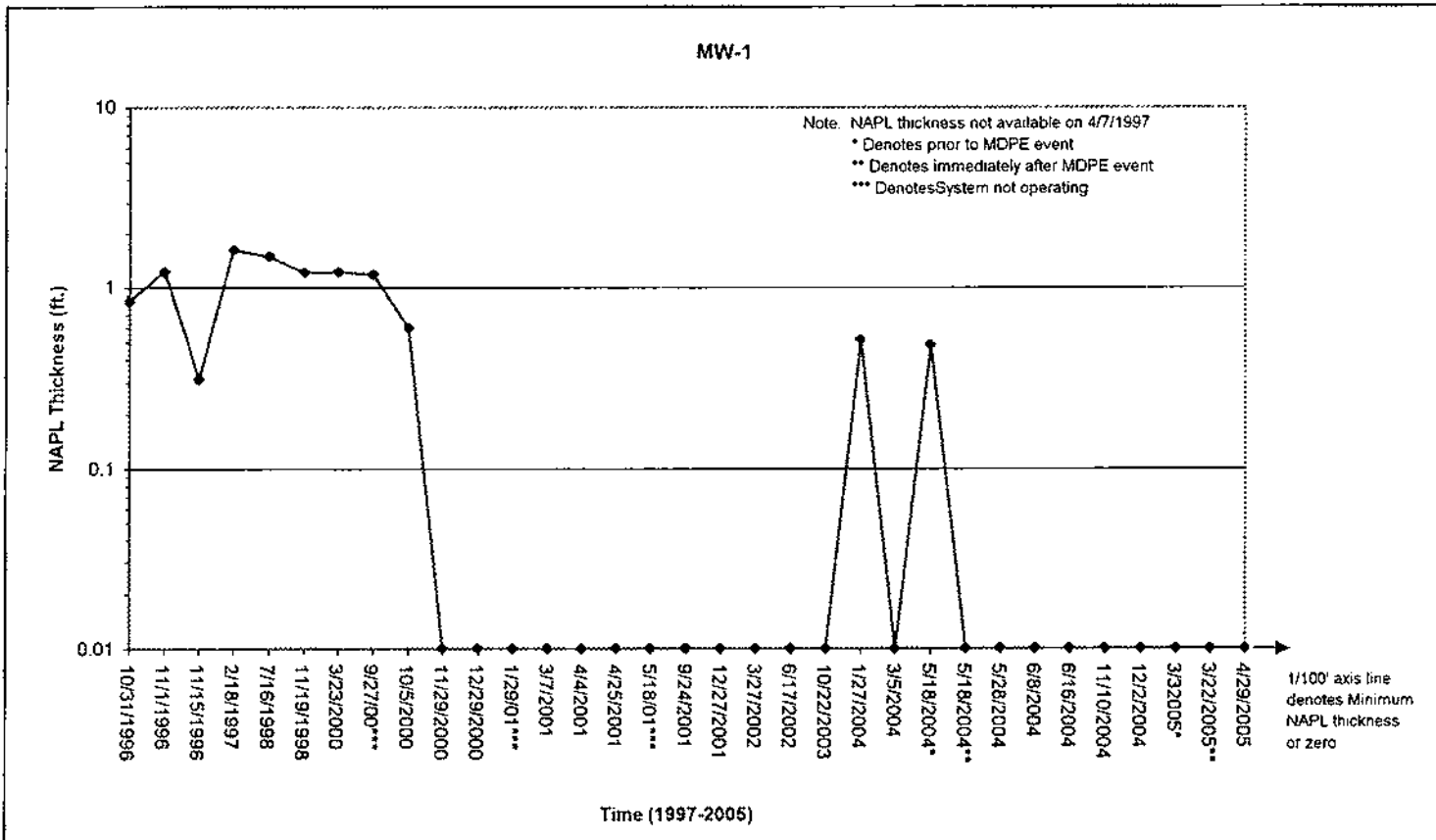
NAPL Thickness



DATE	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8	MW-9	MW-10	MW-11
10/31/1996	0.83	4.05	0.01	NA	NA	NA	NA	NA	NA	NA	NA
11/1/1996	1.21	4.44	NA	NA	NA	NA	NA	NA	NA	NA	NA
11/15/1996	0.31	2.86	0.01	NA	NA	NA	NA	NA	NA	NA	NA
2/18/1997	1.61	2.02	0.01	0.01	0.01	2.4	0.01	0.01	NA	NA	NA
4/7/1997	NA	NA	0.01	0.01	0.01	NA	0.01	0.01	0.01	0.01	0.01
7/16/1998	1.48	1.57	0.81	0.44	0.39	4.58	0.01	0.01	0.01	0.01	0.01
11/19/1998	1.2	1.28	0.63	0.21	0.18	4.32	0.01	0.01	0.01	0.01	0.01
3/23/2000	1.21	0.53	0.05	0.58	0.24	1.84	0.01	0.01	0.01	0.01	0.01
9/27/00***	1.17	0.53	0.02	0.79	0.46	1.94	0.01	0.01	0.01	0.01	0.01
10/5/2000	0.59	0.27	0.02	0.81	0.34	0.87	0.01	0.01	0.01	0.01	0.01
11/29/2000	0.01	0.77	0.01	0.01	0.56	0.01	0.01	0.01	0.01	0.01	0.01
12/29/2000	0.01	0.7	0.01	0.01	0.53	0.44	0.01	0.01	0.01	0.01	0.01
1/29/01***	0.01	0.24	0.01	0.01	0.01	0.28	0.01	0.01	0.01	0.01	0.01
3/7/2001	0.01	0.26	0.01	0.01	0.85	0.27	0.01	0.01	0.01	0.01	0.01
4/4/2001	0.01	0.01	0.01	0.01	0.55	0.24	0.01	0.01	0.01	0.01	0.01
4/25/2001	0.01	0.01	0.01	0.01	0.45	0.2	0.01	0.01	0.01	0.01	0.01
5/18/01***	0.01	0.01	0.01	0.01	0.39	0.14	0.01	0.01	0.01	0.01	0.01
9/24/2001	0.01	0.01	0.01	0.01	0.05	0.15	0.01	0.01	0.01	0.01	0.01
12/27/2001	0.01	0.01	0.01	0.01	0.01	0.08	0.01	0.01	0.01	0.01	0.01
3/27/2002	0.01	0.01	0.01	0.01	0.01	0.06	0.01	0.01	0.01	0.01	0.01
6/17/2002	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
10/22/2003	0.01	0.01	0.01	0.01	0.02	0.02	0.01	0.01	0.01	0.01	0.01
1/27/2004	0.51	0.01	0.01	0.01	0.12	1.51	0.01	0.01	0.01	0.01	0.01
3/5/2004	0.01	0.01	NA	NA	0.01	0.09	NA	NA	NA	NA	NA
5/18/2004*	0.48	0.01	0.01	0.01	0.39	0.14	0.01	0.01	0.01	0.01	0.01
5/18/2004**	0.01	NA	0.01	NA	0.01	0.01	NA	NA	NA	NA	NA
5/28/2004	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
6/8/2004	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
6/16/2004	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
11/10/2004	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
12/2/2004	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
3/3/2005*	0.01	0.01	0.01	0.01	0.01	0.34	0.01	0.01	0.01	0.01	0.01
3/22/2005**	0.01	0.01	0.01	0.01	0.01	0.05	0.01	0.01	0.01	0.01	0.01
4/29/2005	0.01	0.01	0.01	0.01	0.01	0.05	0.01	0.01	0.01	0.01	0.01

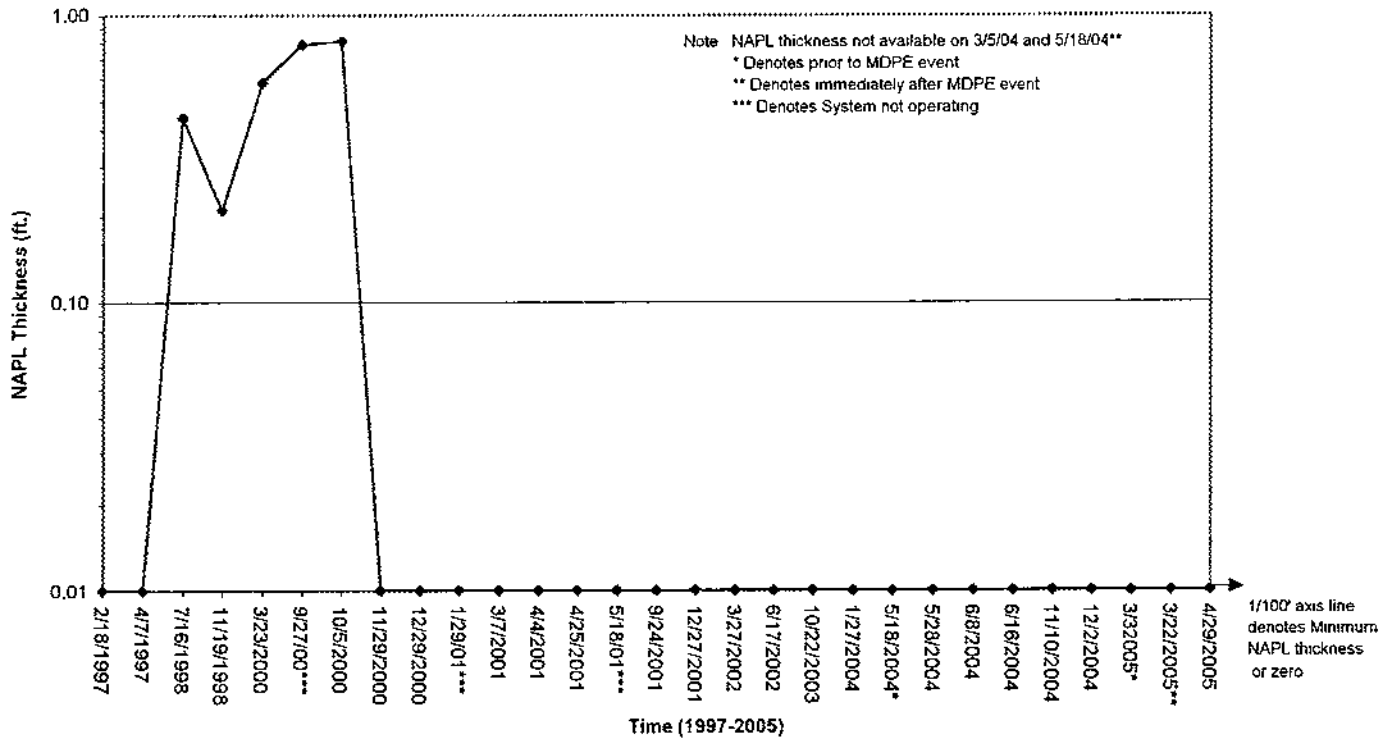
Notes:

- 1) All measurements in feet
- 2) NAPL-non-aqueous phase liquid thickness
- 3) NA-no reading collected
- 4) * Denotes prior to MDPE event
- 5) ** Denotes immediately after MDPE event
- 6) ***-System not operating
- 7) Bold denotes NAPL thickness exceeds 1/10'
- 8) 0.01' denotes minimum NAPL thickness or zero

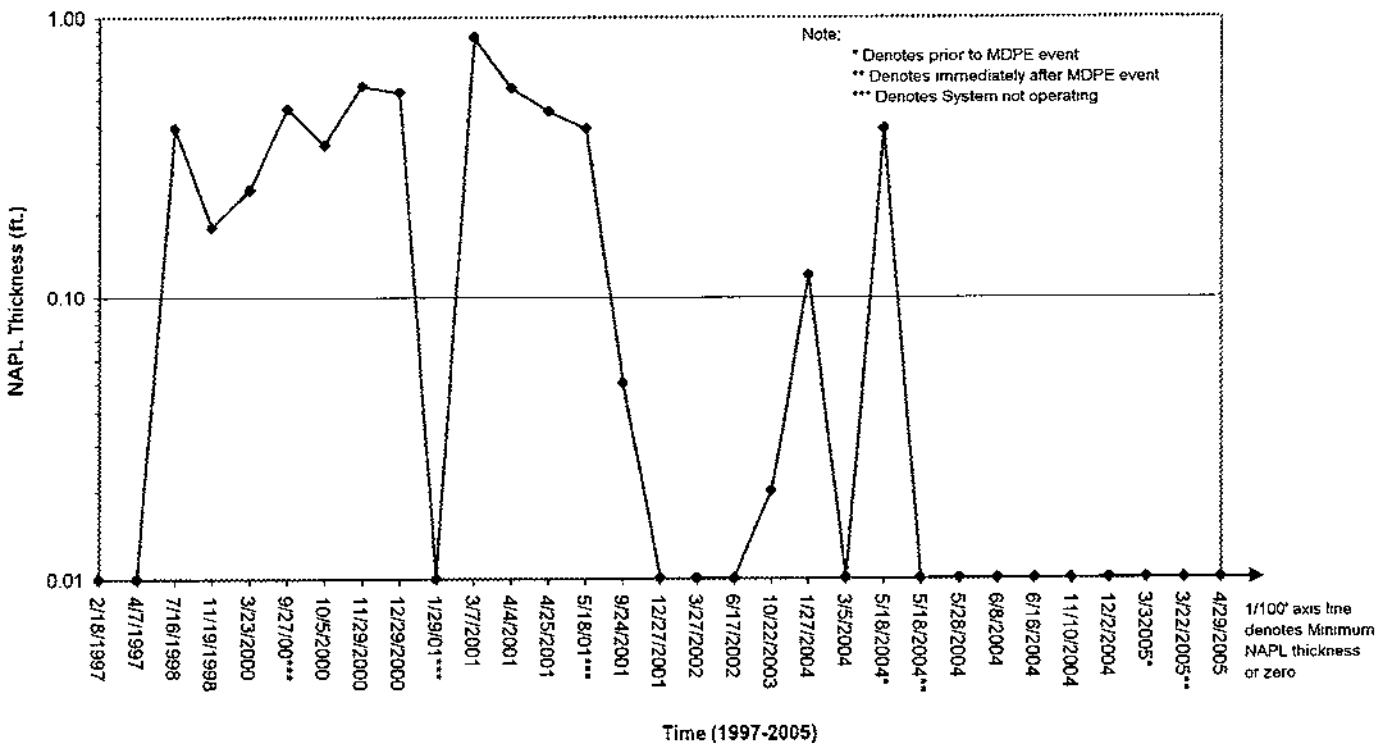


FLUID GAUGING DATA SUMMARY
 NAPL Thickness

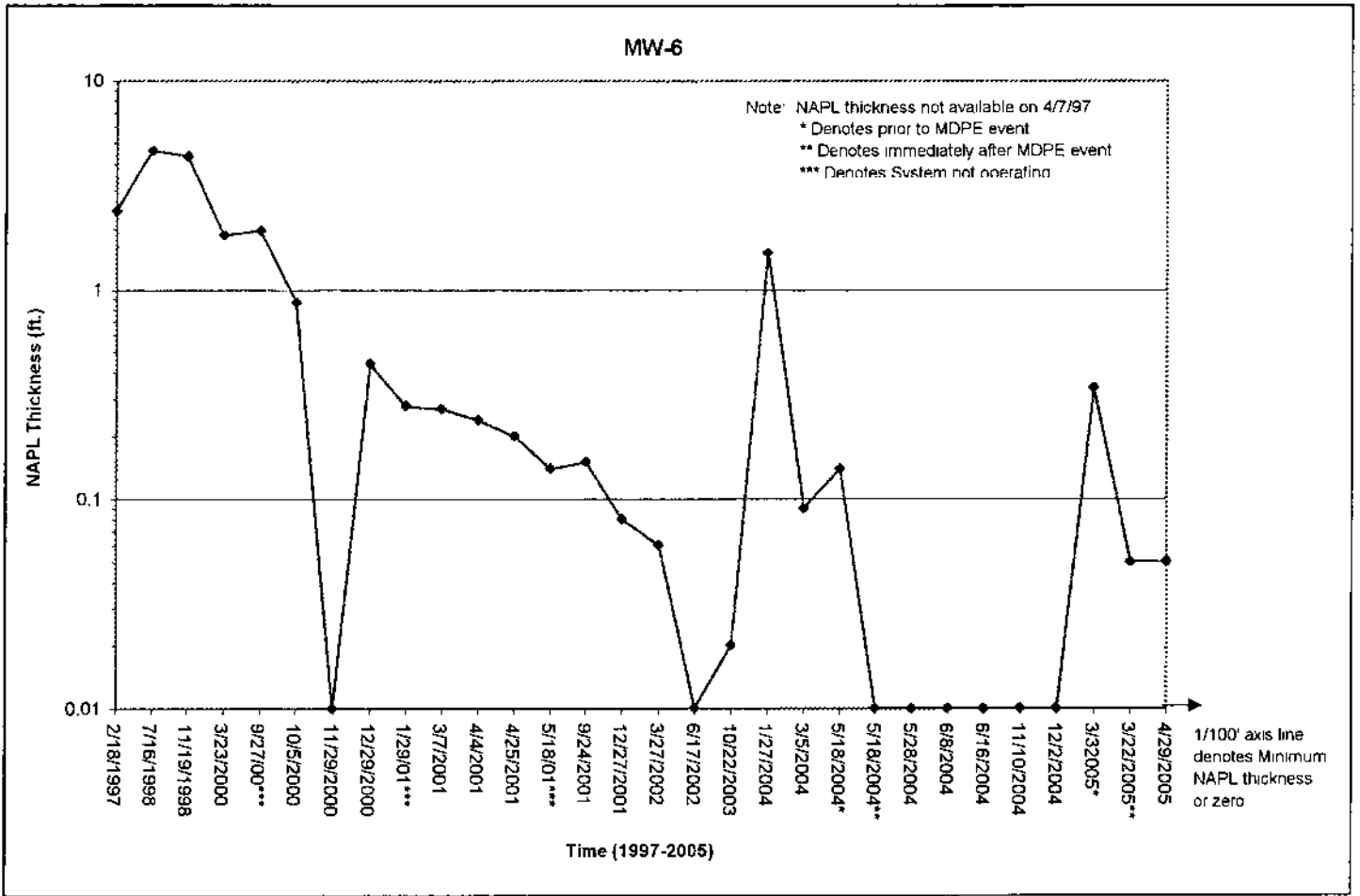
MW-4



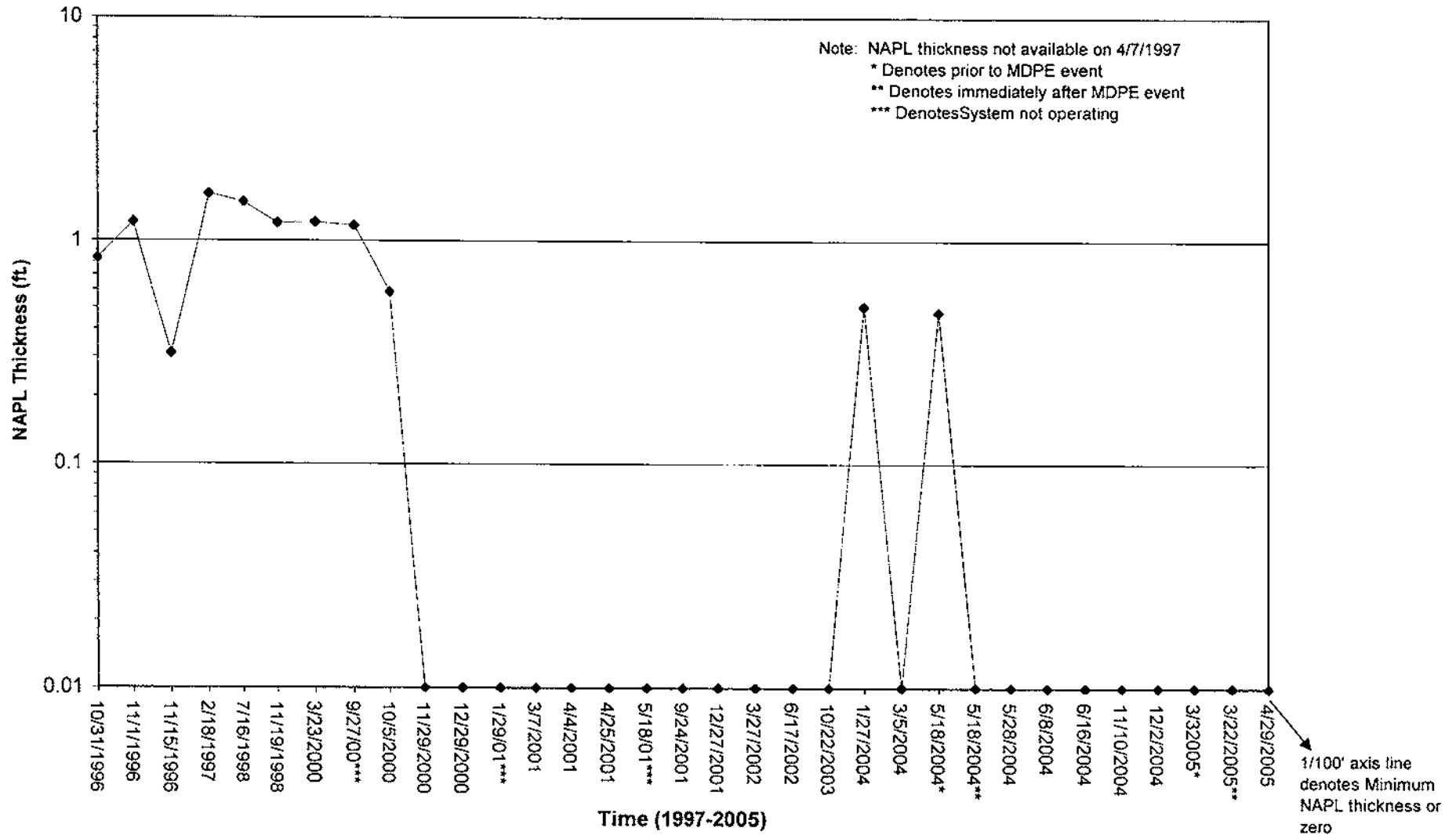
MW-5



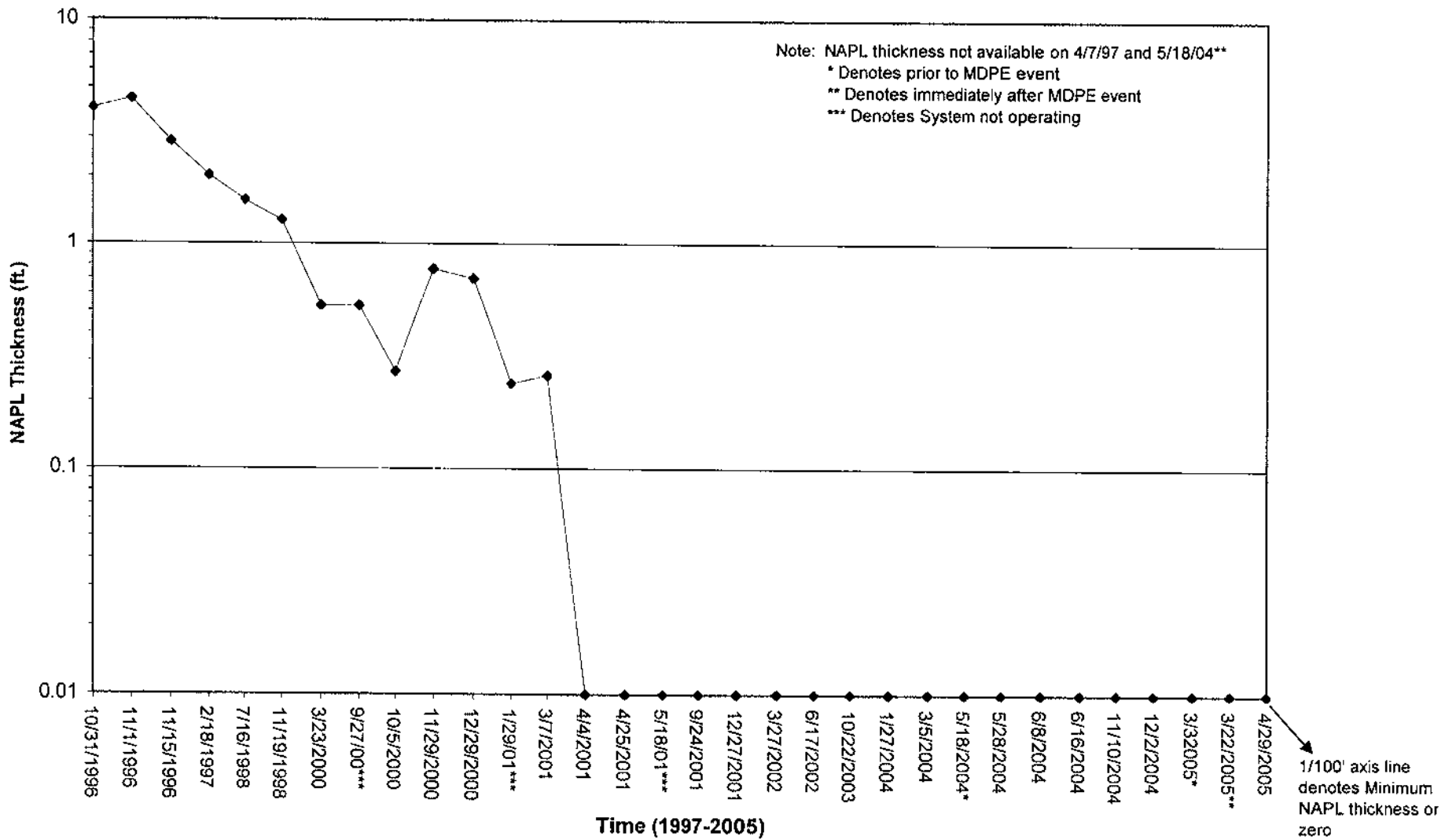
FLUID GAUGING DATA SUMMARY
 NAPL Thickness



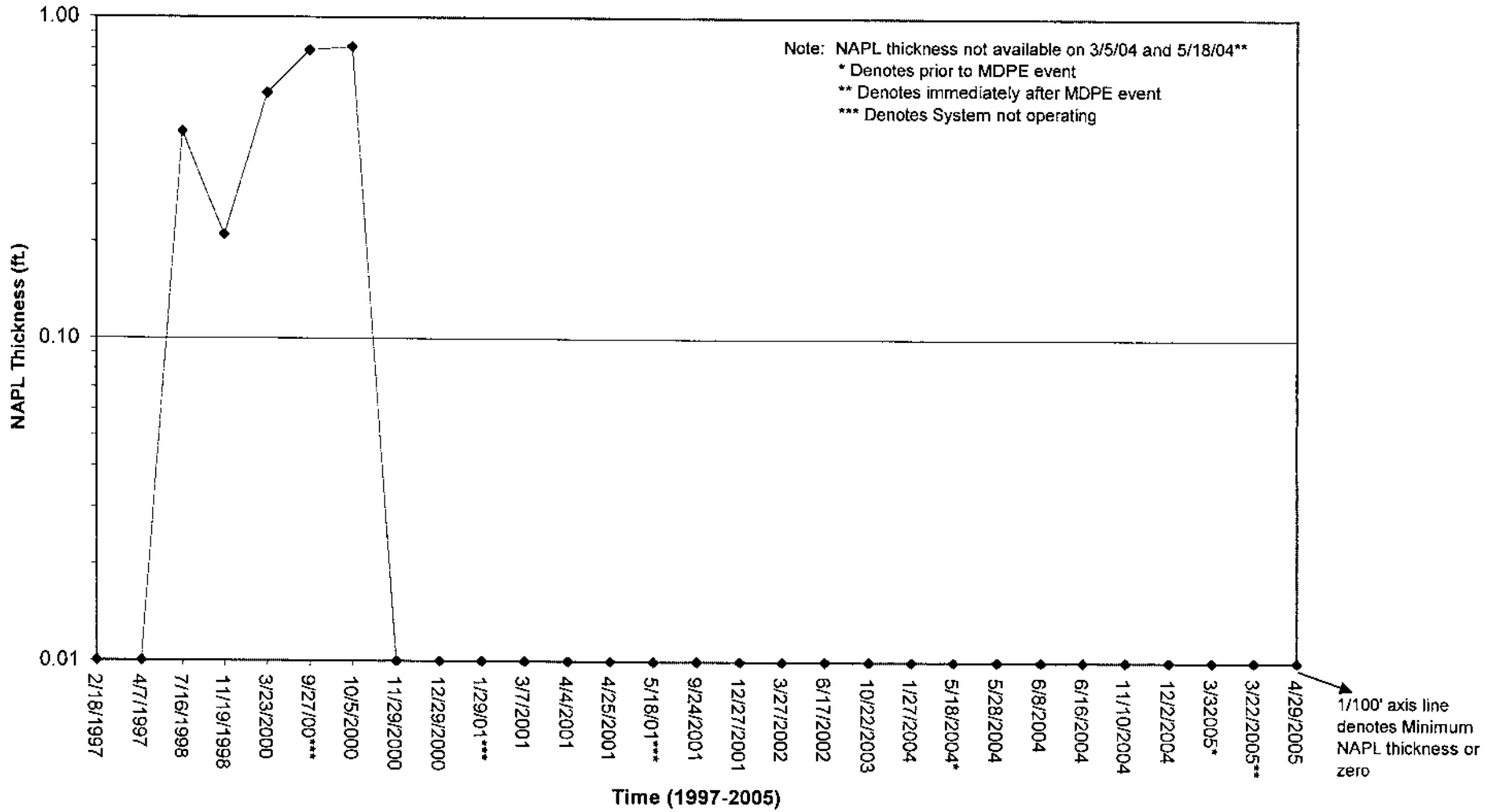
Federal Express Corporation
 5811 Technicenter Drive, Austin, TX
 Terracon Project No. 96007145
 MW-1 - NAPL Thickness (ft.) vs. Time



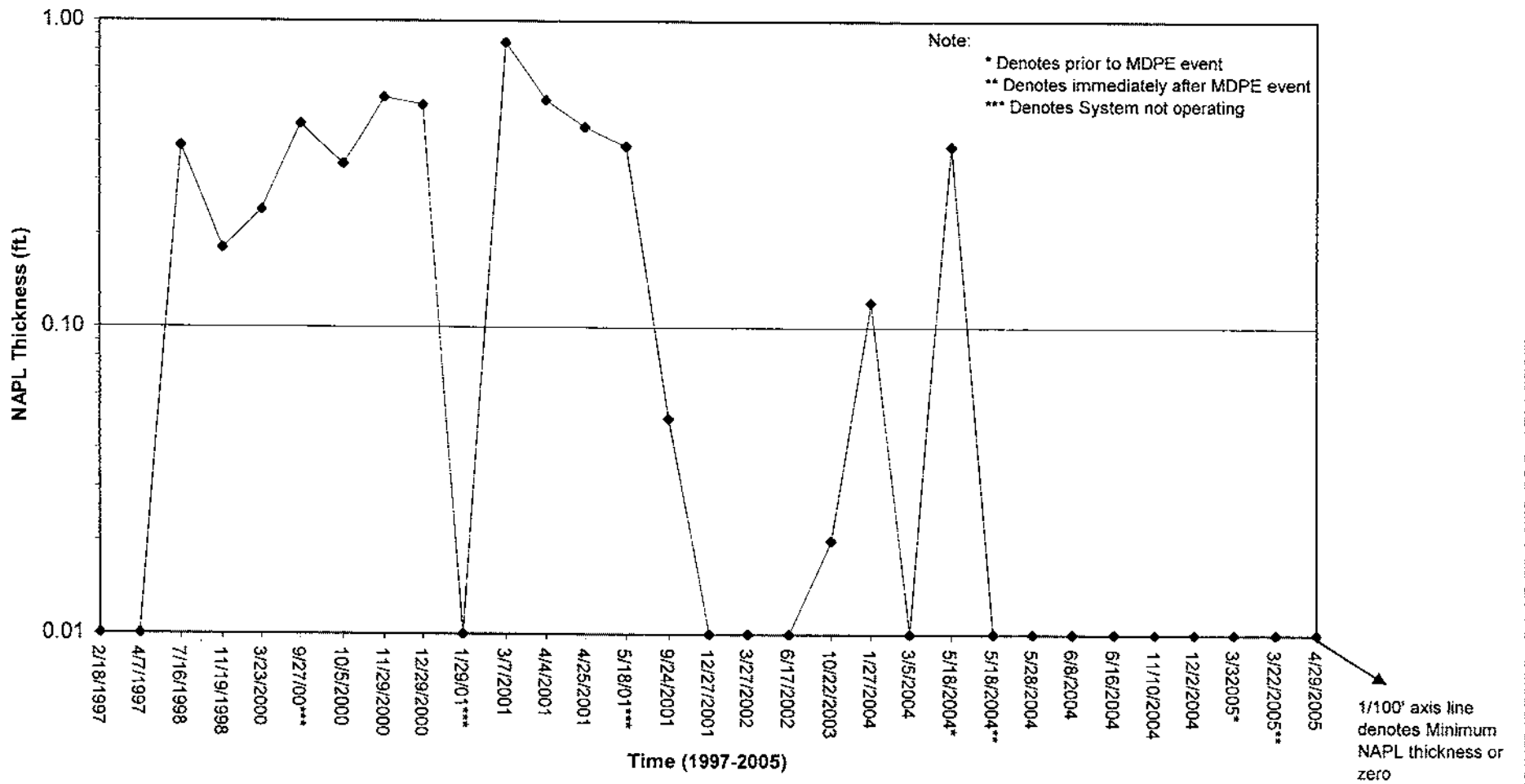
Federal Express Corporation
 5811 Technicenter Drive, Austin, TX
 Terracon Project No. 96007145
 MW-2 - NAPL Thickness (ft.) vs. Time



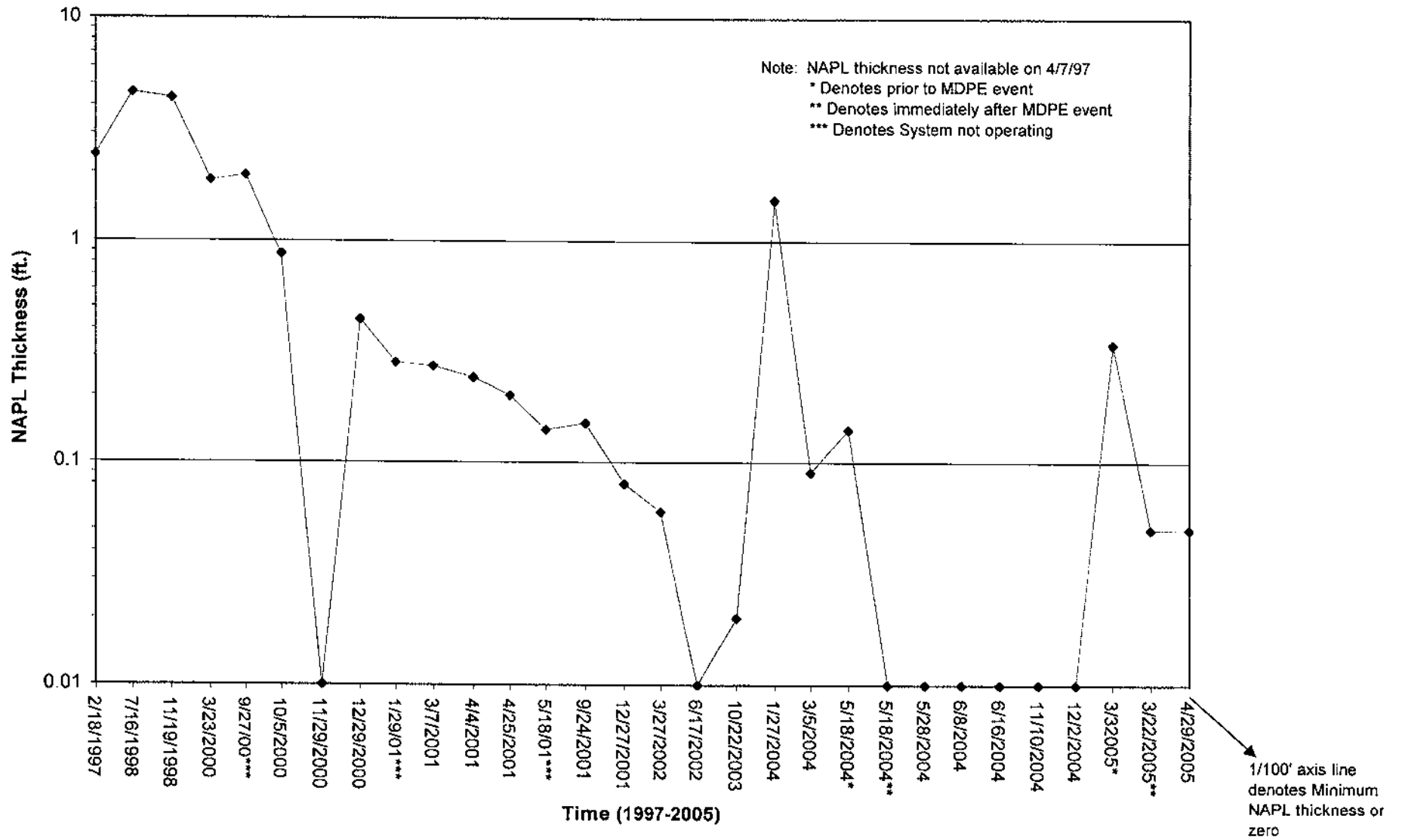
Federal Express Corporation
 5811 Technicenter Drive, Austin, TX
 Terracon Project No. 96007145
 MW-4 - NAPL Thickness (ft.) vs. Time



Federal Express Corporation
 5811 Technicenter Drive, Austin, TX
 Terracon Project No. 96007145
 MW-5 - NAPL Thickness (ft.) vs. Time

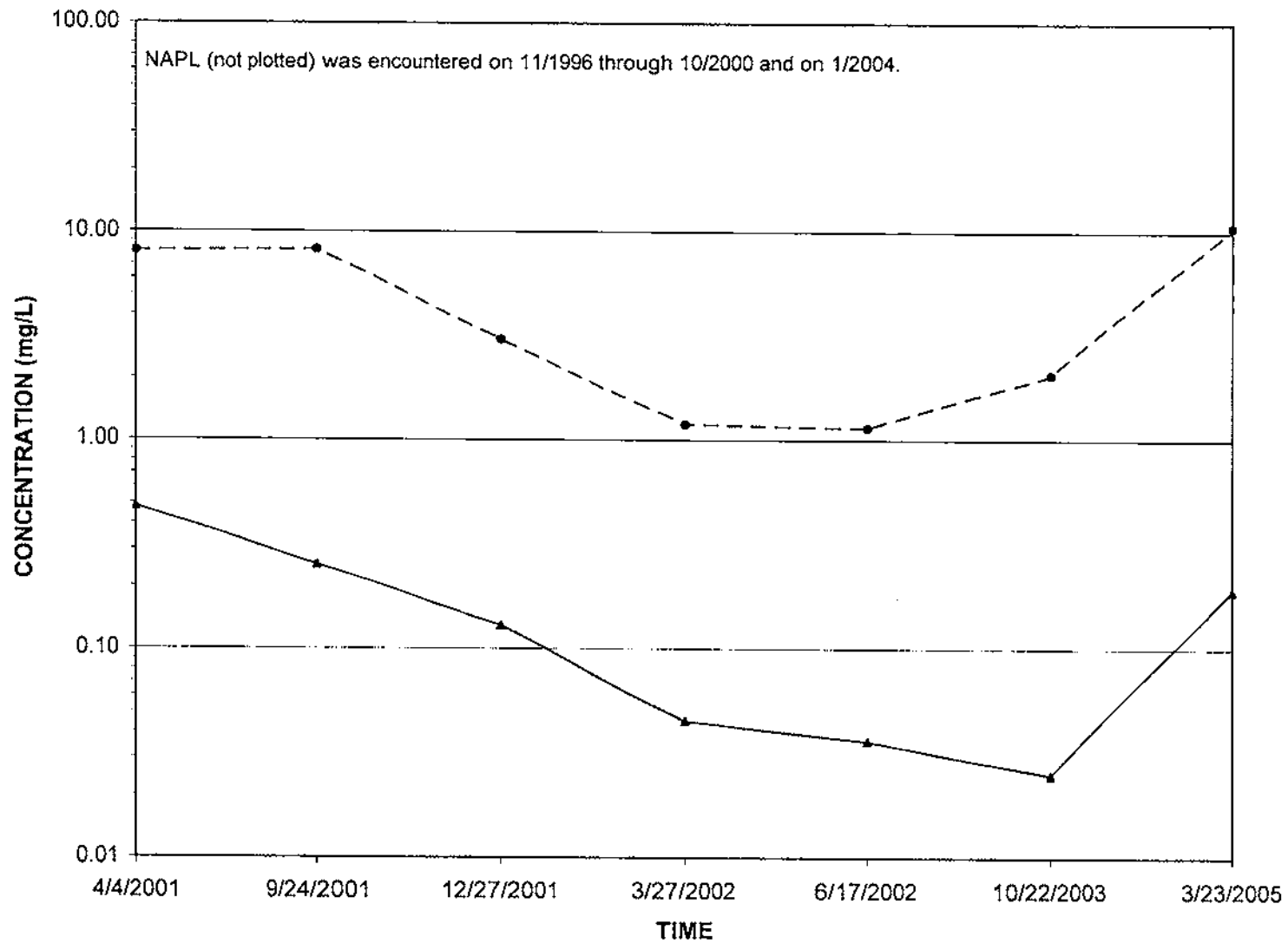


Federal Express Corporation
 5811 Technicenter Drive, Austin, TX
 Terracon Project No. 96007145
 MW-6 - NAPL Thickness (ft.) vs. Time



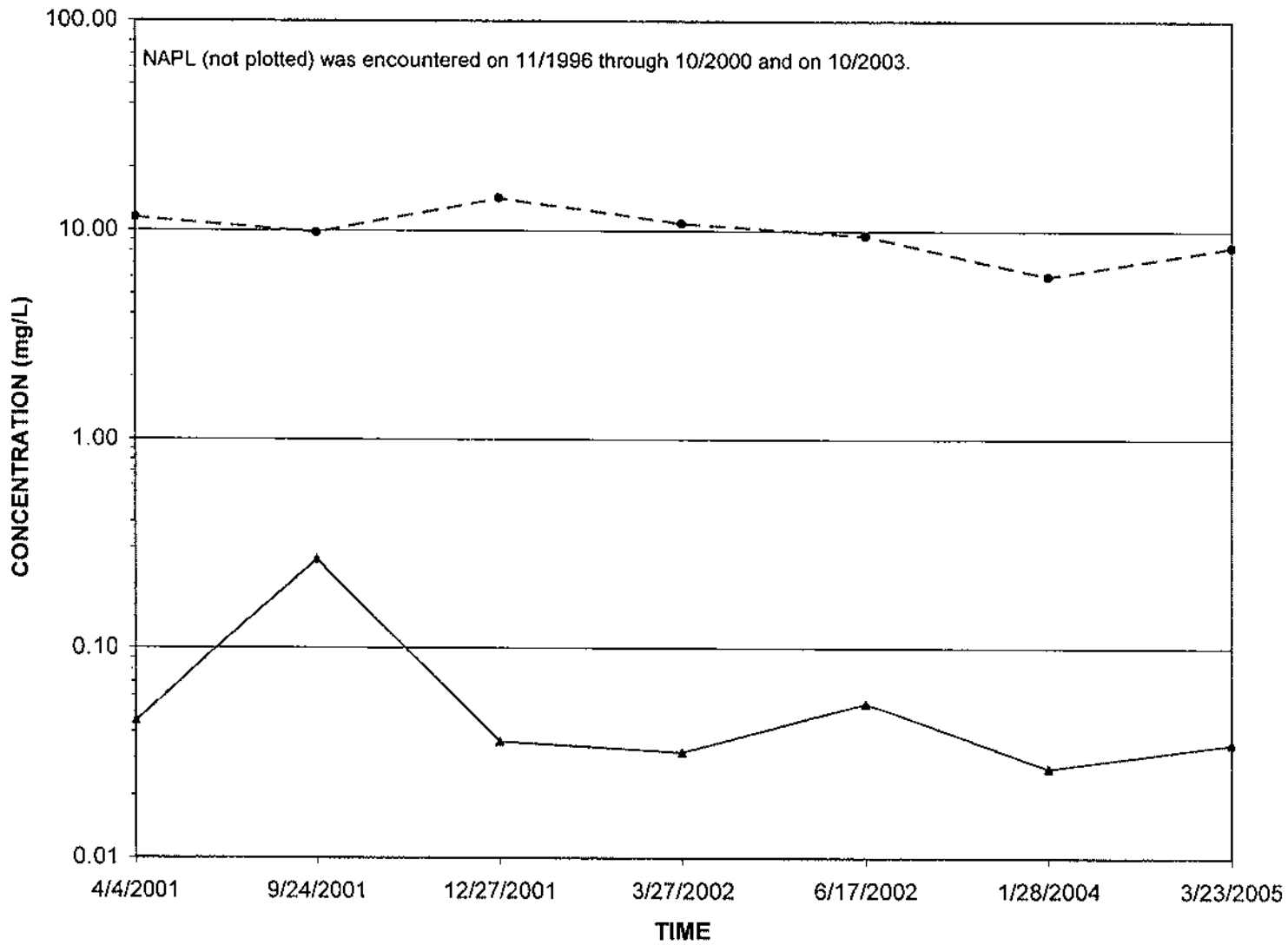
Federal Express Corporation
5811 Technicenter Drive, Austin, TX
Terracon Project No. 96007145
MW-1 - Total BTEX/MTBE vs. Time

---●--- Total BTEX/MTBE
—●— Benzene

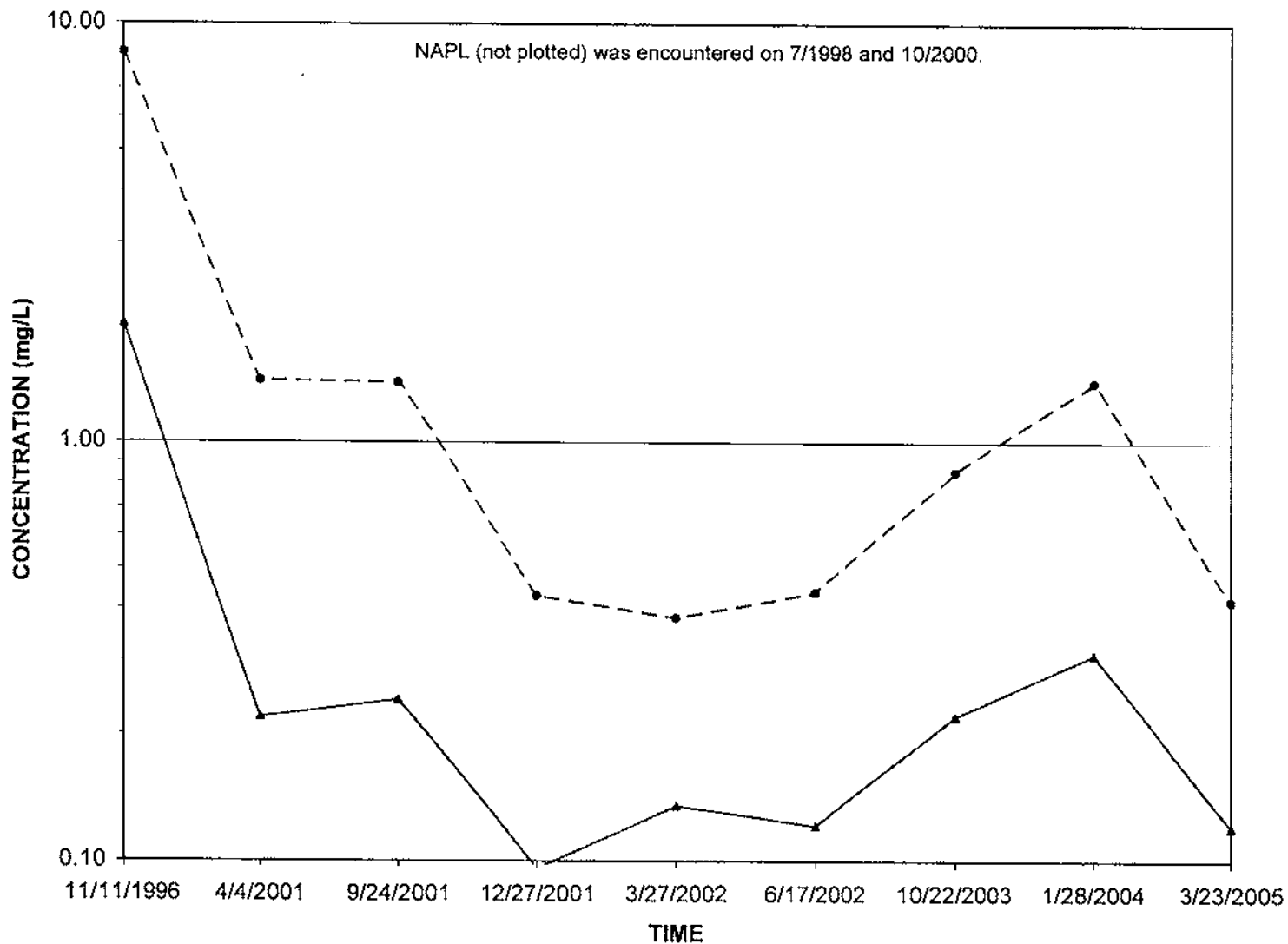
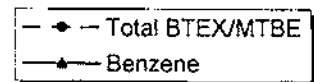


Federal Express Corporation
5811 Technicenter Drive, Austin, TX
Terracon Project No. 96007145
MW-2 - Total BTEX/MTBE vs. Time

---●--- Total BTEX/MTBE
---▲--- Benzene

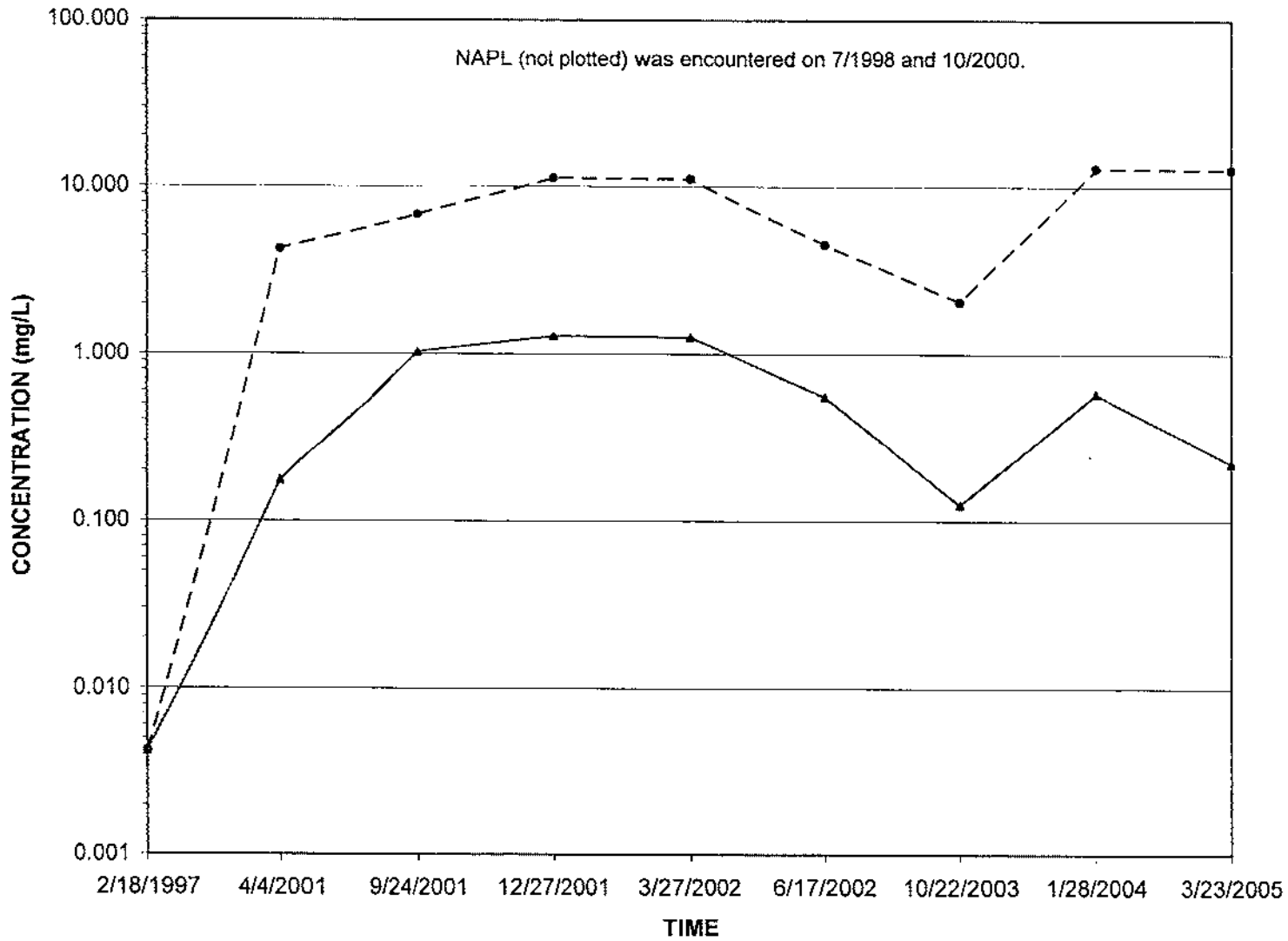


Federal Express Corporation
5811 Technicenter Drive, Austin, TX
Terracon Project No. 96007145
MW-3 - Total BTEX/MTBE vs. Time

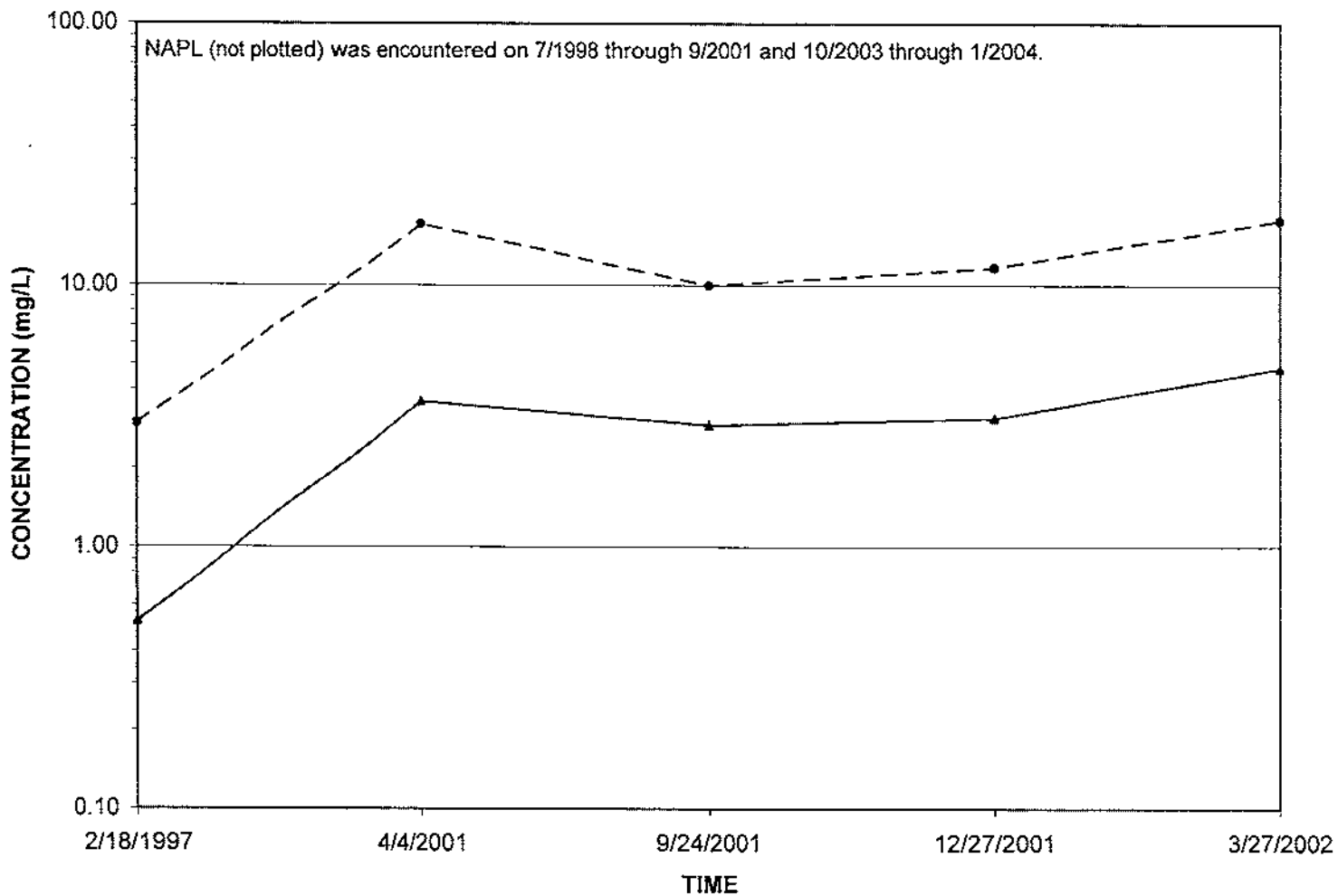
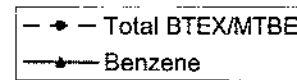


Federal Express Corporation
5811 Technicenter Drive, Austin, TX
Terracon Project No. 96007145
MW-4 - Total BTEX/MTBE vs. Time

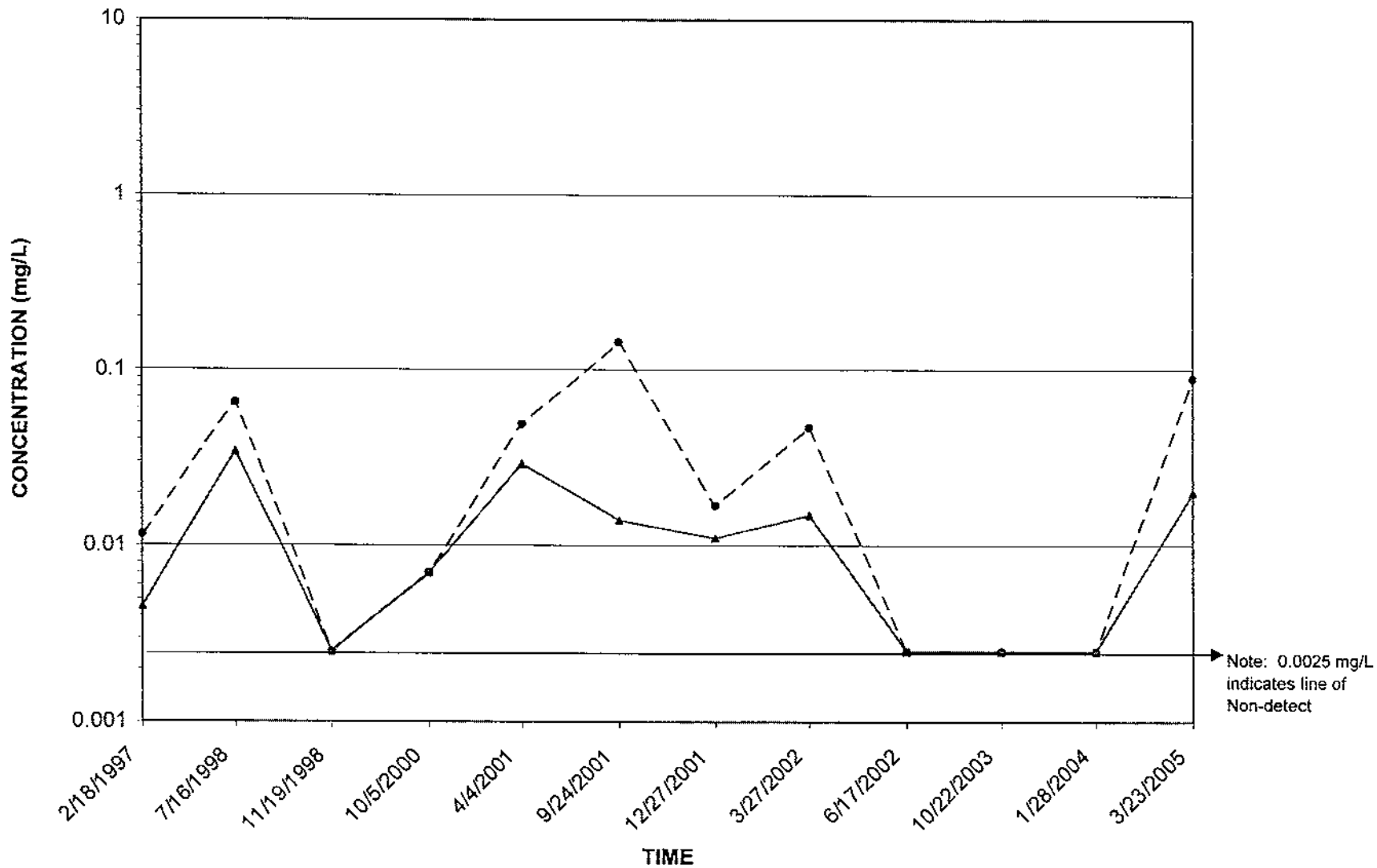
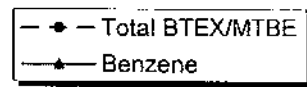
--- Total BTEX/MTBE
--- Benzene



Federal Express Corporation
5811 Technicenter Drive, Austin, TX
Terracon Project No. 96007145
MW-5 - Total BTEX/MTBE vs. Time

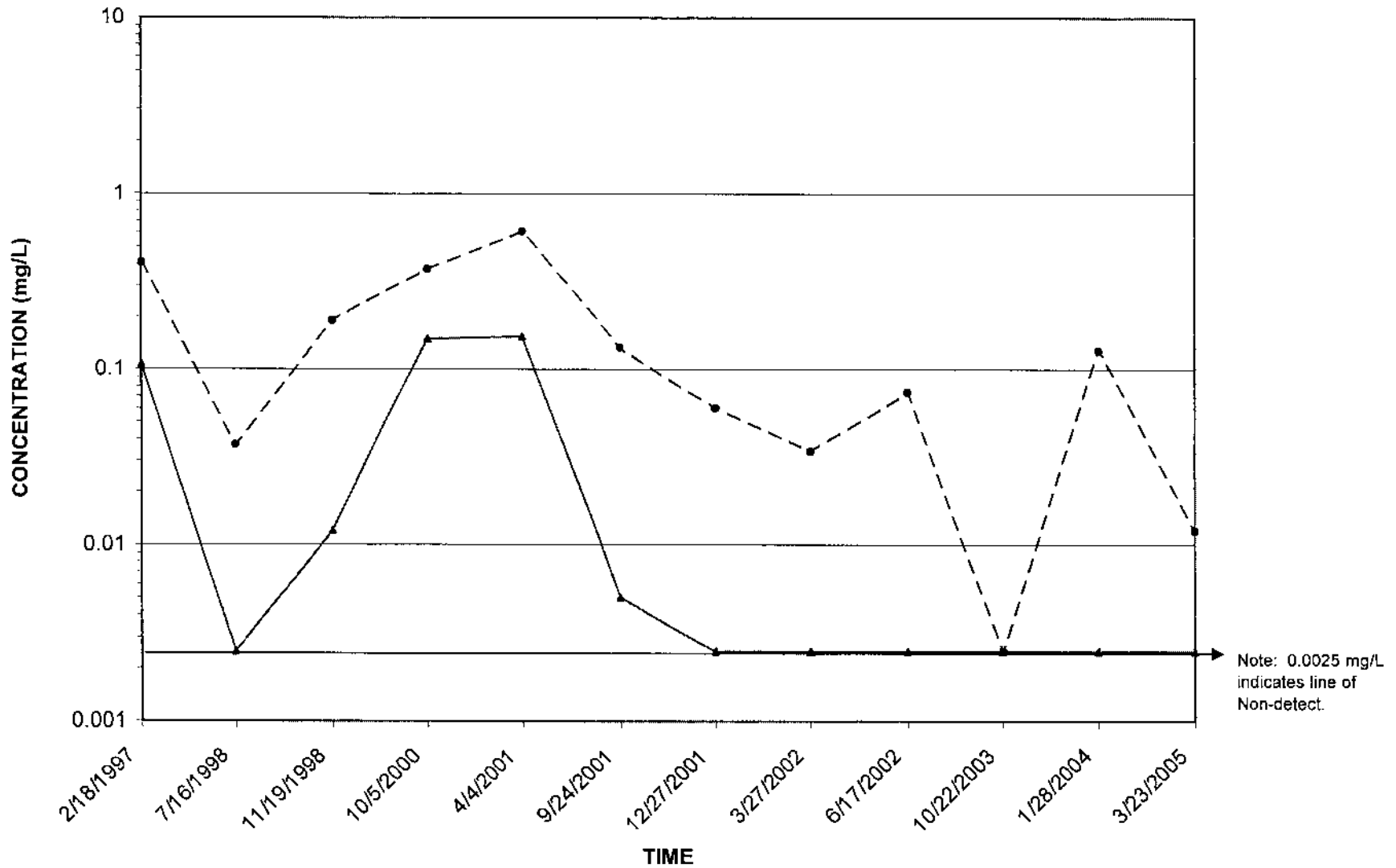


Federal Express Corporation
5811 Technicenter Drive, Austin, TX
Terracon Project No. 96007145
MW-8 - Total BTEX/MTBE vs. Time

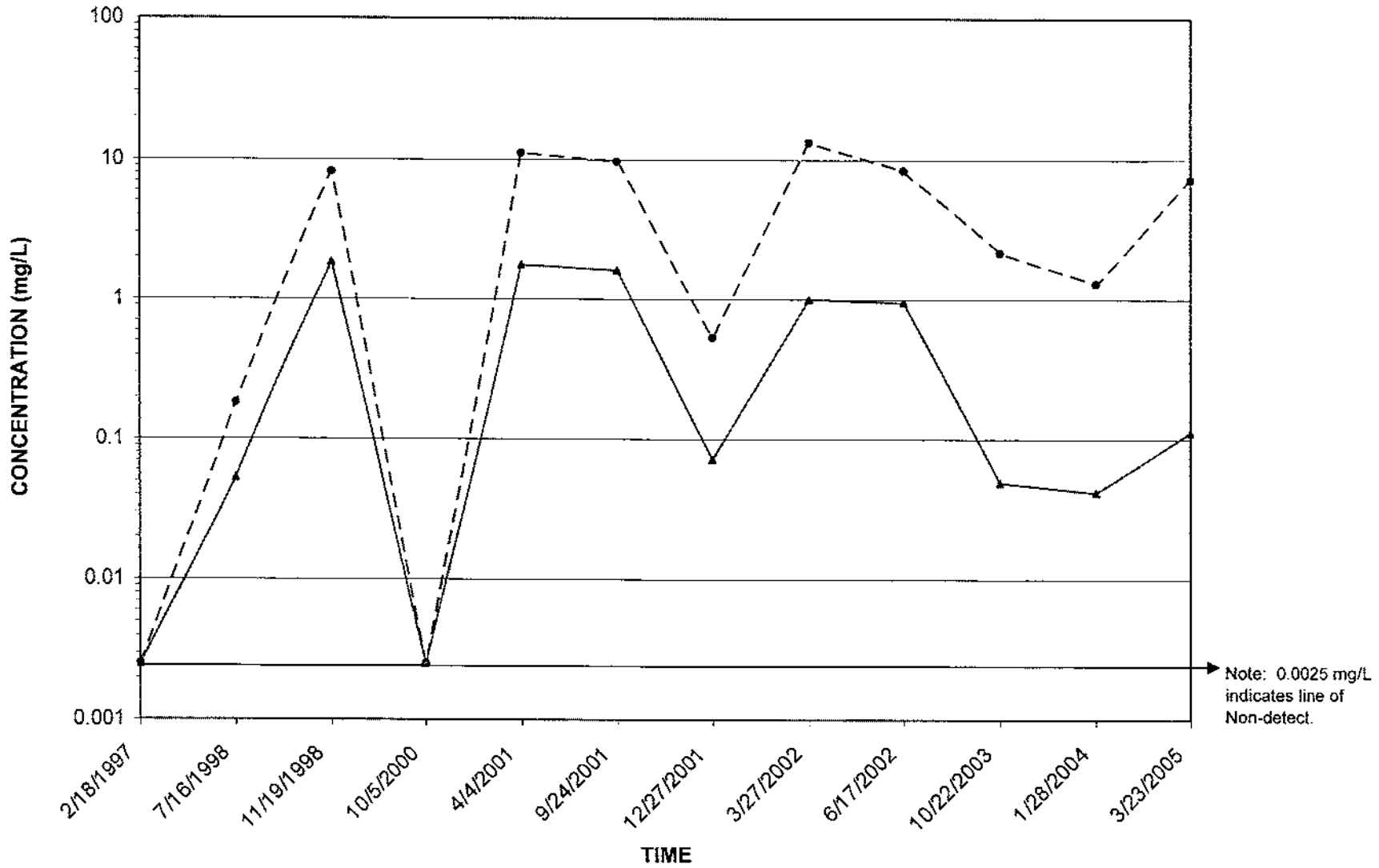
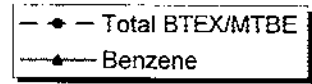


Federal Express Corporation
5811 Technicenter Drive, Austin, TX
Terracon Project No. 96007145
MW-9 - Total BTEX/MTBE vs. Time

---◆--- Total BTEX/MTBE
---▲--- Benzene



Federal Express Corporation
5811 Technicenter Drive, Austin, TX
Terracon Project No. 96007145
MW-11 - Total BTEX/MTBE vs. Time



5/2001

MW-1						
DATE		Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
11/11/1996	11/11/1996	NAPL				
7/16/1998	7/16/1998	NAPL				
10/5/2000	10/5/2000	NAPL				
4/4/2001	4/4/2001	0.48	1.240	0.226	6.010	0.113
9/24/2001	9/24/2001	0.25	0.685	0.196	6.990	0.062
12/27/2001	12/27/2001	0.13	0.364	0.105	2.386	0.054
3/27/2002	3/27/2002	0.05	0.107	0.041	0.952	0.040
6/17/2002	6/17/2002	0.04	0.108	0.039	0.954	<0.080
10/22/2003	10/22/2003	0.03	0.109	0.066	1.790	0.067
1/28/2004	1/28/2004	NAPL				
3/23/2005	3/23/2005	0.19	0.835	0.175	9.180	0.192

Total BTEX/MTBE

8.07
8.19
3.03
1.19
1.14
2.06
10.57

MW-2						
DATE		Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
11/11/1996	11/11/1996	NAPL				
7/16/1998	7/16/1998	NAPL				
10/5/2000	10/5/2000	NAPL				
4/4/2001	4/4/2001	0.05	2.330	0.175	8.610	0.313
9/24/2001	9/24/2001	0.27	2.180	0.442	6.400	0.458
12/27/2001	12/27/2001	0.04	2.480	0.927	10.690	0.249
3/27/2002	3/27/2002	0.03	0.804	1.040	8.730	0.197
6/17/2002	6/17/2002	0.06	0.486	0.934	8.030	<0.020
10/22/2003	10/22/2003	NAPL				
1/28/2004	1/28/2004	0.03	0.194	0.438	5.240	0.163
3/23/2005	3/23/2005	0.04	0.104	0.513	7.500	0.242

Total BTEX/MTBE

11.47
9.75
14.29
10.81
9.49
6.06
8.39

MW-3						
DATE		Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
11/11/1996	11/11/1996	1.92	2.250	0.313	2.880	1.150
7/16/1998	7/16/1998	NAPL				
10/5/2000	10/5/2000	NAPL				
4/4/2001	4/4/2001	0.22	0.162	0.111	0.888	0.024
9/24/2001	9/24/2001	0.24	0.072	0.114	0.906	0.056
12/27/2001	12/27/2001	0.10	0.023	0.027	0.266	0.017
3/27/2002	3/27/2002	0.14	0.015	0.045	0.151	0.034
6/17/2002	6/17/2002	0.12	0.015	0.051	0.222	0.028
10/22/2003	10/22/2003	0.22	0.053	0.099	0.381	0.097
1/28/2004	1/28/2004	0.31	0.176	0.135	0.631	0.140
3/23/2005	3/23/2005	0.12	0.024	0.049	0.177	0.047

Total BTEX/MTBE

8.51
1.40
1.39
0.43
0.38
0.44
0.85
1.39
0.42

MW-4						
DATE		Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
2/18/1997	2/18/1997	0.004	<0.001	<0.001	<0.001	<0.001
7/16/1998	7/16/1998	NAPL				
10/5/2000	10/5/2000	NAPL				
4/4/2001	4/4/2001	0.17	0.656	0.419	2.630	0.320
9/24/2001	9/24/2001	1.03	1.770	0.364	3.460	0.155
12/27/2001	12/27/2001	1.29	2.780	0.596	6.370	0.216
3/27/2002	3/27/2002	1.27	3.510	0.408	5.500	0.420
6/17/2002	6/17/2002	0.55	1.100	0.246	2.570	<0.020
10/22/2003	10/22/2003	0.13	0.343	0.121	1.160	0.321
1/28/2004	1/28/2004	0.58	2.940	0.735	8.050	0.574
3/23/2005	3/23/2005	0.22	2.000	0.868	8.810	0.754

Total BTEX/MTBE

0.004
4.20
6.78
11.25
11.11
4.47
2.07
12.88
12.65

MW-5						
DATE		Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
2/18/1997	2/18/1997	0.52	0.811	0.095	1.070	0.449
7/16/1998	7/16/1998	NAPL				
10/5/2000	10/5/2000	NAPL				
4/4/2001	4/4/2001	NAPL				
9/24/2001	9/24/2001	NAPL				
12/27/2001	12/27/2001	3.57	3.98	0.62	6.07	2.85
3/27/2002	3/27/2002	2.90	2.29	0.40	2.36	2.04
6/17/2002	6/17/2002	3.09	2.74	0.50	3.21	2.13
10/22/2003	10/22/2003	NAPL				
1/28/2004	1/28/2004	NAPL				
3/23/2005	3/23/2005	4.81	3.86	0.43	5.38	3.19

Total BTEX/MTBE

2.95
17.09
9.99
11.67
17.67

MW-7						
DATE		Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
2/18/1997	2/18/1997	<0.001	<0.001	<0.001	<0.001	<0.01
7/16/1998	7/16/1998	<0.001	<0.001	<0.001	<0.002	<0.02
11/19/1998	11/19/1998	<0.005	<0.005	<0.005	<0.005	<0.005
10/5/2000	10/5/2000	<0.005	<0.005	<0.005	<0.005	<0.005
4/4/2001	4/4/2001	<0.002	<0.004	<0.004	<0.004	<0.004
9/24/2001	9/24/2001	<0.002	<0.004	<0.004	<0.004	<0.004
12/27/2001	12/27/2001	<0.002	<0.004	<0.004	<0.004	<0.004
3/27/2002	3/27/2002	<0.002	<0.004	<0.004	<0.004	<0.004
6/17/2002	6/17/2002	<0.002	<0.004	<0.004	<0.004	<0.004
10/22/2003	10/22/2003	<0.0008	<0.002	<0.002	<0.003	<0.002
1/28/2004	1/28/2004	<0.0008	<0.002	<0.002	<0.003	<0.002
3/23/2005	3/23/2005	<0.0008	<0.002	<0.002	<0.003	<0.002

Total BTEX/MTBE
0.00
0.00
0.00
0.00
0.00
0.00
0.00
0.00
0.00
0.00
0.00
0.00

MW-8						
DATE		Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
2/18/1997	2/18/1997	0.005	0.003	<0.001	0.004	<0.01
7/16/1998	7/16/1998	0.034	0.004	0.007	0.020	<0.02
11/19/1998	11/19/1998	<0.005	<0.005	<0.005	<0.005	<0.005
10/5/2000	10/5/2000	0.007	<0.005	<0.005	<0.005	<0.005
4/4/2001	4/4/2001	0.029	0.005	<0.004	0.011	0.004
9/24/2001	9/24/2001	0.014	0.010	<0.004	0.114	0.006
12/27/2001	12/27/2001	0.011	<0.004	<0.004	<0.004	0.006
3/27/2002	3/27/2002	0.015	<0.004	<0.004	0.020	0.012
6/17/2002	6/17/2002	<0.002	<0.004	<0.004	<0.004	<0.004
10/22/2003	10/22/2003	<0.0008	<0.002	<0.002	<0.003	<0.002
1/28/2004	1/28/2004	<0.0008	<0.002	<0.002	<0.003	<0.002
3/23/2005	3/23/2005	0.020	0.005	0.008	0.044	0.012

Benzene Total BTEX/MTBE
0.0045 0.0115
0.034 0.065
0 0
0.007 0.007
0.029 0.049
0.014 0.144
0.011 0.017
0.015 0.047
0 0
0 0
0 0
0.0202 0.090

MW-8 Alternative Chart using "ND" as small value
Benzene Total BTEX/MTBE (highest ND value is <0.005)

DATE	Benzene	Total BTEX/MTBE
2/18/1997	0.0045	0.0115
7/16/1998	0.034	0.065
11/19/1998	0.0025	0.0025 ND
10/5/2000	0.007	0.007
4/4/2001	0.029	0.049
9/24/2001	0.014	0.144
12/27/2001	0.011	0.017
3/27/2002	0.015	0.047
6/17/2002	0.0025	0.0025 ND
10/22/2003	0.0025	0.0025 ND
1/28/2004	0.0025	0.0025 ND
3/23/2005	0.0202	0.0985

MW-9						
DATE		Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
2/18/1997	2/18/1997	0.106	0.120	0.008	0.135	0.038
7/16/1998	7/16/1998	<0.001	<0.001	<0.001	0.002	0.035
11/19/1998	11/19/1998	0.012	<0.005	<0.005	<0.005	0.178
10/5/2000	10/5/2000	0.149	<0.005	<0.005	<0.005	0.225
4/4/2001	4/4/2001	0.154	<0.004	<0.004	<0.004	0.454
9/24/2001	9/24/2001	0.005	<0.004	<0.004	<0.004	0.129
12/27/2001	12/27/2001	<0.002	<0.004	<0.004	<0.004	0.660
3/27/2002	3/27/2002	<0.002	<0.004	<0.004	<0.004	0.034
6/17/2002	6/17/2002	<0.002	<0.004	<0.004	<0.004	0.074
10/22/2003	10/22/2003	<0.0008	<0.002	<0.002	<0.003	<0.002
1/28/2004	1/28/2004	<0.0008	<0.002	<0.002	<0.003	0.128
3/23/2005	3/23/2005	<0.0008	<0.002	<0.002	<0.003	0.012

Benzene Total BTEX/MTBE
0.106 0.407
0 0.037
0.012 0.19
0.149 0.374
0.154 0.608
0.005 0.134
0 0.06
0 0.034
0 0.074
0 0
0 0.128
0 0.012

MW-9 Alternative Chart using "ND" as small value
Benzene Total BTEX/MTBE (highest ND value is <0.005)

DATE	Benzene	Total BTEX/MTBE
2/18/1997	0.106	0.407
7/16/1998	0.0025	0.037
11/19/1998	0.012	0.19
10/5/2000	0.149	0.374
4/4/2001	0.154	0.608
9/24/2001	0.005	0.134
12/27/2001	0.0025	0.06
3/27/2002	0.0025	0.034
6/17/2002	0.0025	0.074
10/22/2003	0.0025	0.0025
1/28/2004	0.0025	0.128
3/23/2005	0.0025	0.012

MW-10						
DATE		Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
2/18/1997	2/18/1997	<0.001	<0.001	<0.001	<0.001	<0.01
7/16/1998	7/16/1998	<0.001	<0.001	<0.001	0.012	<0.02
11/19/1998	11/19/1998	<0.005	<0.005	<0.005	<0.005	<0.005
10/5/2000	10/5/2000	<0.005	<0.005	<0.005	<0.005	<0.005
4/4/2001	4/4/2001	<0.002	<0.004	<0.004	<0.004	<0.004
9/24/2001	9/24/2001	<0.002	<0.004	<0.004	<0.004	<0.004
12/27/2001	12/27/2001	<0.002	<0.004	<0.004	<0.004	<0.004
3/27/2002	3/27/2002	<0.002	<0.004	<0.004	<0.004	<0.004
6/17/2002	6/17/2002	<0.002	<0.004	<0.004	<0.004	<0.004
10/22/2003	10/22/2003	<0.0008	<0.002	<0.002	<0.003	0.116
1/28/2004	1/28/2004	<0.0008	<0.002	<0.002	<0.003	<0.002
3/23/2005	3/23/2005	<0.0008	<0.002	<0.002	<0.003	<0.002

Benzene Total BTEX/MTBE
0 0
0 0.002
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0.116
0 0
0 0

MW-10 Alternative Chart using "ND" as small value
Benzene Total BTEX/MTBE (highest ND value is <0.005)

DATE	Benzene	Total BTEX/MTBE
2/18/1997	0.0025	0.0025
7/16/1998	0.0025	0.002
11/19/1998	0.0025	0.0025
10/5/2000	0.0025	0.0025
4/4/2001	0.0025	0.0025
9/24/2001	0.0025	0.0025
12/27/2001	0.0025	0.0025
3/27/2002	0.0025	0.0025
6/17/2002	0.0025	0.0025
10/22/2003	0.0025	0.232
1/28/2004	0.0025	0.0025
3/23/2005	0.0025	0.0025

MW-11						
DATE		Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
2/18/1997	2/18/1997	<0.001	<0.001	<0.001	<0.001	<0.01
7/16/1998	7/16/1998	0.053	0.009	0.003	0.012	0.026
11/19/1998	11/19/1998	1.850	2.200	0.036	2.210	<0.005
10/5/2000	10/5/2000	<0.005	<0.005	<0.005	<0.005	<0.005
4/4/2001	4/4/2001	1.770	3.570	0.399	2.600	0.523
9/24/2001	9/24/2001	1.620	3.080	0.625	2.480	0.134
12/27/2001	12/27/2001	0.071	0.085	0.088	0.142	0.040
3/27/2002	3/27/2002	1.010	5.170	0.894	4.350	0.409
6/17/2002	6/17/2002	0.952	3.550	0.523	2.390	<0.020
10/22/2003	10/22/2003	0.049	0.616	0.209	0.774	0.239
1/28/2004	1/28/2004	0.0416	0.336	0.116	0.475	0.145
3/23/2005	3/23/2005	0.1120	1.260	0.737	3.690	0.635

Benzene Total BTEX/MTBE
0 0
0.053 0.103
1.85 6.2963
0 0
1.77 8.864
1.62 7.939
0.0714 0.426
1.01 11.833
0.952 7.415
0.049 1.887
0.0416 1.1136
0.112 6.434

MW-11 Alternative Chart using "ND" as small value
Benzene Total BTEX/MTBE (highest ND value is <0.005)

DATE	Benzene	Total BTEX/MTBE
2/18/1997	0.0025	0.0025
7/16/1998	0.053	0.102
11/19/1998	1.85	8.1463
10/5/2000	0.0025	0.0025
4/4/2001	1.77	11.159
9/24/2001	1.62	9.693
12/27/2001	0.0714	0.5374
3/27/2002	1.01	13.252
6/17/2002	0.952	8.367
10/22/2003	0.049	2.175
1/28/2004	0.0416	1.3002
3/23/2005	0.112	7.181

LPST# 111747

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION
PETROLEUM STORAGE TANK
CORRESPONDENCE IDENTIFICATION SHEET

SEL

Date: March 19, 2004
 Site Name: Federal Express Corporation
 Site Address: 5811 Technicenter Drive, Austin, TX

LPST ID No.: 111747
 Facility ID No.: 0029044

This checklist **must** accompany all correspondence submitted to the RPR Section and should be affixed to the front of your submittal as a cover page. Please check the appropriate box for the type of correspondence which you have submitted to the RPR Section. Check all boxes that apply if you are submitting more than one type of correspondence. If you cannot find an appropriate category, please complete the "other" section.

PROPOSALS		
<input type="checkbox"/> Initial Abatement (1)	<input type="checkbox"/> Tank Removal (2)	<input type="checkbox"/> Excavation (3)
<input type="checkbox"/> Waste Treatment (4)	<input type="checkbox"/> Site Assessment (5)	<input type="checkbox"/> Aquifer Testing (6)
<input type="checkbox"/> VES/Sparge Testing (7)	<input type="checkbox"/> Qtrly. GW Monitoring (8)	<input type="checkbox"/> CAP Prep. (9)
<input type="checkbox"/> GW Extrac./Treatment (10)	<input type="checkbox"/> Soil Vapor Extrac. (11)	<input type="checkbox"/> Operation & Main. (12)
<input type="checkbox"/> Site Closure (13)	<input type="checkbox"/> Plan A Risk Ass. (14)	<input type="checkbox"/> Plan B Risk Ass. (15)
<input type="checkbox"/> Semi-annual GW Mon. (16)*	<input type="checkbox"/> Annual GW Mon. (18)	<input checked="" type="checkbox"/> Product Recovery (19)
<input type="checkbox"/> Other proposal _____		

monet chul
Prop 19
MFR

REPORTING FORMS	
<input type="checkbox"/> Assessment Report Form (TNRCC-0562)	<input type="checkbox"/> Release Report Form (TNRCC-0621)
<input type="checkbox"/> Product Recovery Report Form (TNRCC-0016)	<input type="checkbox"/> Monitoring Event Summary and Status Report (TNRCC-0013)
<input type="checkbox"/> Site Closure Request Form (TNRCC-0028)	<input type="checkbox"/> Final Site Closure Report Form (TNRCC-0038)
<input type="checkbox"/> Other form _____	

REPORTS		
<input type="checkbox"/> Tank Closure/Removal	<input type="checkbox"/> Plan A Risk Assessment	<input checked="" type="checkbox"/> Annual Groundwater Monitoring
<input type="checkbox"/> O&M/Performance Mon.	<input type="checkbox"/> Plan B Risk Assessment	<input type="checkbox"/> CAP Installation/Modification
<input type="checkbox"/> Property Divestiture/Phase I ESA	<input type="checkbox"/> Corrective Action Plan (CAP)	<input type="checkbox"/> Aquifer/Pilot Test Results

MISCELLANEOUS	
<input type="checkbox"/> Off-site access assistance	<input type="checkbox"/> Deadline Extension Request
<input type="checkbox"/> Tank tightness test results	<input type="checkbox"/> Request for State-Lead
<input type="checkbox"/> Request for LPST Waste Code	<input type="checkbox"/> Class V ReInjection Request
<input type="checkbox"/> Notice to Owner/Operator for CAS Services	<input type="checkbox"/> Petroleum-Substance Waste Manifest
<input type="checkbox"/> Underground Storage Tank Registration Form	<input type="checkbox"/> Aboveground Storage Tank Registration Form
<input type="checkbox"/> Other (anything that does not fit into one of the categories above) _____	

Received
MAR 25 2004
TNRCC/PST-RPR

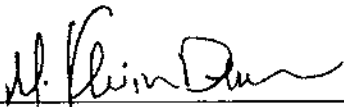
* The proposal for semi-annual monitoring and annual report (Proposal Activity 17) has been discontinued. For semi-annual monitoring, use Proposal Activity 16.

I attest that all work has been conducted in accordance with accepted industry standards/practices and adhered to TNRCC guidance and rules. I certify that I am aware that misrepresentation of any of the above claims is a violation of 30 TAC 334.453(b)(1)(E) and that this violation may result in the disciplinary actions set forth in 30 TAC 334.453 and or 334.463 and 334.465.

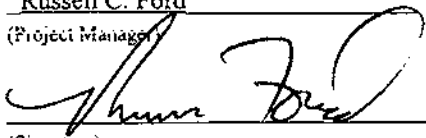
If a proposal is attached for preapproval, has the proposed work, in part or in whole, already been performed or in progress? Yes No

If yes, what work? _____

HBC/Terracon 825 2/25/05
(Registered Corrective Action Specialist) (RCAS Reg. No.) (Expiration date)

 3/19/04
(Signature) (Date)
(512) 442-1122 (512) 442-1181
(Telephone #) (FAX #)

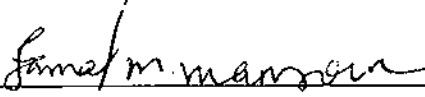
Russell C. Ford 1502 7/16/04
(Project Manager) (CAPM Reg. No.) (Expiration date)

 3/19/04
(Signature) (Date)

(512) 442-1122 (512) 442-1181
(Telephone #) (FAX #)

By signature below, I certify that documents checked above are included.

Mr. Jamal Mansour Federal Express Corporation
(Name of Responsible Party Contact) (Company)

 3/23/04
(Signature) (Date)
(901) 434-8458 (901) 434-9235
(Telephone #) (FAX #)

WORKPLAN AND PREAPPROVAL REQUEST

LPST ID No.: 111747
Responsible Party: Federal Express Corporation
Property Owner: Federal Express Corporation
Facility Name: Federal Express Corporation
Facility Address: 5811 Technicenter Drive
Facility City: Austin
Facility ID No.: 0029044
TNRCC Region: 11
Case Priority: 4.1

Proposed Activity: 02 Phase-Separated Hydrocarbon (PSH) Recovery

Goal of Proposed Activity

The goal of the activity is to remove residual PSH observed in onsite monitor well MW-6.

Description of Activities

A single Mobile Dual-Phase Extraction (MDPE) event will be conducted on well MW-6. The event will be performed for an 8-hour period using a self-contained truck mounted MDPE unit. Recovered PSH and water will be properly disposed offsite at an authorized facility.

Preapproval Request Forms

A PSH Recovery Preapproval Proposal form is attached for review.

Received
MAR 25 2004
TNRCC/PST-RPR

Initial Abatement/ICAP/PSH Removal Cost Proposal

LPST # 111747

Facility ID: 29044

Responsible Party: Federal Express Corporation Facility Name and Address: Federal Express, 5811 Technicenter Drive, Austin, TX

Mark appropriate activity: 01-1 Initial Abatement 02-1 Interim Corrective Action Plan 02-2 PSH Recovery Print

Interim Corrective Action Plan \$0

Initial Abatement/Manual PSH Removal

A. Personnel

	Sub	Total
Report Preparation	— =	
Office Personnel	— =	\$0
Field Personnel	— =	\$450
Subtotal Subcontracted Personnel	\$0	
Subcontractor Markup %	— =	\$0
Cost Proposal Preparation	— =	\$115
A. Total Personnel		\$565

C. Waste Management

	# of Units	\$/Unit	Sub	Total
Water Truck	6	\$75	— =	\$450
Disposal	500	\$0.40	— =	\$200
Subtotal Subcontracted Waste Mgmt		\$470		
Subcontractor Markup %		10%		\$47
C. Total Waste Management				\$697

B. Equipment

	# of Units	\$/Unit	Sub	Total
Balers	— x	\$0	— =	\$0
Small Items	— x	\$0	— =	\$0
Drums	— x	\$0	— =	\$0
Skimmers (sm)	— x	\$0	— =	\$0
Skimmers (lg)	— x	\$0	— =	\$0
Canisters	— x	\$0	— =	\$0
Sorbents	— x	\$0	— =	\$0
MOPE Event	1	\$3,250	— =	\$3,250
	— x	\$0	— =	\$0
	— x	\$0	— =	\$0
	— x	\$0	— =	\$0
	— x	\$0	— =	\$0
	— x	\$0	— =	\$0
Subtotal Subcontracted Equipment		\$3,250		
Subcontractor Markup %		15%		\$488
B. Total Equipment				\$3,738

D. Travel

	Units	\$/Unit	Sub	Total
Mileage (>100 r1)	— x	\$0.31	— =	\$0
One way mileage to site				
Travel Time	— x	\$40	— =	\$0
Per diem	— x	\$0	— =	\$0
Airfare	— x	\$0	— =	\$0
Equipment Truck	1	\$140	— =	\$140
Subtotal Subcontracted Travel		\$0		
Subcontractor Markup %				\$0
D. Total Travel				\$140

E. Other Expenses

	Units	\$/Unit	Sub	Total
	— x	\$0	— =	\$0
	— x	\$0	— =	\$0
	— x	\$0	— =	\$0
Subtotal Subcontracted/Other		\$0		
Subcontractor Markup %				\$0
E. Total Other Expenses				\$0

F. Total Initial Abatement/PSH Recovery Proposed Cost = A+B+C+D+E = \$5,140

Russell C. Ford	<i>Russell C. Ford</i>	HBC Engineering, Inc	May 28, 2001
(CAPM Name, Printed)	(Signature)	(Company)	(Date)
(512) 442-1122	(512) 442-1181	1602	May 9, 2002
(Phone #)	(FAX #)	(CAPM #)	(Exp. Date)
Russell C. Ford	<i>Russell C. Ford</i>	HBC Engineering, Inc	May 28, 2001
(RCAS Rep Name, Printed)	(Signature of Representative)	(Company)	(Date)
(512) 442-1122	(512) 442-1181	387	May 30, 2003
(Phone #)	(FAX #)	(RCAS #)	(Exp. Date)

I acknowledge that the TNRCC may reimburse corrective action costs that are at or below the maximum reimbursable amount published in 30 TAC, Chapter 334, Subchapter M. The maximum reimbursable cost will be the amount approved for the activity unless the Executive Director determines that sound justification for a cost surplus exists. I understand that this certification is not intended to limit what a Registered Corrective Action Specialist, Corrective Action Project Manager, or Contractor may charge. I further understand that the amount of the reimbursement for the above activity will be determined after all receipts are submitted and subjected to technical and reimbursable cost review. I certify that this TNRCC form has not been altered.

Federal Express Corporation	<i>Jamir Meneour</i>	Jamir Meneour	Federal Express Corporation
(Name of Responsible Party)	(Signature of Representative)	(Name Printed)	(Company)
(901) 434-8458		(901) 434-8235	3-23-04
(Phone #)		(FAX #)	(Date)



5307 Industrial Oaks Boulevard, Suite 160
Austin, Texas 78735
Phone 512.442.1122
Fax 512.442.1181
www.terracon.com

**Texas Commission on Environmental Quality
2003-2004 Annual Groundwater Monitoring Report
Federal Express Corporation
5811 Technicenter Drive
Austin, Travis County, Texas
LPST No. 111747**

Prepared for:

**Federal Express Corporation
3620 Hacks Cross Road, Building B
Memphis, TN 38125-7113**

A handwritten signature in blue ink, appearing to read "Russell C. Ford".

**Russell C. Ford, CAPM
Senior Project Manager**

Prepared by:

**HBC/Terracon
5307 Industrial Oaks Boulevard, Suite 160
Austin, Texas 78735**

March 19, 2004

TABLE OF CONTENTS

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TABLES, GRAPHS AND MAPS

APPENDICES

- Appendix A – Laboratory Reports
- Appendix B – MDPE Report
- Appendix C – Product Recovery Report (TNRCC-0025)
- Appendix D – Waste Disposal Manifest



**2003-2004 Annual Groundwater Monitoring Report
Federal Express Corporation
5811 Technicenter Drive
Austin, Travis County, Texas
LPST No. 111747**

I. REPORT SUMMARY

HBC/Terracon (HBC) performed quarterly groundwater monitoring at the Federal Express Corporation Facility, located at 5811 Technicenter Drive in Austin, Texas. This report represents data from the two quarterly groundwater monitoring events conducted during the period from September 24, 2001 to June 17, 2002. In addition, results from a mobile dual phase extraction (MDPE) event conducted on October 11, 2003 are presented within this report. The report is presented in the format suggested by the Texas Commission on Environmental Quality (TCEQ) Regulatory Guidance publication *Groundwater Monitoring and Reporting* (RG-43).

Groundwater Monitoring

HBC collected and analyzed groundwater samples from the on-site monitor wells, in general accordance with the TCEQ Corrective Action Response Form (CARF) dated April 30, 2003. The groundwater sampling events occurred on October 22, 2003 and January 28, 2004.

Groundwater samples were not collected from monitor well MW-2 during the first quarterly monitoring event (10/22/03), nor from monitor wells MW-5 and MW-6 during either quarterly groundwater monitoring event, due to the presence of non-aqueous phase liquids (NAPL) in those wells.

Each groundwater sample was analyzed by DHL Analytical in Round Rock, Texas, for methyl tertiary butyl ether (MTBE) using EPA method SW 8021B, and benzene, toluene, ethylbenzene, and xylenes (BTEX) using EPA method SW 8021B. Additionally, the groundwater samples collected from monitor wells MW-1, MW-2, MW-3, MW-4, and MW-11 were analyzed for total petroleum hydrocarbons (TPH) using Texas method 1005.

Tables summarizing the analytical data are attached. Copies of the laboratory reports, including chain-of-custody forms, are included in Appendix A. As seen in the data summary tables, laboratory analysis indicates either stable or reducing petroleum hydrocarbon concentrations in the site wells. Well MW-7 exhibited no detectable TPH or BTEX concentrations, which is consistent with historical results. Laboratory data indicated that groundwater samples collected from wells MW-8 through MW-10 have exhibited decreasing TPH and BTEX concentrations over time. The hydrocarbon concentrations from MW-11 have exhibited decreasing TPH/BTEX/MTBE concentrations over the last two years. TPH and total BTEX concentrations

from wells MW-1, MW-2, MW-3, and MW-4, which are all located closest to the source area, have remained relatively stable.

The fluid gauging data collected during the two groundwater sampling events indicated that groundwater elevations at the site have recently been at their lowest point since 2001. Apparently as a result of the low groundwater elevations, the amount of NAPL in several monitor wells was observed to increase in January, 2004. NAPL thickness of 0.51 feet, 0.12 feet, and 1.51 feet were observed in monitor wells MW-1, MW-5, and MW-6 on January 27, 2004. HBC personnel returned to the site on March 5, 2004 and observed NAPL thickness of 0.00 feet, 0.00 feet, and 0.09 feet in wells MW-1, MW-5, and MW-6. A Fluid Gauging Data Summary table is included with this report.

MDPE Event

HBC contracted with Delmar Environmental to conduct a MDPE event on October 11, 2003. A copy of the MDPE report is included in Appendix B. The event was conducted at wells MW-2, MW-5, and MW-6. The event resulted in the extraction of approximately 0.77 gallons of NAPL in vapor form and 0 gallons of NAPL in liquid form. A Petroleum Storage Tank Product Recovery Report (TCEQ-0025) is included in Appendix C. A total of 3 air samples were collected during the event and analyzed for TPH using EPA method SW 8015B and BTEX using EPA method SW 8021B. A copy of the laboratory report is included in Appendix A.

Prior to initiation of the event the presence of NAPL was measured in wells MW-2, MW-5, and MW-6. Each well contained a respective NAPL thickness of 0.00 feet, 0.20 feet, and 0.36 feet. Subsequent to the event, NAPL was not observed in the wells MW-2, MW-5, and MW-6. The MDPE event was terminated after 4 hours due to lack of NAPL in the wells.

Disposition of Waste

A total of 413 gallons of affected groundwater were generated during the quarterly groundwater sampling events and the MDPE event. The water was transported for disposal at an authorized facility. A copy of the waste manifest for the water is included in Appendix D.

II. CHRONOLOGY OF EVENTS

Date Completed	Brief Description	Brief Summary of Results
10/96	Release of about 6,700 gallons from UST discovered. Permanent removal of UST performed and report submitted to TNRCC by HBC.	Elevated hydrocarbon concentrations present in tank pit soil samples.

Date Completed	Brief Description	Brief Summary of Results
5/97	Site assessment conducted and Assessment Report submitted to TNRCC by HBC. Total of 11 monitor wells on site and adjacent off site property.	NAPL present in 3 wells (MW-1, MW-2, MW-6)
6/97	Soil Vapor Extraction (SVE) pilot test conducted and results submitted to TNRCC.	Results from SVE test indicate site conditions favorable for SVE recovery system.
10/97	Corrective Action Plan prepared and submitted by HBC. Plan detailed the installation of a SVE remediation system using 3 recovery wells with destruction of the vapors using an internal combustion (IC) engine.	Plan was approved by TNRCC in February 1998.
5/98 to 1/99	SVE system installed and operated. System experienced significant operation and maintenance problems.	System operated as designed initially, however, destruction rates began to drop significantly after about 90 days of operation and system was removed from operation in January of 1999.
7/16/98	Groundwater sampling event conducted by HBC during operation of SVE system. Total of 5 samples collected.	NAPL present in wells MW-1 through MW-6.
11/19/98	Groundwater sampling event conducted by HBC during operation of SVE system. Total of 5 samples collected.	NAPL present in wells MW-1 through MW-6.
3/24/00	Operation, Monitoring, and Performance (OMP) report for initial SVE system submitted along with proposal to replace IC vapor destruction unit with thermal destruction flare and restart the SVE system.	Proposal for new system approved by TNRCC on 8/22/00.
10/2/00-5/9/01	New SVE system installed and operated. System operated total of 188 days. Utilized 3 recovery wells (MW-1, MW-2, and MW-6) with extracted vapors destroyed thermally (flare unit).	SVE removed approximately 400 gallons of NAPL. NAPL removed entirely from 4 of 6 wells and NAPL thickness reduced from almost 2 feet to less than 0.5 feet.
10/5/00	First semi-annual sampling event by HBC (5 groundwater samples). Samples collected following startup of SVE system.	NAPL present in wells MW-1, MW-2, MW-3, MW-4, MW-5 and MW-6.
4/4/01	Second semi-annual sampling event performed by HBC (9 groundwater samples). Samples collected near the end of the SVE system operation.	NAPL present in wells MW-5 and MW-6.
5/29/01	OMP Report submitted to TNRCC along with proposals for annual groundwater monitoring and passive skimming of NAPL in wells MW-5 and MW-6.	Proposals for groundwater monitoring and passive skimming approved by TNRCC on 7/13/01.

Date Completed	Brief Description	Brief Summary of Results
9/24/01	First quarterly groundwater sampling event performed by HBC. Samples collected from 9 on-site monitor wells.	NAPL observed in monitor wells MW-5 and MW-6. Groundwater data shows reduction in most wells.
12/27/01	Second quarterly groundwater sampling event performed by HBC. Samples collected from 10 on-site monitor wells.	NAPL observed in monitor well MW-6. Groundwater data shows reduction in most wells.
3/27/02	Third quarterly groundwater sampling event performed by HBC. Sample collected from 10 on-site monitor wells.	NAPL observed in monitor well MW-6. Groundwater data shows reduction in most wells. Slight increase observed in MW-11.
6/17/02	Fourth quarterly groundwater sampling event performed by HBC. Samples collected from 10 on-site monitor wells.	NAPL observed in monitor well MW-6. Groundwater data shows reduction in most wells. Concentrations from MW-11 back to within historical levels.
10/11/03	High Vacuum Multi-Phase Extraction event.	0.77 gallons of NAPL removed from wells MW-5 and MW-6.
10/22/03	Quarterly groundwater monitoring event conducted by HBC. Samples collected from 8 monitor wells.	NAPL observed in MW-2, MW-5, and MW-6. Dissolved phase concentrations relatively stable across site.
1/27/04	Quarterly groundwater monitoring event conducted by HBC. Samples collected from 8 monitor wells.	NAPL observed in MW-1, MW-5, and MW-6. Dissolved phase concentrations relatively stable across site.
3/5/04	Fluid gauging conducted by HBC.	NAPL thickness in MW-1, MW-5, and MW-6 decrease drastically since January event.

III. TABLES, GRAPHS AND MAPS

The following tables, graphs and maps are attached:

- Table of analytical results
- Table of groundwater gauging data
- Site map
- Groundwater elevation maps (10/22/03; 1/27/04)
- Hydrocarbon distribution maps (10/22/03; 1/27/04)

IV. CONCLUSIONS AND RECOMMENDATIONS

Based on results of the quarterly groundwater monitoring, HBC makes the following conclusions and recommendations:

- Based on groundwater monitoring data collected at the site it appears the dissolved-phase hydrocarbon plume is stable or decreasing.
- Based on the temporary NAPL rebound observed at the site in January, 2004, HBC recommends an additional MDPE event be conducted at the site.

V. QUALITY ASSURANCE/QUALITY CONTROL

The following sampling protocol was employed by HBC personnel during each sampling event:

- Each monitor well was visually inspected to ensure well integrity.
- The water level indicator was thoroughly decontaminated before and after each use.
- Each monitor well was purged of at least three well volumes or to dryness using a new, disposable bailer.
- Subsequent to sufficient recharge, groundwater samples were collected using new, disposable bailers.
- Monitor wells were sampled from least to most contaminated.
- TPH and BTEX/MTBE samples were stored in 40-milliliter VOA vials with no headspace, and preserved with hydrochloric acid. Holding time for preserved samples is 14 days.
- PAH samples were stored in unpreserved, one-liter, amber, glass bottles. Holding time for PAH samples is 7 days until extraction.
- All samples were properly labeled, sealed with custody tape, placed in a cooler with ice, and hand delivered along with chain-of-custody documentation to DHL Analytical in Round Rock, Texas.
- Samples were analyzed using the following approved methods:
 - BTEX/MTBE - EPA SW 8021B
 - TPH - Texas 1005

TABLES, GRAPHS AND MAPS

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5811 Technicenter Drive, Austin, TX
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GROUNDWATER ANALYTICAL DATA SUMMARY

(all concentrations in mg/L)

MW-1								
DATE	PAH	TDS	TPH	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
11/11/1996	NAPL							
7/16/1998	NAPL							
10/5/2000	NAPL							
4/4/2001	NA	NA	57.1	0.480	1.240	0.226	6.010	0.113
9/24/2001	NA	NA	62.1	0.253	0.685	0.196	6.990	0.062
12/27/2001	NA	NA	12.9	0.129	0.364	0.105	2.380	0.054
3/27/2002	NA	NA	8.7	0.045	0.107	0.041	0.952	0.040
6/17/2002	NA	NA	4.8	0.036	0.108	0.039	0.954	<0.080
10/22/2003	NA	NA	27.9	0.025	0.109	0.066	1.790	0.067
1/28/2004	NAPL							

MW-2								
DATE	PAH	TDS	TPH	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
11/11/1996	NAPL							
7/16/1998	NAPL							
10/5/2000	NAPL							
4/4/2001	1.877*	NA	164.0	0.045	2.330	0.175	8.610	0.313
9/24/2001	0.636**	NA	189.0	0.265	2.180	0.442	6.400	0.458
12/27/2001	1.669***	NA	129.0	0.036	2.480	0.927	10.600	0.249
3/27/2002	0.525****	NA	43.2	0.032	0.804	1.040	8.740	0.197
6/17/2002	0.356*****	NA	28.2	0.055	0.486	0.934	8.010	<0.020
10/22/2003	NAPL							
1/28/2004			359.0	0.0269	0.194	0.438	5.240	0.163

*-Benzo(a)anthracene-0.0005, Benzo(b)fluoranthene-0.0007, Benzopyrene-0.0006, Benzo(k)fluoranthene-0.0007, Chrysene-0.0009, Fluoranthene-0.002, Naphthalene-1.86, Phenanthrene-0.01, Pyrene-0.001

**-.Acenaphthene-0.004, Anthracene-0.0009, Benzo(a)anthracene-0.0003, Benzo(b)fluoranthene-0.0003, Benzopyrene-0.0003, Benzo(a)pyrene-0.0002, Chrysene-0.0003, Fluoranthene-0.0006, Fluorene-0.007, Naphthalene-0.619, Phenanthrene-0.003, Pyrene-0.001

***.Acenaphthene-0.017, Fluoranthene-0.002, Fluorene-0.030, Naphthalene-1.60, Phenanthrene-0.014, Pyrene-0.006

****.Acenaphthene-0.0009, Fluorene-0.001, Naphthalene-0.522, Phenanthrene-0.0005

*****.Acenaphthene-0.0004, Fluorene-0.0007, Naphthalene-0.355, Phenanthrene-0.0003

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GROUNDWATER ANALYTICAL DATA SUMMARY

(all concentrations in mg/L)

MW-3								
DATE	PAH	TDS	TPH	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
11/11/1996	NA	478	10	1.920	2.250	0.313	2.880	1.150
7/16/1998	NAPL							
10/5/2000	NAPL							
4/4/2001	NA	NA	20.6	0.219	0.162	0.111	0.888	0.024
9/24/2001	NA	NA	19.7	0.241	0.072	0.114	0.906	0.056
12/27/2001	NA	NA	<4.85	0.096	0.023	0.027	0.266	0.017
3/27/2002	NA	NA	2.1	0.135	0.015	0.045	0.151	0.034
6/17/2002	NA	NA	3.5	0.121	0.015	0.051	0.222	0.028
10/22/2003	NA	NA	4.0	0.220	0.053	0.099	0.381	0.097
1/28/2004	NA	NA	8.2	0.310	0.176	0.135	0.631	0.140

MW-4								
DATE	PAH	TDS	TPH	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
2/18/1997	NA	NA	<0.50	0.004	<0.001	<0.001	<0.001	<0.001
7/16/1998	NAPL							
10/5/2000	NAPL							
4/4/2001	NA	NA	57.7	0.174	0.656	0.419	2.630	0.320
9/24/2001	NA	NA	20.9	1.030	1.770	0.364	3.460	0.155
12/27/2001	NA	NA	23.6	1.290	2.780	0.596	6.370	0.216
3/27/2002	NA	NA	24.9	1.270	3.510	0.408	5.500	0.420
6/17/2002	NA	NA	13.6	0.551	1.100	0.246	2.570	<0.020
10/22/2003	NA	NA	26.4	0.125	0.343	0.121	1.160	0.321
1/28/2004	NA	NA	66.6	0.577	2.940	0.735	8.050	0.574

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GROUNDWATER ANALYTICAL DATA SUMMARY

(all concentrations in mg/L)

MW-5								
DATE	PAH	TDS	TPH	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
2/18/1997	0.0006*	NA	3.9	0.520	0.811	0.096	1.070	0.449
7/16/1998	NAPL							
10/5/2000	NAPL							
4/4/2001	NAPL							
9/24/2001	NAPL							
12/27/2001	NA	NA	35	3.57	3.98	0.62	6.07	2.85
3/27/2002	NA	NA	14	2.90	2.29	0.40	2.36	2.04
6/17/2002	NA	NA	19	3.09	2.74	0.50	3.21	2.13
10/22/2003	NAPL							
1/28/2004	NAPL							

MW-7								
DATE	PAH	TDS	TPH	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
2/18/1997	NA	NA	<0.5	<0.001	<0.001	<0.001	<0.001	<0.01
7/16/1998	NA	NA	<5.1	<0.001	<0.001	<0.001	<0.002	<0.02
11/19/1998	NA	NA	<4.4	<0.005	<0.005	<0.005	<0.005	<0.005
10/5/2000	NA	NA	<5	<0.005	<0.005	<0.005	<0.005	<0.005
4/4/2001	NA	NA	<6.4	<0.002	<0.004	<0.004	<0.004	<0.004
9/24/2001	NA	NA	<4.78	<0.002	<0.004	<0.004	<0.004	<0.004
12/27/2001	NA	NA	<4.84	<0.002	<0.004	<0.004	<0.004	<0.004
3/27/2002	NA	NA	<1.98	<0.002	<0.004	<0.004	<0.004	<0.004
6/17/2002	NA	NA	<1.95	<0.002	<0.004	<0.004	<0.004	<0.004
10/22/2003	NA	NA	NA	<0.0008	<0.002	<0.002	<0.003	<0.002
1/28/2004	NA	NA	NA	<0.0008	<0.002	<0.002	<0.003	<0.002

*-Fluorene detected at 0.006 mg/L

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GROUNDWATER ANALYTICAL DATA SUMMARY

(all concentrations in mg/L)

MW-8								
DATE	PAH	TDS	TPH	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
2/18/1997	NA	NA	<0.05	0.005	0.003	<0.001	0.004	<0.01
7/20/1998	NA	NA	<4.9	0.034	0.004	0.007	0.020	<0.02
11/19/1998	NA	NA	<6	<0.005	<0.005	<0.005	<0.005	<0.005
10/5/2000	NA	NA	<5	0.007	<0.005	<0.005	<0.005	<0.005
4/4/2001	NA	NA	<4.67	0.029	0.005	<0.004	0.011	0.004
9/24/2001	NA	NA	<4.89	0.014	0.010	<0.004	0.114	0.006
12/27/2001	NA	NA	<4.90	0.011	<0.004	<0.004	<0.004	0.006
3/27/2002	NA	NA	<1.97	0.015	<0.004	<0.004	0.020	0.012
6/17/2002	NA	NA	<1.95	<0.002	<0.004	<0.004	<0.004	<0.004
10/22/2003	NA	NA	NA	<0.0008	<0.002	<0.002	<0.003	<0.002
1/28/2004	NA	NA	NA	<0.0008	<0.002	<0.002	<0.003	<0.002

MW-9								
DATE	PAH	TDS	TPH	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
3/24/1997	NA	NA	1	0.106	0.120	0.008	0.135	0.038
7/16/1998	NA	NA	<5.3	<0.001	<0.001	<0.001	0.002	0.035
11/19/1998	NA	NA	<4.1	0.012	<0.005	<0.005	<0.005	0.178
10/5/2000	0.002*	NA	<5	0.149	<0.005	<0.005	<0.005	0.225
4/4/2001	NA	NA	<5.5	0.154	<0.004	<0.004	<0.004	0.454
9/24/2001	NA	NA	<4.95	0.005	<0.004	<0.004	<0.004	0.129
12/27/2001	NA	NA	<4.87	<0.002	<0.004	<0.004	<0.004	0.060
3/27/2002	NA	NA	<1.98	<0.002	<0.004	<0.004	<0.004	0.034
6/17/2002	NA	NA	<1.95	<0.002	<0.004	<0.004	<0.004	0.074
10/22/2003	NA	NA	NA	<0.0008	<0.002	<0.002	<0.003	<0.002
1/28/2004	NA	NA	NA	<0.0008	<0.002	<0.002	<0.003	0.128

*-Naphthalene detected at 0.002 mg/L

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GROUNDWATER ANALYTICAL DATA SUMMARY

(all concentrations in mg/L)

MW-10								
DATE	PAH	TDS	TPH	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
3/24/1997	NA	NA	<0.5	<0.001	<0.001	<0.001	<0.001	<0.01
7/16/1998	NA	NA	<4.8	<0.001	<0.001	<0.001	0.002	<0.02
11/19/1998	NA	NA	<4.7	<0.005	<0.005	<0.005	<0.005	<0.005
10/5/2000	NA	NA	<5	<0.005	<0.005	<0.005	<0.005	<0.005
4/4/2001	NA	NA	<4.9	<0.002	<0.004	<0.004	<0.004	<0.004
9/24/2001	NA	NA	<4.84	<0.002	<0.004	<0.004	<0.004	<0.004
12/27/2001	NA	NA	<4.81	<0.002	<0.004	<0.004	<0.004	<0.004
3/27/2002	NA	NA	<1.97	<0.002	<0.004	<0.004	<0.004	<0.004
6/17/2002	NA	NA	<1.95	<0.002	<0.004	<0.004	<0.004	<0.004
10/22/2003	NA	NA	NA	<0.0008	<0.002	<0.002	<0.003	0.116
1/28/2004	NA	NA	NA	<0.0008	<0.002	<0.002	<0.003	<0.002

MW-11								
DATE	PAH	TDS	TPH	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
3/24/1997	NA	NA	<0.50	<0.001	<0.001	<0.001	<0.001	<0.01
7/16/1998	NA	NA	<5	0.053	0.009	0.003	0.012	0.026
11/19/1998	NA	NA	25.3	1.850	2.200	0.036	2.210	<0.005
10/5/2000	NA	NA	<5	<0.005	<0.005	<0.005	<0.005	<0.005
4/4/2001	NA	NA	<5.28	1.770	3.570	0.399	2.600	0.525
9/24/2001	NA	NA	9.7	1.620	3.080	0.625	2.480	0.134
12/27/2001	NA	NA	<4.85	0.071	0.085	0.088	0.142	0.040
3/27/2002	NA	NA	20.0	1.010	5.170	0.894	4.350	0.409
6/17/2002	NA	NA	13.1	0.952	3.550	0.523	2.390	<0.020
10/22/2003	NA	NA	4.8	0.049	0.616	0.209	0.774	0.239
1/28/2004	NA	NA	3.5	0.0416	0.336	0.116	0.475	0.145

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5811 Technicenter Drive, Austin, TX

LPST # 111747

FLUID GAUGING DATA SUMMARY

DATE	MW-1			MW-2			MW-3			MW-4		
	DTW	NAPL	GWE	DTW	NAPL	GWE	DTW	NAPL	GWE	DTW	NAPL	GWE
9/24/2001	29.68	0.00	529.42	31.01	0.00	529.21	31.89	0.00	529.06	31.30	0.00	528.89
12/27/2001	27.79	0.00	531.31	29.13	0.00	531.09	30.01	0.00	530.94	29.33	0.00	530.86
3/27/2002	29.31	0.00	529.79	30.64	0.00	529.58	31.51	0.00	529.44	30.80	0.00	529.39
6/17/2002	30.56	0.00	528.54	31.98	0.00	528.24	32.80	0.00	528.15	32.06	0.00	528.13
10/22/2003	31.23	0.00	527.87	32.58	0.01	527.65	33.47	0.00	527.48	32.72	0.00	527.47
1/27/2004	32.25	0.51	527.23	33.18	0.00	527.04	34.02	0.00	526.93	33.43	0.00	526.76
3/5/2004	31.41	0.00	527.69	32.79	0.00	527.43						

lowest recorded WL

Notes:

- 1) All measurements in feet
- 2) DTW-depth to water below top of surface casing
- 3) NAPL-non-aqueous phase liquid thickness
- 4) GWE-groundwater elevation (corrected for NAPL using 0.75 specific gravity) in feet above mean sea level

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FLUID GAUGING DATA SUMMARY

DATE	MW-5			MW-6			MW-7			MW-8		
	DTW	NAPL	GWE	DTW	NAPL	GWE	DTW	NAPL	GWE	DTW	NAPL	GWE
9/24/2001	34.36	0.05	528.88	33.79	0.15	529.19	29.68	0.00	528.90	29.29	0.00	528.90
12/27/2001	32.32	0.00	530.88	31.86	0.08	531.07	27.74	0.00	530.84	27.25	0.00	530.94
3/27/2002	33.88	0.00	529.32	33.39	0.06	529.53	29.15	0.00	529.43	28.72	0.00	529.47
6/17/2002	35.06	0.00	528.14	34.30	0.01	528.58	30.43	0.00	528.15	30.00	0.00	528.19
10/22/2003	35.75	0.02	527.47	35.21	0.02	527.68	31.11	0.00	527.47	30.64	0.00	527.55
1/27/2004	36.42	0.12	526.87	37.08	1.51	526.92	31.69	0.00	526.89	31.30	0.00	526.89
3/5/2004	35.93	0.00	527.27	35.44	0.09	527.50						

10/11/03
M DPE

lowest recorded
WL

Notes:

- 1) All measurements in feet
- 2) DTW-depth to water below top of surface casing
- 3) NAPL-non-aqueous phase liquid thickness
- 4) GWE-groundwater elevation (corrected for NAPL using 0.75 specific gravity) in feet above mean sea level

FEDERAL EXPRESS CORPORATION

5811 Technicenter Drive, Austin, TX

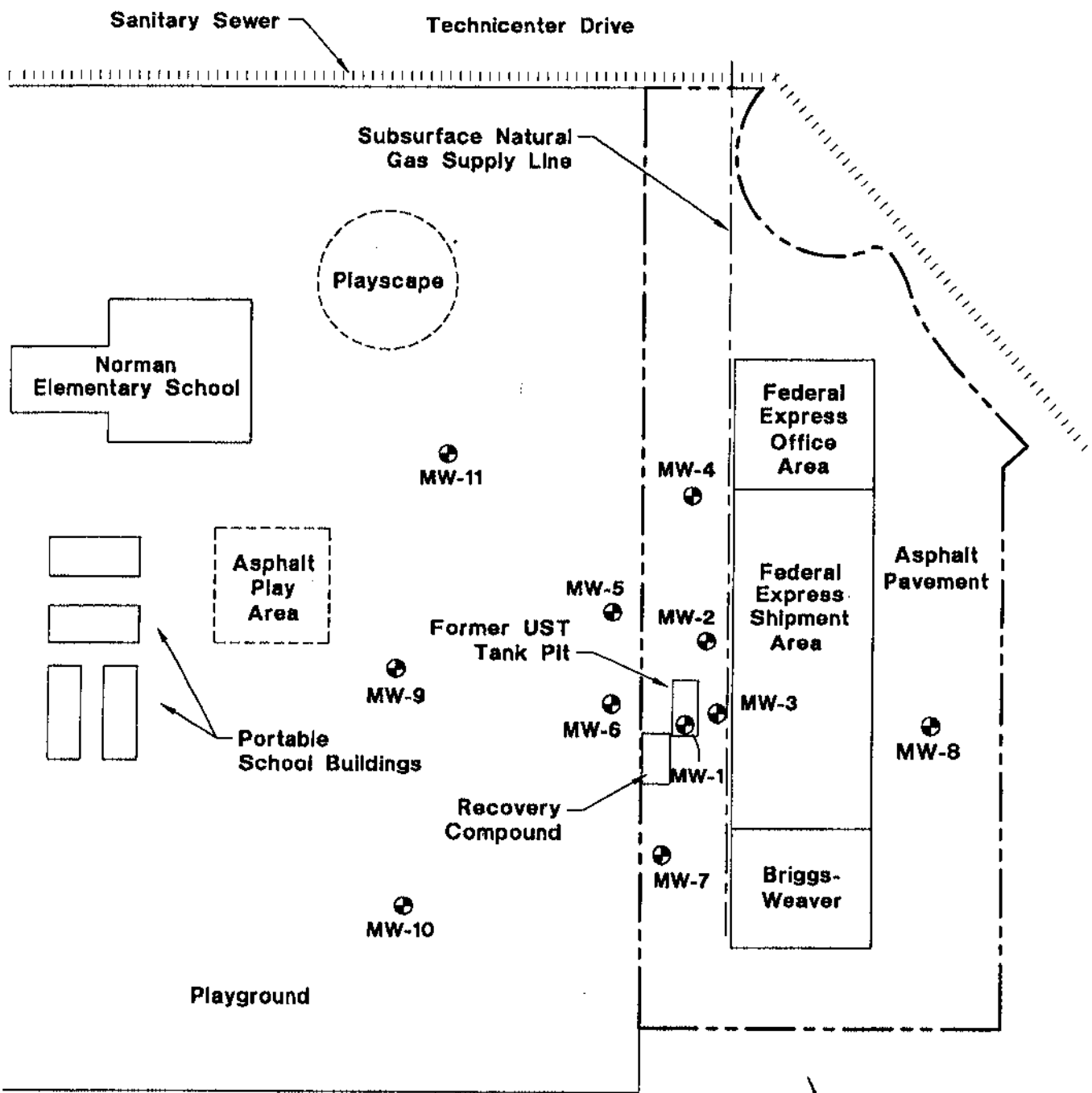
LPST # 111747

FLUID GAUGING DATA SUMMARY

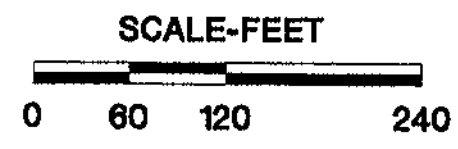
DATE	MW-9			MW-10			MW-11		
	DTW	NAPL	GWE	DTW	NAPL	GWE	DTW	NAPL	GWE
9/24/2001	34.70	0.00	529.21	34.29	0.00	528.70	34.49	0.00	529.14
12/27/2001	32.80	0.00	531.11	32.22	0.00	530.77	32.55	0.00	531.08
3/27/2002	34.32	0.00	529.59	33.70	0.00	529.29	34.10	0.00	529.53
6/17/2002	35.48	0.00	528.43	34.90	0.00	528.09	35.24	0.00	528.39
10/22/2003	36.19	0.00	527.72	35.58	0.00	527.41	36.00	0.00	527.63
1/27/2004	36.78	0.00	527.13	36.23	0.00	526.76	36.62	0.00	527.01

Notes:

- 1) All measurements in feet
- 2) DTW-depth to water below top of surface casing
- 3) NAPL-non-aqueous phase liquid thickness
- 4) GWE-groundwater elevation (corrected for NAPL using 0.75 specific gravity) in feet above mean sea level



LEGEND
 ⊕ Monitoring Well Locations



Site Drawing
 Federal Express
 Austin, Texas

Sanitary Sewer Technicenter Drive

Subsurface Natural Gas Supply Line

Playscape

Norman Elementary School

B	0.049
T	0.616
E	0.209
X	0.774
M	0.239
TPH	4.8

MW-11

B	0.125
T	0.343
E	0.121
X	1.160
M	0.321
TPH	26.4

MW-4

Federal Express Office Area

Federal Express Shipment Area

Asphalt Pavement

Asphalt Play Area

MW-5 NAPL

MW-2 NAPL

Portable School Buildings

MW-9

MW-6 NAPL

MW-3

B	0.220
T	0.053
E	0.099
X	0.381
M	0.097
TPH	4.0

MW-8

B	<0.0008
T	<0.002
E	<0.002
X	<0.003
M	<0.002
TPH	NA

MW-1

B	0.025
T	0.109
E	0.066
X	1.790
M	0.067
TPH	27.9

MW-7

Briggs-Weaver

B	<0.0008
T	<0.002
E	<0.002
X	<0.003
M	<0.002
TPH	NA

MW-10

Playground

B	<0.0008
T	<0.002
E	<0.002
X	<0.003
M	0.116
TPH	NA

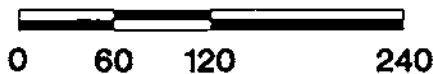
B	<0.0008
T	<0.002
E	<0.002
X	<0.003
M	<0.002
TPH	NA

LEGEND

- ⊕ Monitoring Well Locations
- B Benzene
- T Toluene
- E Ethylbenzene
- X Xylenes
- M MTBE
- NA Not Analyzed
- TPH Total Petroleum Hydrocarbons

*All concentrations in mg/L

SCALE-FEET



Hydrocarbon Distribution

(10/22/03)

Federal Express
Austin, Texas

HBC Project No.

96007145

Sanitary Sewer Technicenter Drive

Subsurface Natural Gas Supply Line

Playscape

Norman Elementary School

B	0.0416
T	0.336
E	0.116
X	0.475
M	0.145
TPH	3.5

MW-11

B	0.577
T	2.940
E	0.735
X	8.050
M	0.574
TPH	66.6

MW-4

B	0.0269
T	0.194
E	0.438
X	5.240
M	0.163
TPH	359.0

MW-5
NAPL

MW-2

MW-6
NAPL

MW-3

MW-1
NAPL

MW-7

Federal Express Office Area

Federal Express Shipment Area

Asphalt Pavement

Portable School Buildings

Asphalt Play Area

Playground

Briggs-Weaver

B	<0.0008
T	<0.002
E	<0.002
X	<0.003
M	0.128
TPH	NA

MW-9

MW-10

B	<0.0008
T	<0.002
E	<0.002
X	<0.003
M	0.116
TPH	NA

B	<0.0008
T	<0.002
E	<0.002
X	<0.003
M	<0.002
TPH	NA

B	0.310
T	0.176
E	0.135
X	0.631
M	0.140
TPH	8.2

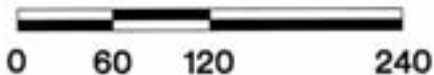
B	<0.0008
T	<0.002
E	<0.002
X	<0.003
M	<0.002
TPH	NA

LEGEND

- ⊕ Monitoring Well Locations
- B Benzene
- T Toluene
- E Ethylbenzene
- X Xylenes
- M MTBE
- NA Not Analyzed
- TPH Total Petroleum Hydrocarbons

* All concentrations in mg/L

SCALE- FEET



Hydrocarbon Distribution

(1/28/04)

Federal Express
Austin, Texas

HBC Project No.

96007145

HBC ENGINEERING, INC.

*gas gradient
WL ~ 33' bgl*

Sanitary Sewer Technicenter Drive

Subsurface Natural Gas Supply Line

Playscape

Norman Elementary School

Federal Express Office Area

MW-11
527.63

MW-4
527.47

Asphalt Play Area

MW-5
527.47
0.02

MW-2
527.65
0.01

Asphalt Pavement

Former UST Tank Pit

Federal Express Shipment Area

MW-9
527.72

MW-6
527.68
0.02

MW-3
527.48

MW-8
527.55

Portable School Buildings

Recovery Compound

MW-1
527.87



MW-7
527.47

Briggs-Weaver

MW-10
527.41

Playground

LEGEND

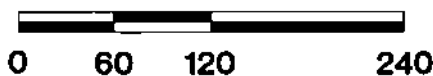
-  Monitoring Well Locations
- 528.43 Groundwater Elevation (Ft. MSL)
-  NAPL Thickness (Ft.)

Groundwater Elevation Map

(10/22/03)

Federal Express
Austin, Texas

SCALE- FEET



HBC Project No. 96007145

Sanitary Sewer

Technicenter Drive

Subsurface Natural Gas Supply Line

Playscape

Norman Elementary School

Federal Express Office Area

Asphalt Play Area

MW-4
526.76

Asphalt Pavement

MW-5
526.87
0.12

Federal Express Shipment Area

MW-2
527.04

Former UST Tank Pit

MW-9
527.13

MW-6
526.92
1.51

MW-3
526.93

Portable School Buildings

MW-8
526.89

MW-1
527.23
0.51

Recovery Compound

MW-10
526.76

MW-7
526.89

Briggs-Weaver

Playground

LEGEND



Monitoring Well Locations

528.43

Groundwater Elevation (Ft. MSL)

0.01

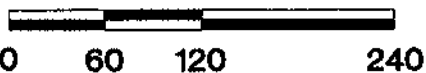
NAPL Thickness (Ft.)

Groundwater Elevation Map

(1/27/04)

Federal Express
Austin, Texas

SCALE-FEET



HBC Project No.

96007145

HBC ENGINEERING, INC.

APPENDIX A



10/28/2003

October 28, 2003

Russ Ford
HBC Engineering
5307 Industrial Oaks Blvd., Suite 160
Austin, Texas 78735

TEL: (512) 442-1122

FAX (512) 442-1181

RE: Federal Express

Order No.: 0310108

Dear Russ Ford:

DHL Analytical received 8 samples on 10/22/03 for the analyses presented in the following report.

There were no problems with the analyses and all data for associated QC met EPA or laboratory specifications except where noted in the Case Narrative and all estimated uncertainties of results are within method specifications.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

A handwritten signature in black ink, appearing to read "John DuPont".

John DuPont
QA Manager

DHL Analytical

Date: 28-Oct-03

CLIENT: HBC Engineering
 Project Name: Federal Express
 Project No: 96007145
 Lab Order: 0310108

Client Sample ID: MW-10
 Lab ID: 0310108-01
 Collection Date: 10/22/03 9:35:00 AM
 Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MTBE AND BTEX IN WATER		SW8021B		Analyst: DEW			
Methyl tert-butyl ether	116	2.0	6.00		µg/L	1	10/24/03 2:26:53 PM
Benzene	ND	0.80	2.00		µg/L	1	10/24/03 2:26:53 PM
Toluene	ND	2.0	6.00		µg/L	1	10/24/03 2:26:53 PM
Ethylbenzene	ND	2.0	6.00		µg/L	1	10/24/03 2:26:53 PM
Xylenes, Total	ND	3.0	9.00		µg/L	1	10/24/03 2:26:53 PM
Surr: Tetrachloroethene	101	0	50-130		%REC	1	10/24/03 2:26:53 PM

Qualifiers: ND - Not Detected at the Method Detection Limit
 J - Analyte detected between MDL and RL
 B - Analyte detected in the associated Method Blank

S - Spike Recovery outside control limits
 C - Sample Result or QC discussed in Case Narrative
 E - TPH pattern not Gas or Diesel Range Pattern

DHL Analytical

Date: 28-Oct-03

CLIENT: HBC Engineering

Client Sample ID: MW-9

Project Name: Federal Express

Lab ID: 0310108-02

Project No: 96007145

Collection Date: 10/22/03 9:50:00 AM

Lab Order: 0310108

Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MTBE AND BTEX IN WATER		SW8021B					Analyst: DEW
Methyl tert-butyl ether	ND	2.0	6.00		µg/L	1	10/24/03 2:45:00 PM
Benzene	ND	0.80	2.00		µg/L	1	10/24/03 2:45:00 PM
Toluene	ND	2.0	6.00		µg/L	1	10/24/03 2:45:00 PM
Ethylbenzene	ND	2.0	6.00		µg/L	1	10/24/03 2:45:00 PM
Xylenes, Total	ND	3.0	9.00		µg/L	1	10/24/03 2:45:00 PM
Surr: Tetrachloroethane	92.3	0	50-130		%REC	1	10/24/03 2:45:00 PM

Qualifiers: ND - Not Detected at the Method Detection Limit
 J - Analyte detected between MDL and RL
 B - Analyte detected in the associated Method Blank

S - Spike Recovery outside control limits
 C - Sample Result or QC discussed in Case Narrative
 E - TPH pattern not Gas or Diesel Range Pattern

DHL Analytical

Date: 28-Oct-03

CLIENT: HBC Engineering
Project Name: Federal Express
Project No: 96007145
Lab Order: 0310108

Client Sample ID: MW-11
Lab ID: 0310108-03
Collection Date: 10/22/03 10:20:00 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TOTAL PETROLEUM HYDROCARBONS (TPH)		TX1005		Analyst: IH			
T/R Hydrocarbons: C6-C12	4.78	0.68	1.95		mg/L	1	10/27/03 12:56:24 PM
T/R Hydrocarbons: >C12-C28	ND	0.68	1.95		mg/L	1	10/27/03 12:56:24 PM
T/R Hydrocarbons: >C28-C35	ND	0.68	1.95		mg/L	1	10/27/03 12:56:24 PM
T/R Hydrocarbons: C6-C35	4.78	0.68	1.95		mg/L	1	10/27/03 12:56:24 PM
Surr: 1-Chlorooctane	115	0	87-147		%REC	1	10/27/03 12:56:24 PM
Surr: Octacosane	125	0	80-140		%REC	1	10/27/03 12:56:24 PM
MTBE AND BTEX IN WATER		SW8021B		Analyst: DEW			
Methyl tert-butyl ether	239	10	30.0		µg/L	5	10/24/03 3:21:22 PM
Benzene	49.1	4.0	10.0		µg/L	5	10/24/03 3:21:22 PM
Toluene	616	10	30.0		µg/L	5	10/24/03 3:21:22 PM
Ethylbenzene	209	10	30.0		µg/L	5	10/24/03 3:21:22 PM
Xylenes, Total	774	15	45.0		µg/L	5	10/24/03 3:21:22 PM
Surr: Tetrachloroethene	90.5	0	50-130		%REC	5	10/24/03 3:21:22 PM

Qualifiers:
 ND - Not Detected at the Method Detection Limit
 J - Analyte detected between MDL and RL
 B - Analyte detected in the associated Method Blank

S - Spike Recovery outside control limits
 C - Sample Result or QC discussed in Case Narrative
 E - TPH pattern not Gas or Diesel Range Pattern

DHL Analytical

Date: 28-Oct-03

CLIENT: HBC Engineering
Project Name: Federal Express
Project No: 96007145
Lab Order: 0310108

Client Sample ID: MW-4
Lab ID: 0310108-04
Collection Date: 10/22/03 11:20:00 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TOTAL PETROLEUM HYDROCARBONS (TPH)		TX1005		Analyst: IH			
T/R Hydrocarbons: C6-C12	23.1	0.68	1.95		mg/L	1	10/27/03 1:19:28 PM
T/R Hydrocarbons: >C12-C28	3.27	0.68	1.95		mg/L	1	10/27/03 1:19:28 PM
T/R Hydrocarbons: >C28-C35	ND	0.68	1.95		mg/L	1	10/27/03 1:19:28 PM
T/R Hydrocarbons: C6-C35	26.4	0.68	1.95		mg/L	1	10/27/03 1:19:28 PM
Surr: 1-Chlorooctane	125	0	87-147		%REC	1	10/27/03 1:19:28 PM
Surr: Octacosane	114	0	80-140		%REC	1	10/27/03 1:19:28 PM
MTBE AND BTEX IN WATER		SW8021B		Analyst: DEW			
Methyl tert-butyl ether	321	40	120		µg/L	20	10/24/03 3:57:36 PM
Benzene	125	0.80	2.00		µg/L	1	10/24/03 4:43:36 PM
Toluene	343	40	120		µg/L	20	10/24/03 3:57:36 PM
Ethylbenzene	121	2.0	6.00		µg/L	1	10/24/03 4:43:36 PM
Xylenes, Total	1160	60	180		µg/L	20	10/24/03 3:57:36 PM
Surr: Tetrachloroethene	87.1	0	50-130		%REC	1	10/24/03 4:43:36 PM
Surr: Tetrachloroethene	88.6	0	50-130		%REC	20	10/24/03 3:57:36 PM

Qualifiers: ND - Not Detected at the Method Detection Limit
 J - Analyte detected between MDL and RL
 B - Analyte detected in the associated Method Blank

S - Spike Recovery outside control limits
 C - Sample Result or QC discussed in Case Narrative
 E - TPH pattern not Gas or Diesel Range Pattern

DHL Analytical

Date: 28-Oct-03

CLIENT: HBC Engineering
 Project Name: Federal Express
 Project No: 96007145
 Lab Order: 0310108

Client Sample ID: MW-7
 Lab ID: 0310108-05
 Collection Date: 10/22/03 11:35:00 AM
 Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MTBE AND BTEX IN WATER		SW8021B		Analyst: DEW			
Methyl tert-butyl ether	ND	2.0	6.00		µg/L	1	10/24/03 1:50:35 PM
Benzene	ND	0.80	2.00		µg/L	1	10/24/03 1:50:35 PM
Toluene	ND	2.0	6.00		µg/L	1	10/24/03 1:50:35 PM
Ethylbenzene	ND	2.0	6.00		µg/L	1	10/24/03 1:50:35 PM
Xylenes, Total	ND	3.0	9.00		µg/L	1	10/24/03 1:50:35 PM
Surr: Tetrachloroethene	96.0	0	50-130		%REC	1	10/24/03 1:50:35 PM

Qualifiers: ND - Not Detected at the Method Detection Limit
 J - Analyte detected between MDL and RL
 B - Analyte detected in the associated Method Blank

S - Spike Recovery outside control limits
 C - Sample Result or QC discussed in Case Narrative
 E - TPH pattern not Gas or Diesel Range Pattern

DHL Analytical

Date: 28-Oct-03

CLIENT: HBC Engineering
 Project Name: Federal Express
 Project No: 96007145
 Lab Order: 0310108

Client Sample ID: MW-8
 Lab ID: 0310108-06
 Collection Date: 10/22/03 12:10:00 PM
 Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MTBE AND BTEX IN WATER		SW8021B		Analyst: DEW			
Methyl tert-butyl ether	ND	2.0	6.00		µg/L	1	10/24/03 2:08:43 PM
Benzene	ND	0.80	2.00		µg/L	1	10/24/03 2:08:43 PM
Toluene	ND	2.0	6.00		µg/L	1	10/24/03 2:08:43 PM
Ethylbenzene	ND	2.0	6.00		µg/L	1	10/24/03 2:08:43 PM
Xylenes, Total	ND	3.0	9.00		µg/L	1	10/24/03 2:08:43 PM
Surr: Tetrachloroethene	96.7	0	50-130		%REC	1	10/24/03 2:08:43 PM

Qualifiers: ND - Not Detected at the Method Detection Limit
 J - Analyte detected between MDL and RL
 B - Analyte detected in the associated Method Blank

S - Spike Recovery outside control limits
 C - Sample Result or QC discussed in Case Narrative
 E - TPH pattern not Gas or Diesel Range Pattern

DHL Analytical

Date: 28-Oct-03

CLIENT: HBC Engineering
Project Name: Federal Express
Project No: 96007145
Lab Order: 0310108

Client Sample ID: MW-3
Lab ID: 0310108-07
Collection Date: 10/22/03 1:45:00 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TOTAL PETROLEUM HYDROCARBONS (TPH)		TX1005		Analyst: IH			
T/R Hydrocarbons: C6-C12	3.07	0.69	1.97		mg/L	1	10/27/03 1:42:19 PM
T/R Hydrocarbons: >C12-C28	0.88	0.69	1.97	J	mg/L	1	10/27/03 1:42:19 PM
T/R Hydrocarbons: >C28-C35	ND	0.69	1.97		mg/L	1	10/27/03 1:42:19 PM
T/R Hydrocarbons: C6-C35	3.95	0.69	1.97		mg/L	1	10/27/03 1:42:19 PM
Surr: 1-Chlorooctane	95.4	0	87-147		%REC	1	10/27/03 1:42:19 PM
Surr: Octacosane	101	0	80-140		%REC	1	10/27/03 1:42:19 PM
MTBE AND BTEX IN WATER		SW8021B		Analyst: DEW			
Methyl tert-butyl ether	96.8	4.0	12.0		µg/L	2	10/24/03 3:03:10 PM
Benzene	220	1.6	4.00		µg/L	2	10/24/03 3:03:10 PM
Toluene	52.5	4.0	12.0		µg/L	2	10/24/03 3:03:10 PM
Ethylbenzene	99.0	4.0	12.0		µg/L	2	10/24/03 3:03:10 PM
Xylenes, Total	381	6.0	18.0		µg/L	2	10/24/03 3:03:10 PM
Surr: Tetrachloroethene	90.8	0	50-130		%REC	2	10/24/03 3:03:10 PM

Qualifiers: ND - Not Detected at the Method Detection Limit
 J - Analyte detected between MDL and RL
 B - Analyte detected in the associated Method Blank

S - Spike Recovery outside control limits
 C - Sample Result or QC discussed in Case Narrative
 E - TPH pattern not Gas or Diesel Range Pattern

DHL Analytical

Date: 28-Oct-03

CLIENT: HBC Engineering
Project Name: Federal Express
Project No: 96007145
Lab Order: 0310108

Client Sample ID: MW-1
Lab ID: 0310108-08
Collection Date: 10/22/03 2:00:00 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TOTAL PETROLEUM HYDROCARBONS (TPH)		TX1005		Analyst: IH			
T/R Hydrocarbons: C6-C12	23.5	0.69	1.98		mg/L	1	10/27/03 1:42:19 PM
T/R Hydrocarbons: >C12-C28	4.41	0.69	1.98		mg/L	1	10/27/03 1:42:19 PM
T/R Hydrocarbons: >C28-C35	ND	0.69	1.98		mg/L	1	10/27/03 1:42:19 PM
T/R Hydrocarbons: C6-C35	27.9	0.69	1.98		mg/L	1	10/27/03 1:42:19 PM
Surr: 1-Chlorooctane	132	0	87-147		%REC	1	10/27/03 1:42:19 PM
Surr: Octacosane	108	0	80-140		%REC	1	10/27/03 1:42:19 PM
MTBE AND BTEX IN WATER		SW8021B		Analyst: DEW			
Methyl tert-butyl ether	67.2	2.0	6.00		µg/L	1	10/24/03 4:25:28 PM
Benzene	25.6	0.80	2.00		µg/L	1	10/24/03 4:25:28 PM
Toluene	109	2.0	6.00		µg/L	1	10/24/03 4:25:28 PM
Ethylbenzene	65.8	2.0	6.00		µg/L	1	10/24/03 4:25:28 PM
Xylenes, Total	1790	30	90.0		µg/L	10	10/24/03 3:39:30 PM
Surr: Tetrachloroethene	96.1	0	50-130		%REC	1	10/24/03 4:25:28 PM
Surr: Tetrachloroethene	91.5	0	50-130		%REC	10	10/24/03 3:39:30 PM

Qualifiers:
 ND - Not Detected at the Method Detection Limit
 J - Analyte detected between MDL and RL
 B - Analyte detected in the associated Method Blank

S - Spike Recovery outside control limits
 C - Sample Result or QC discussed in Case Narrative
 E - TPH pattern not Gas or Diesel Range Pattern

CLIENT: HBC Engineering
Project: Federal Express
Lab Order: 0310108

CASE NARRATIVE

Samples were analyzed using the methods outlined in the following references:

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition and TCEQ method TX1005.

All method blanks, laboratory spikes, and/or matrix spikes met quality assurance objectives.

DHL Analytical

Sample Receipt Checklist

Client Name HBC Engineering

Date Received: 10/22/03

Work Order Number 0310108

Received by: MKS

Checklist completed by Miguel 10-22-03
Signature Date

Reviewed by JD 10/22/03
Initials Date

Carrier name: Hand Delivered

- Shipping container/cooler in good condition? Yes No Not Present
- Custody seals intact on shipping container/cooler? Yes No Not Present
- Custody seals intact on sample bottles? Yes No Not Present
- Chain of custody present? Yes No
- Chain of custody signed when relinquished and received? Yes No
- Chain of custody agrees with sample labels? Yes No
- Samples in proper container/bottle? Yes No
- Sample containers intact? Yes No
- Sufficient sample volume for indicated test? Yes No
- All samples received within holding time? Yes No
- Container/Temp Blank temperature in compliance? Yes No
- Water - VOA vials have zero headspace? No VOA vials submitted Yes No
- Water - pH acceptable upon receipt? Yes No NotApplicable

Adjusted? _____ Checked by _____

Any No response must be detailed in the comments section below.

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action Taken: _____

CLIENT: HBC Engineering
Work Order: 0310108
Project: Federal Express

ANALYTICAL QC SUMMARY REPORT

RunID: GC15_031027B

Sample ID: MB-14635	Batch ID: 14635	TestNo: TX1005	Units: mg/L
SampType: MBLK	Run ID: GC15_031027B	Analysis Date: 10/27/03 11:02:11 AM	Prep Date: 10/24/03

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C6-C12	ND	2								
T/R Hydrocarbons: >C12-C28	ND	2								
T/R Hydrocarbons: >C28-C35	ND	2								
T/R Hydrocarbons: C6-C35	ND	2								
Surr: 1-Chlorooctane	2.31	0	2.5	0	92.4	87	147	0		
Surr: Octacosane	2.448	0	2.5	0	97.9	80	140	0		

Sample ID: LCS-14635	Batch ID: 14635	TestNo: TX1005	Units: mg/L
SampType: LCS	Run ID: GC15_031027B	Analysis Date: 10/27/03 11:24:43 AM	Prep Date: 10/24/03

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C6-C35	25.84	2	25	0	103	75	125	0		
Surr: 1-Chlorooctane	2.843	0	2.5	0	114	87	147	0		
Surr: Octacosane	2.918	0	2.5	0	117	80	140	0		

Sample ID: 0310119-01BMS	Batch ID: 14635	TestNo: TX1005	Units: mg/L
SampType: MS	Run ID: GC15_031027B	Analysis Date: 10/27/03 12:10:25 PM	Prep Date: 10/24/03

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C6-C35	21.18	1.98	24.75	0	85.6	75	125	0		
Surr: 1-Chlorooctane	2.548	0	2.475	0	103	87	147	0		
Surr: Octacosane	2.689	0	2.475	0	109	80	140	0		

Sample ID: 0310119-01BMSD	Batch ID: 14635	TestNo: TX1005	Units: mg/L
SampType: MSD	Run ID: GC15_031027B	Analysis Date: 10/27/03 12:33:40 PM	Prep Date: 10/24/03

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C6-C35	20.72	1.95	24.43	0	84.8	75	125	2.24	30	
Surr: 1-Chlorooctane	2.617	0	2.443	0	107	87	147	0	0	
Surr: Octacosane	2.711	0	2.443	0	111	80	140	0	0	

Qualifiers: ND - Not Detected at the Reporting Limit
 R - RPD outside accepted recovery limits
 J - Analyte detected below quantitation limits
 B - Analyte detected in the associated Method Blank
 S - Spike Recovery outside accepted recovery limits

CLIENT: HBC Engineering
 Work Order: 0310108
 Project: Federal Express

ANALYTICAL QC SUMMARY REPORT

RunID: GC9_031024A

Sample ID: MB-14631	Batch ID: 14631	TestNo: E602	Units: µg/L
SampType: MBLK	Run ID: GC9_031024A	Analysis Date: 10/24/03 11:17:16 AM	Prep Date: 10/24/03

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	2								
Ethylbenzene	ND	6								
Methyl tert-butyl ether	ND	6								
Toluene	ND	6								
Xylenes, Total	ND	9								
Surr: Tetrachloroethene	189.6	0	200	0	94.8	50	130	0		

Sample ID: LCS-14631	Batch ID: 14631	TestNo: E602	Units: µg/L
SampType: LCS	Run ID: GC9_031024A	Analysis Date: 10/24/03 10:59:11 AM	Prep Date: 10/24/03

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	54.81	2	50	0	110	75	125	0		
Ethylbenzene	52.21	6	50	0	104	70	125	0		
Methyl tert-butyl ether	51.21	6	50	0	102	60	124	0		
Toluene	54.11	6	50	0	108	71	129	0		
Xylenes, Total	152	9	150	0	101	71	133	0		
Surr: Tetrachloroethene	188.3	0	200	0	94.2	50	130	0		

Sample ID: MB-14631	Batch ID: 14631	TestNo: SW8021B	Units: µg/L
SampType: MBLK	Run ID: GC9_031024A	Analysis Date: 10/24/03 11:17:16 AM	Prep Date: 10/24/03

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether	ND	6								
Benzene	ND	2								
Toluene	ND	6								
Ethylbenzene	ND	6								
Xylenes, Total	ND	9								
Surr: Tetrachloroethene	189.6	0	200	0	94.8	50	130	0		

Sample ID: LCS-14631	Batch ID: 14631	TestNo: SW8021B	Units: µg/L
SampType: LCS	Run ID: GC9_031024A	Analysis Date: 10/24/03 10:59:11 AM	Prep Date: 10/24/03

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether	51.21	6	50	0	102	60	124	0		
Benzene	54.81	2	50	0	110	75	125	0		
Toluene	54.11	6	50	0	108	71	129	0		
Ethylbenzene	52.21	6	50	0	104	70	125	0		
Xylenes, Total	152	9	150	0	101	71	133	0		
Surr: Tetrachloroethene	188.3	0	200	0	94.2	50	130	0		

Qualifiers: ND - Not Detected at the Reporting Limit R - RPD outside accepted recovery limits
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank
 S - Spike Recovery outside accepted recovery limits

CLIENT: HBC Engineering
Work Order: 0310108
Project: Federal Express

ANALYTICAL QC SUMMARY REPORT

RunID: GC9_031024A

Sample ID: 0310123-09A MS	Batch ID: 14631	TestNo: SW8021B	Units: µg/L
SampType: MS	Run ID: GC9_031024A	Analysis Date: 10/24/03 12:38:14 PM	Prep Date: 10/24/03

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether	49	6	50	0	98	60	124	0		
Benzene	52.51	2	50	0	105	75	125	0		
Toluene	50.71	6	50	0	101	71	129	0		
Ethylbenzene	49	6	50	0	98	70	125	0		
Xylenes, Total	140.9	9	150	0	93.9	71	133	0		
Surr: Tetrachloroethene	182.8	0	200	0	91.4	50	130	0		

Sample ID: 0310123-09A MSD	Batch ID: 14631	TestNo: SW8021B	Units: µg/L
SampType: MSD	Run ID: GC9_031024A	Analysis Date: 10/24/03 12:56:18 PM	Prep Date: 10/24/03

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether	55.81	6	50	0	112	60	124	13.0	20	
Benzene	54.11	2	50	0	108	75	125	3.00	20	
Toluene	52.71	6	50	0	105	71	129	3.87	20	
Ethylbenzene	51.11	6	50	0	102	70	125	4.22	20	
Xylenes, Total	148.8	9	150	0	99.2	71	133	5.44	20	
Surr: Tetrachloroethene	194.3	0	200	0	97.2	50	130	0	0	

Qualifiers: ND - Not Detected at the Reporting Limit R - RPD outside accepted recovery limits
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank
 S - Spike Recovery outside accepted recovery limits

FEB 05 2004



February 03, 2004

Kevin Denson
HBC Engineering
5307 Industrial Oaks Blvd., Suite 160
Austin, Texas 78735

TEL: (512) 442-1122
FAX (512) 442-1181

RE: Fedex

Order No.: 0401126

Dear Kevin Denson:

DHL Analytical received 8 samples on 1/28/04 for the analyses presented in the following report.

There were no problems with the analyses and all data met requirements of NELAC except where noted in the Case Narrative. All non-NELAC methods will be identified accordingly in the case narrative and all estimated uncertainties of test results are within method or EPA specifications.

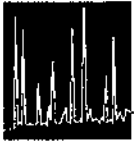
If you have any questions regarding these tests results, please feel free to call. Thank you for using DHL Analytical.

Sincerely,

A handwritten signature in black ink, appearing to read 'John DuPont'. The signature is fluid and cursive.

John DuPont
QA Manager





DHL
ANALYTICAL

TABLE OF CONTENTS

This report for HBC Engineering: Fedex (DHL Work Order 0401126) contains the following information:

ITEM	Page
• Cover Page	1
• Table of Contents	2
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• Data Package Signature Page	5
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February 3, 2004

Approved: _____

John DuPont

DHL Analytical

Sample Receipt Checklist

Client Name **HBC Engineering**

Date Received: **1/28/04**

Work Order Number **0401126**

Received by **MKS**

Checklist completed by

Myrtle 129-4
Signature Date

Reviewed by

JD 1/29/04
Initials Date

Carrier name: Hand Delivered

- Shipping container/cooler in good condition? Yes No Not Present
- Custody seals intact on shipping container/cooler? Yes No Not Present
- Custody seals intact on sample bottles? Yes No Not Present
- Chain of custody present? Yes No
- Chain of custody signed when relinquished and received? Yes No
- Chain of custody agrees with sample labels? Yes No
- Samples in proper container/bottle? Yes No
- Sample containers intact? Yes No
- Sufficient sample volume for indicated test? Yes No
- All samples received within holding time? Yes No
- Container/Temp Blank temperature in compliance? Yes No
- Water - VOA vials have zero headspace? No VOA vials submitted Yes No
- Water - pH acceptable upon receipt? Yes No NotApplicable

Adjusted? _____ Checked by _____

Any No response must be detailed in the comments section below.

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action Taken: _____

Laboratory Data Package Signature Page

This data package consists of:

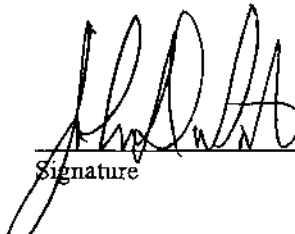
This signature page, the laboratory review checklist, and the following reportable data:

- R1 Field chain-of-custody documentation;
- R2 Sample identification cross-reference;
- R3 Test reports (analytical data sheets) for each environmental sample that includes:
 - a) Items consistent with NELAC 5.13
 - b) dilution factors,
 - c) preparation methods,
 - d) cleanup methods, and
 - e) if required for the project, tentatively identified compounds (TICs).
- R4 Surrogate recovery data including:
 - a) Calculated recovery (%R), and
 - b) The laboratory's surrogate QC limits.
- R5 Test reports/summary forms for blank samples;
- R6 Test reports/summary forms for laboratory control samples (LCSs) including:
 - a) LCS spiking amounts,
 - b) Calculated %R for each analyte, and
 - c) The laboratory's LCS QC limits.
- R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - a) Samples associated with the MS/MSD clearly identified,
 - b) MS/MSD spiking amounts,
 - c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
 - d) Calculated %Rs and relative percent differences (RPDs), and
 - e) The laboratory's MS/MSD QC limits
- R8 Laboratory analytical duplicate (if applicable) recovery and precision:
 - a) the amount of analyte measured in the duplicate,
 - b) the calculated RPD, and
 - c) the laboratory's QC limits for analytical duplicates.
- R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix;
- R10 Other problems or anomalies.

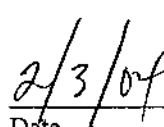
The Exception Report for every "No" or "Not Reviewed (NR)" item in laboratory review checklist.

Release Statement: I am responsible for the release of this laboratory data package. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratory in the Laboratory Review Checklist, and no information or data have been knowingly withheld that would affect the quality of the data.

Scott Schroeder – Project Manager
John DuPont – QA Manager



Signature



Date

DHL Analytical, Inc.

Laboratory Review Checklist: Reportable Data

Project Name: <u>Telex</u>	Date: <u>2/3/04</u>
Reviewer Name: <u>Carlos Castro</u>	Laboratory Work Order: <u>0401126</u>
Prep Batch Number(s): <u>See Prep Dates Report</u>	Run Batch: <u>See Analytical Dates Report</u>

# ¹	A ²	Description	Yes	No	NA ³	NR ⁴	ER# ⁵
R1	OI	CHAIN-OF-CUSTODY (C-O-C)					
		1) Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	✓				21-01
		2) Were all departures from standard conditions described in an exception report?				✓	
R2	OI	SAMPLE AND QUALITY CONTROL (QC) IDENTIFICATION					
		1) Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	✓				
		2) Are all laboratory ID numbers cross-referenced to the corresponding QC data?	✓				
R3	OI	TEST REPORTS					
		1) Were all samples prepared and analyzed within holding times?	✓				
		2) Other than those results < MQL, were all other raw values bracketed by calibration standards?	✓				
		3) Were calculations checked by a peer or supervisor?	✓				
		4) Were all analyte identifications checked by a peer or supervisor?	✓				
		5) Were sample quantitation limits reported for all analytes not detected?	✓				
		6) Were all results for soil and sediment samples reported on a dry weight basis?				✓	
		7) Were % moisture (or solids) reported for all soil and sediment samples?				✓	
		8) If required for the project, TICs reported?				✓	
R4	O	SURROGATE RECOVERY DATA					
		1) Were surrogates added prior to extraction?	✓				
		2) Were surrogate percent recoveries in all samples within the laboratory QC limits?		✓			24-02
R5	OI	TEST REPORTS/SUMMARY FORMS FOR BLANK SAMPLES					
		1) Were appropriate type(s) of blanks analyzed?	✓				
		2) Were blanks analyzed at the appropriate frequency?	✓				
		3) Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	✓				
		4) Were blank concentrations < MQL?	✓				
R6	OI	LABORATORY CONTROL SAMPLES (LCS)					
		1) Were all COCs included in the LCS?	✓				
		2) Was each LCS taken through the entire analytical procedure, (prep and cleanup steps)?	✓				
		3) Were LCSs analyzed at the required frequency?	✓				
		4) Were LCS (and LCSD, if applicable) %Rs & RPD recovery within the laboratory QC limits?	✓				
		5) Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?	✓				
R7	OI	MATRIX SPIKE (MS) AND MATRIX SPIKE DUPLICATE (MSD) DATA					
		1) Were the project/method specified analytes included in the MS and MSD?	✓				
		2) Were MS/MSD analyzed at the appropriate frequency?	✓				
		3) Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	✓				
		4) Were MS/MSD RPDs within laboratory QC limits?	✓				
R8	OI	ANALYTICAL DUPLICATE DATA					
		1) Were appropriate analytical duplicates analyzed for each matrix?				✓	
		2) Were analytical duplicates analyzed at the appropriate frequency?				✓	
		3) Were RPDs or relative standard deviations within the laboratory QC limits?				✓	
R9	OI	METHOD QUANTITATION LIMITS (MQLS)					
		1) Are the MQLs for each method analyte included in the laboratory data package?	✓				
		2) Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	✓				
		3) Are unadjusted MQLs included in the laboratory data package?	✓				
R10	OI	OTHER PROBLEMS/ANOMALIES					
		1) Are all known problems/anomalies/special conditions noted in this LRC and ER?				✓	
		2) Were all necessary corrective actions performed for the reported data?	✓				
		3) Was applicable and available technology used to lower the SQL minimize the matrix interference affects on the sample results?	✓				

DHL Analytical, Inc.

Laboratory Review Checklist (continued): Supporting Data

Project Name: Telex

Date: 2/3/09

Reviewer Name: Carlos Castro

Laboratory Work Order: 040126

# ¹	A ²	Description	Yes	No	NA ³	NR ⁴	ER# ⁵
S1	OI	INITIAL CALIBRATION (ICAL)					
		1) Were response factors and/or relative response factors for each analyte within QC limits?	✓				
		2) Were percent RSDs or correlation coefficient criteria met?	✓				
		3) Was the number of standards recommended in the method used for all analytes?	✓				
		4) Were all points generated between the lowest and highest standard used to calculate the curve?	✓				
		5) Are ICAL data available for all instruments used?	✓				
		6) Has the initial calibration curve been verified using an appropriate second source standard?	✓				
S2	OI	INITIAL AND CONTINUING CALIBRATION VERIFICATION (ICCV AND CCV) AND CONTINUING CALIBRATION BLANK (CCB)					
		1) Was the CCV analyzed at the method-required frequency?	✓				
		2) Were percent differences for each analyte within the method-required QC limits?	✓				
		3) Was the ICAL curve verified for each analyte?	✓				
		4) Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	✓				
S3	O	MASS SPECTRAL TUNING					
		1) Was the appropriate compound for the method used for tuning?			✓		
		2) Were ion abundance data within the method-required QC limits?			✓		
S4	O	INTERNAL STANDARDS (IS)					
		1) Were IS area counts and retention times within the method-required QC limits?			✓		
S5	OI	RAW DATA (NELAC SECTION 1 APPENDIX A GLOSSARY, & SECTION 5.12)					
		1) Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	✓				
		2) Were data associated with manual integrations flagged on the raw data?	✓				
S6	O	DUAL COLUMN CONFIRMATION					
		1) Did dual column confirmation results meet the method-required QC?	✓				
S7	O	TENTATIVELY IDENTIFIED COMPOUNDS (TICS)					
		1) If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			✓		
S8	I	INTERFERENCE CHECK SAMPLE (ICS) RESULTS					
		1) Were percent recoveries within method QC limits?			✓		
S9	I	SERIAL DILUTIONS, POST DIGESTION SPIKES, AND METHOD OF STANDARD ADDITIONS					
		1) Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			✓		
S10	OI	METHOD DETECTION LIMIT (MDL) STUDIES					
		1) Was a MDL study performed for each reported analyte?	✓				
S11	OI	PROFICIENCY TEST REPORTS					
		1) Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	✓				
S12	OI	STANDARDS DOCUMENTATION					
		1) Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	✓				
S13	OI	COMPOUND/ANALYTE IDENTIFICATION PROCEDURES					
		1) Are the procedures for compound/analyte identification documented?	✓				
S14	OI	DEMONSTRATION OF ANALYST COMPETENCY (DOC)					
		1) Was DOC conducted consistent with NELAC Chapter 5C?	✓				
S15	OI	VERIFICATION/VALIDATION DOCUMENTATION FOR METHODS (NELAC)					
		1) Are all the methods used to generate the data documented, verified, and validated, where applicable?	✓				
S16	OI	LABORATORY STANDARD OPERATING PROCEDURES (SOPS)					
		1) Are the laboratory SOPs current and on file for each method performed?	✓				

1 Items identified by the letter "R" should be included in the laboratory data package submitted to the TCEQ in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.

2 O = organic analyses; I = inorganic analyses (and general chemistry, when applicable)

3 NA = Not applicable; 4 NR = Not Reviewed

5 ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked)

CLIENT: HBC Engineering
Project: Fedex
Lab Order: 0401126

CASE NARRATIVE

Samples were analyzed using the methods outlined in the following references:

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition.

Method SW8021B - MTBE/BTEX Analysis
Method TX1005 - Total Petroleum Hydrocarbons

Exception Report R1-01

Samples were received and log-in performed on 1/28/04. A total of 8 samples were received. The samples arrived in good condition and were properly packaged.

Exception Report R4-02

For TPH analysis performed on 1/28/04 the surrogate recoveries for samples MW-4, MW-2 and some QC samples were above control limits for 1-Chlorooctane. These are flagged accordingly. No further corrective actions were required and the samples were not adversely affected.

DATA REPORTING

Sample reports include the Sample Quantitation Limit (SQL) and the Reporting Limit (RL) for each analyte. The computer system allows for reporting SQL with 2 significant figures and the RL with 3 significant figures. Because of rounding it may sometimes appear that a "J" flagged result is lower than the SQL if the sample result is very near the SQL.

CLIENT: HBC Engineering
Project: Fedex
Lab Order: 0401126**Work Order Sample Summary**

Lab Sample ID	Client Sample ID	Tag Number	Collection Date	Date Received
0401126-01A	MW-10		1/28/04 8:55:00 AM	1/28/04
0401126-02A	MW-9		1/28/04 9:09:00 AM	1/28/04
0401126-03A	MW-11		1/28/04 9:19:00 AM	1/28/04
0401126-03B	MW-11		1/28/04 9:19:00 AM	1/28/04
0401126-04A	MW-8		1/28/04 9:31:00 AM	1/28/04
0401126-05A	MW-7		1/28/04 9:40:00 AM	1/28/04
0401126-06A	MW-3		1/28/04 9:53:00 AM	1/28/04
0401126-06B	MW-3		1/28/04 9:53:00 AM	1/28/04
0401126-07A	MW-4		1/28/04 10:10:00 AM	1/28/04
0401126-07B	MW-4		1/28/04 10:10:00 AM	1/28/04
0401126-08A	MW-2		1/28/04 10:14:00 AM	1/28/04
0401126-08B	MW-2		1/28/04 10:14:00 AM	1/28/04

Lab Order: 0401126
 Client: HBC Engineering
 Project: Fedex

PREP DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
0401126-01A	MW-10	1/28/04 8:55:00 AM	Aqueous	SW5030B	Purge and Trap Water GC	1/29/04 10:07:49 AM	15367
0401126-02A	MW-9	1/28/04 9:09:00 AM	Aqueous	SW5030B	Purge and Trap Water GC	1/29/04 10:07:49 AM	15367
0401126-03A	MW-11	1/28/04 9:19:00 AM	Aqueous	SW5030B	Purge and Trap Water GC	1/29/04 10:07:49 AM	15367
	MW-11	1/28/04 9:19:00 AM	Aqueous	SW5030B	Purge and Trap Water GC	1/30/04 9:05:07 AM	15378
0401126-03B	MW-11	1/28/04 9:19:00 AM	Aqueous	TX1005	TX1005 Water Prep	1/29/04 2:00:24 PM	15372
0401126-04A	MW-8	1/28/04 9:31:00 AM	Aqueous	SW5030B	Purge and Trap Water GC	1/29/04 10:07:49 AM	15367
0401126-05A	MW-7	1/28/04 9:40:00 AM	Aqueous	SW5030B	Purge and Trap Water GC	1/29/04 10:07:49 AM	15367
0401126-06A	MW-3	1/28/04 9:53:00 AM	Aqueous	SW5030B	Purge and Trap Water GC	1/30/04 9:05:07 AM	15378
	MW-3	1/28/04 9:53:00 AM	Aqueous	SW5030B	Purge and Trap Water GC	1/30/04 9:05:07 AM	15378
0401126-06B	MW-3	1/28/04 9:53:00 AM	Aqueous	TX1005	TX1005 Water Prep	1/29/04 2:00:24 PM	15372
0401126-07A	MW-4	1/28/04 10:10:00 AM	Aqueous	SW5030B	Purge and Trap Water GC	1/30/04 9:05:07 AM	15378
	MW-4	1/28/04 10:10:00 AM	Aqueous	SW5030B	Purge and Trap Water GC	1/30/04 9:05:07 AM	15378
	MW-4	1/28/04 10:10:00 AM	Aqueous	SW5030B	Purge and Trap Water GC	1/30/04 9:05:07 AM	15378
	MW-4	1/28/04 10:10:00 AM	Aqueous	SW5030B	Purge and Trap Water GC	1/30/04 9:05:07 AM	15378
0401126-07B	MW-4	1/28/04 10:10:00 AM	Aqueous	TX1005	TX1005 Water Prep	1/29/04 2:00:24 PM	15372
0401126-08A	MW-2	1/28/04 10:14:00 AM	Aqueous	SW5030B	Purge and Trap Water GC	1/30/04 9:05:07 AM	15378
	MW-2	1/28/04 10:14:00 AM	Aqueous	SW5030B	Purge and Trap Water GC	1/30/04 9:05:07 AM	15378
	MW-2	1/28/04 10:14:00 AM	Aqueous	SW5030B	Purge and Trap Water GC	1/30/04 9:05:07 AM	15378
	MW-2	1/28/04 10:14:00 AM	Aqueous	SW5030B	Purge and Trap Water GC	1/30/04 9:05:07 AM	15378
0401126-08B	MW-2	1/28/04 10:14:00 AM	Aqueous	TX1005	TX1005 Water Prep	1/29/04 2:00:24 PM	15372
	MW-2	1/28/04 10:14:00 AM	Aqueous	TX1005	TX1005 Water Prep	1/29/04 2:00:24 PM	15372
	MW-2	1/28/04 10:14:00 AM	Aqueous	TX1005	TX1005 Water Prep	1/29/04 2:00:24 PM	15372

DHL Analytical

Date: 03-Feb-04

CLIENT: HBC Engineering
 Project Name: Fedex
 Project No: 96007145
 Lab Order: 0401126

Client Sample ID: MW-11
 Lab ID: 0401126-03
 Collection Date: 1/28/04 9:19:00 AM
 Matrix: AQUEOUS

Analyses	Result	SQL	RL	Qual	Units	DF	Date Analyzed
TOTAL PETROLEUM HYDROCARBONS (TPH)		TX1005		Analyst: IH			
T/R Hydrocarbons: C6-C12	3.51	0.70	2.00		mg/L	1	1/30/04 10:10:22 AM
T/R Hydrocarbons: >C12-C28	ND	0.70	2.00		mg/L	1	1/30/04 10:10:22 AM
T/R Hydrocarbons: >C28-C35	ND	0.70	2.00		mg/L	1	1/30/04 10:10:22 AM
T/R Hydrocarbons: C6-C35	3.51	0.70	2.00		mg/L	1	1/30/04 10:10:22 AM
Surr: 1-Chlorooctane	118	0	87-147		%REC	1	1/30/04 10:10:22 AM
Surr: Octacosane	101	0	80-140		%REC	1	1/30/04 10:10:22 AM
VOLATILES IN WATER BY GC		SW8021B		Analyst: LY			
Methyl tert-butyl ether	145	2.0	6.00		µg/L	1	1/29/04 8:48:07 PM
Benzene	41.6	0.80	2.00		µg/L	1	1/29/04 8:48:07 PM
Toluene	336	20	60.0		µg/L	10	1/30/04 9:57:56 PM
Ethylbenzene	116	2.0	6.00		µg/L	1	1/29/04 8:48:07 PM
Xylenes, Total	475	30	90.0		µg/L	10	1/30/04 9:57:56 PM
Surr: Tetrachloroethene	89.0	0	50-130		%REC	10	1/30/04 9:57:56 PM
Surr: Tetrachloroethene	85.7	0	50-130		%REC	1	1/29/04 8:48:07 PM

Qualifiers: ND - Not Detected at the SQL
 J - Analyte detected between SQL and RL
 B - Analyte detected in the associated Method Blank
 DF - Dilution Factor
 See Final Page of Report for MQLs and MDLs

S - Spike Recovery outside control limits
 C - Sample Result or QC discussed in Case Narrative
 E - TPH pattern not Gas or Diesel Range Pattern
 SQL - Sample Quantitation Limit
 RL - Reporting Limit (MQL adjusted for moisture and sample size)

DHL Analytical

Date: 03-Feb-04

CLIENT: HBC Engineering
 Project Name: Fedex
 Project No: 96007145
 Lab Order: 0401126

Client Sample ID: MW-8
 Lab ID: 0401126-04
 Collection Date: 1/28/04 9:31:00 AM
 Matrix: AQUEOUS

Analyses	Result	SQL	RL	Qual	Units	DF	Date Analyzed
VOLATILES IN WATER BY GC		SW8021B		Analyst: LY			
Methyl tert-butyl ether	ND	2.0	6.00		µg/L	1	1/29/04 9:06:15 PM
Benzene	ND	0.80	2.00		µg/L	1	1/29/04 9:06:15 PM
Toluene	ND	2.0	6.00		µg/L	1	1/29/04 9:06:15 PM
Ethylbenzene	ND	2.0	6.00		µg/L	1	1/29/04 9:06:15 PM
Xylenes, Total	ND	3.0	9.00		µg/L	1	1/29/04 9:06:15 PM
Sur: Tetrachloroethene	91.3	0	50-130		%REC	1	1/29/04 9:06:15 PM

Qualifiers: ND - Not Detected at the SQL
 J - Analyte detected between SQL and RL
 B - Analyte detected in the associated Method Blank
 DF - Dilution Factor
 See Final Page of Report for MQLs and MDLs

S - Spike Recovery outside control limits
 C - Sample Result or QC discussed in Case Narrative
 E - TPH pattern not Gas or Diesel Range Pattern
 SQL - Sample Quantitation Limit
 RL - Reporting Limit (MQL adjusted for moisture and sample size)

DHL Analytical

Date: 03-Feb-04

CLIENT: HBC Engineering
 Project Name: Fedex
 Project No: 96007145
 Lab Order: 0401126

Client Sample ID: MW-7
 Lab ID: 0401126-05
 Collection Date: 1/28/04 9:40:00 AM
 Matrix: AQUEOUS

Analyses	Result	SQL	RL	Qual	Units	DF	Date Analyzed
VOLATILES IN WATER BY GC		SW8021B		Analyst: LY			
Methyl tert-butyl ether	ND	2.0	6.00		µg/L	1	1/29/04 9:24:19 PM
Benzene	ND	0.80	2.00		µg/L	1	1/29/04 9:24:19 PM
Toluene	ND	2.0	6.00		µg/L	1	1/29/04 9:24:19 PM
Ethylbenzene	ND	2.0	6.00		µg/L	1	1/29/04 9:24:19 PM
Xylenes, Total	ND	3.0	9.00		µg/L	1	1/29/04 9:24:19 PM
Surr: Tetrachloroethene	91.6	0	50-130		%REC	1	1/29/04 9:24:19 PM

Qualifiers: ND - Not Detected at the SQL
 J - Analyte detected between SQL and RL
 B - Analyte detected in the associated Method Blank
 DF- Dilution Factor
 See Final Page of Report for MQLs and MDLs

S - Spike Recovery outside control limits
 C - Sample Result or QC discussed in Case Narrative
 E - TPH pattern not Gas or Diesel Range Pattern
 SQL - Sample Quantitation Limit
 RL - Reporting Limit (MQL adjusted for moisture and sample size)

DHL Analytical

Date: 03-Feb-04

CLIENT: HBC Engineering
Project Name: Fedex
Project No: 96007145
Lab Order: 0401126

Client Sample ID: MW-3
Lab ID: 0401126-06
Collection Date: 1/28/04 9:53:00 AM
Matrix: AQUEOUS

Analyses	Result	SQL	RL	Qual	Units	DF	Date Analyzed
TOTAL PETROLEUM HYDROCARBONS (TPH)		TX1005		Analyst: IH			
T/R Hydrocarbons: C6-C12	6.50	0.71	2.02		mg/L	1	1/30/04 10:16:50 AM
T/R Hydrocarbons: >C12-C28	1.7	0.71	2.02	J	mg/L	1	1/30/04 10:16:50 AM
T/R Hydrocarbons: >C28-C35	ND	0.71	2.02		mg/L	1	1/30/04 10:16:50 AM
T/R Hydrocarbons: C6-C35	8.20	0.71	2.02		mg/L	1	1/30/04 10:16:50 AM
Surr: 1-Chlorooctane	129	0	87-147		%REC	1	1/30/04 10:16:50 AM
Surr: Octacosane	98.6	0	80-140		%REC	1	1/30/04 10:16:50 AM
VOLATILES IN WATER BY GC		SW8021B		Analyst: LY			
Methyl tert-butyl ether	140	2.0	6.00		µg/L	1	1/30/04 7:33:14 PM
Benzene	310	8.0	20.0		µg/L	10	2/2/04 1:25:14 PM
Toluene	176	2.0	6.00		µg/L	1	1/30/04 7:33:14 PM
Ethylbenzene	135	2.0	6.00		µg/L	1	1/30/04 7:33:14 PM
Xylenes, Total	631	30	90.0		µg/L	10	2/2/04 1:25:14 PM
Surr: Tetrachloroethene	85.8	0	50-130		%REC	10	2/2/04 1:25:14 PM
Surr: Tetrachloroethene	86.0	0	50-130		%REC	1	1/30/04 7:33:14 PM

Qualifiers: ND - Not Detected at the SQL
 J - Analyte detected between SQL and RL
 B - Analyte detected in the associated Method Blank
 DF- Dilution Factor
 See Final Page of Report for MQLs and MDLs

S - Spike Recovery outside control limits
 C - Sample Result or QC discussed in Case Narrative
 E - TPH pattern not Gas or Diesel Range Pattern
 SQL - Sample Quantitation Limit
 RL - Reporting Limit (MQL adjusted for moisture and sample size)

DHL Analytical

Date: 03-Feb-04

CLIENT: HBC Engineering
 Project Name: Fedex
 Project No: 96007145
 Lab Order: 0401126

Client Sample ID: MW-4
 Lab ID: 0401126-07
 Collection Date: 1/28/04 10:10:00 AM
 Matrix: AQUEOUS

Analyses	Result	SQL	RL	Qual	Units	DF	Date Analyzed
TOTAL PETROLEUM HYDROCARBONS (TPH)		TX1005		Analyst: IH			
T/R Hydrocarbons: C6-C12	47.4	0.70	1.99		mg/L	1	1/30/04 10:23:20 AM
T/R Hydrocarbons: >C12-C28	19.2	0.70	1.99		mg/L	1	1/30/04 10:23:20 AM
T/R Hydrocarbons: >C28-C35	ND	0.70	1.99		mg/L	1	1/30/04 10:23:20 AM
T/R Hydrocarbons: C6-C35	66.6	0.70	1.99		mg/L	1	1/30/04 10:23:20 AM
Surr: 1-Chlorooctane	262	0	87-147	S	%REC	1	1/30/04 10:23:20 AM
Surr: Octacosane	86.6	0	80-140		%REC	1	1/30/04 10:23:20 AM
VOLATILES IN WATER BY GC		SW8021B		Analyst: LY			
Methyl tert-butyl ether	574	20	60.0		µg/L	10	1/31/04 8:50:39 PM
Benzene	577	8.0	20.0		µg/L	10	1/31/04 8:50:39 PM
Toluene	2940	100	300		µg/L	50	1/31/04 8:14:25 PM
Ethylbenzene	735	20	60.0		µg/L	10	1/31/04 8:50:39 PM
Xylenes, Total	8050	150	450		µg/L	50	1/31/04 8:14:25 PM
Surr: Tetrachloroethene	87.6	0	50-130		%REC	10	1/31/04 8:50:39 PM
Surr: Tetrachloroethene	83.5	0	50-130		%REC	50	1/31/04 8:14:25 PM

Qualifiers: ND - Not Detected at the SQL
 J - Analyte detected between SQL and RL
 B - Analyte detected in the associated Method Blank
 DF - Dilution Factor
 See Final Page of Report for MQLs and MDLs

S - Spike Recovery outside control limits
 C - Sample Result or QC discussed in Case Narrative
 E - TPH pattern not Gas or Diesel Range Pattern
 SQL - Sample Quantitation Limit
 RL - Reporting Limit (MQL adjusted for moisture and sample size)

DHL Analytical

Date: 03-Feb-04

CLIENT: HBC Engineering
 Project Name: Fedex
 Project No: 96007145
 Lab Order: 0401126

Client Sample ID: MW-2
 Lab ID: 0401126-08
 Collection Date: 1/28/04 10:14:00 AM
 Matrix: AQUEOUS

Analyses	Result	SQL	RL	Qual	Units	DF	Date Analyzed
TOTAL PETROLEUM HYDROCARBONS (TPH)		TX1005		Analyst: JH			
T/R Hydrocarbons: C6-C12	217	6.9	19.8		mg/L	10	1/30/04 4:17:58 PM
T/R Hydrocarbons: >C12-C28	142	6.9	19.8		mg/L	10	1/30/04 4:17:58 PM
T/R Hydrocarbons: >C28-C35	ND	0.69	1.98		mg/L	1	1/30/04 10:29:45 AM
T/R Hydrocarbons: C6-C35	359	6.9	19.8		mg/L	10	1/30/04 4:17:58 PM
Surr: 1-Chlorooctane	1240	0	87-147	S	%REC	10	1/30/04 4:17:58 PM
Surr: 1-Chlorooctane	947	0	87-147	S	%REC	1	1/30/04 10:29:45 AM
Surr: Octacosane	106	0	80-140		%REC	10	1/30/04 4:17:58 PM
Surr: Octacosane	99.3	0	80-140		%REC	1	1/30/04 10:29:45 AM
VOLATILES IN WATER BY GC		SW8021B		Analyst: LY			
Methyl tert-butyl ether	163	2.0	6.00		µg/L	1	1/31/04 9:08:40 PM
Benzene	26.9	0.80	2.00		µg/L	1	1/31/04 9:08:40 PM
Toluene	194	2.0	6.00		µg/L	1	1/31/04 9:08:40 PM
Ethylbenzene	438	20	60.0		µg/L	10	1/31/04 1:17:29 PM
Xylenes, Total	5240	60	180		µg/L	20	1/31/04 8:32:35 PM
Surr: Tetrachloroethene	86.4	0	50-130		%REC	20	1/31/04 8:32:35 PM
Surr: Tetrachloroethene	88.6	0	50-130		%REC	10	1/31/04 1:17:29 PM

Qualifiers: ND - Not Detected at the SQL
 J - Analyte detected between SQL and RL
 B - Analyte detected in the associated Method Blank
 DF - Dilution Factor
 See Final Page of Report for MPLs and MDLs

S - Spike Recovery outside control limits
 C - Sample Result or QC discussed in Case Narrative
 E - TPH pattern not Gas or Diesel Range Pattern
 SQL - Sample Quantitation Limit
 RL - Reporting Limit (MQL adjusted for moisture and sample size)

CLIENT: HBC Engineering

ANALYTICAL QC SUMMARY REPORT

Work Order: 0401126

Project: Fedex

RunID: GC12_040130A

Sample ID MB-15372	Batch ID: 15372	TestNo: TX1005	Units: mg/L
SampType MBLK	Run ID: GC12_040130A	Analysis Date: 1/30/04 9:58:21 AM	Prep Date: 1/29/04

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C6-C12	ND	2								
T/R Hydrocarbons: >C12-C28	ND	2								
T/R Hydrocarbons: >C28-C35	ND	2								
T/R Hydrocarbons: C6-C35	ND	2								
Surr: 1-Chlorooctane	2.646	0	2.5	0	106	87	147	0		
Surr: Octacosane	2.5	0	2.5	0	100	80	140	0		

Sample ID LCS-15372	Batch ID: 15372	TestNo: TX1005	Units: mg/L
SampType LCS	Run ID: GC12_040130A	Analysis Date: 1/30/04 10:04:33 AM	Prep Date: 1/29/04

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C6-C35	28.8	2	25	0	115	75	125	0		
Surr: 1-Chlorooctane	3.768	0	2.5	0	151	87	147	0		S
Surr: Octacosane	2.612	0	2.5	0	104	80	140	0		

Sample ID 0401128-09AMS	Batch ID: 15372	TestNo: TX1005	Units: mg/L
SampType MS	Run ID: GC12_040130A	Analysis Date: 1/30/04 12:38:10 PM	Prep Date: 1/29/04

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C6-C35	24.79	1.95	24.43	0	101	75	125	0		
Surr: 1-Chlorooctane	3.233	0	2.443	0	132	87	147	0		
Surr: Octacosane	2.382	0	2.443	0	97.5	80	140	0		

Sample ID 0401128-09AMSD	Batch ID: 15372	TestNo: TX1005	Units: mg/L
SampType MSD	Run ID: GC12_040130A	Analysis Date: 1/30/04 12:18:34 PM	Prep Date: 1/29/04

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C6-C35	24.41	1.97	24.67	0	99	75	125	1.55	30	
Surr: 1-Chlorooctane	3.254	0	2.467	0	132	87	147	0	0	
Surr: Octacosane	2.487	0	2.467	0	101	80	140	0	0	

Sample ID CCV-040130	Batch ID: R17086	TestNo: TX1005	Units: mg/L
SampType CCV	Run ID: GC12_040130A	Analysis Date: 1/30/04 11:00:42 AM	Prep Date:

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C6-C12	216.9	2	0	0	0	0	0	0		
T/R Hydrocarbons: >C12-C28	294.6	2	0	0	0	0	0	0		
T/R Hydrocarbons: >C28-C35	ND	2	0	0	0	0	0	0		
T/R Hydrocarbons: C6-C35	511.6	2	500	0	102	75	125	0		
Surr: 1-Chlorooctane	39.68	0	25	0	159	85	150	0		S

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits
 S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits
 B - Analyte detected in the associated Method Blank

CLIENT: HBC Engineering
 Work Order: 0401126
 Project: Fedex

ANALYTICAL QC SUMMARY REPORT

RunID: GC12_040130A

Sample ID CCV-040130	Batch ID: R17086	TestNo: TX1005	Units: mg/L							
SampType CCV	Run ID: GC12_040130A	Analysis Date: 1/30/04 11:00:42 AM	Prep Date:							
Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Surr: Octacosane	22.11	0	25	0	88.4	85	150	0		
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Sample ID CCV2-040130	Batch ID: R17086	TestNo: TX1005	Units: mg/L							
SampType CCV	Run ID: GC12_040130A	Analysis Date: 1/30/04 12:11:52 PM	Prep Date:							
Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

T/R Hydrocarbons: C6-C12	232.1	2	0	0	0	0	0	0		
T/R Hydrocarbons: >C12-C28	351.5	2	0	0	0	0	0	0		
T/R Hydrocarbons: >C28-C35	ND	2	0	0	0	0	0	0		
T/R Hydrocarbons: C6-C35	583.5	2	500	0	117	75	125	0		
Surr: 1-Chlorooctane	41.67	0	25	0	167	85	150	0		S
Surr: Octacosane	24.53	0	25	0	98.1	85	150	0		

Sample ID CCV3-040130	Batch ID: R17086	TestNo: TX1005	Units: mg/L							
SampType CCV	Run ID: GC12_040130A	Analysis Date: 1/30/04 1:02:51 PM	Prep Date:							
Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

T/R Hydrocarbons: C6-C12	231.5	2	0	0	0	0	0	0		
T/R Hydrocarbons: >C12-C28	316.5	2	0	0	0	0	0	0		
T/R Hydrocarbons: >C28-C35	ND	2	0	0	0	0	0	0		
T/R Hydrocarbons: C6-C35	548	2	500	0	110	75	125	0		
Surr: 1-Chlorooctane	42.15	0	25	0	169	85	150	0		S
Surr: Octacosane	25.36	0	25	0	101	85	150	0		

Sample ID CCV6-040130	Batch ID: R17086	TestNo: TX1005	Units: mg/L							
SampType CCV	Run ID: GC12_040130A	Analysis Date: 1/30/04 4:24:59 PM	Prep Date:							
Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

T/R Hydrocarbons: C6-C12	223.5	2	0	0	0	0	0	0		
T/R Hydrocarbons: >C12-C28	308.1	2	0	0	0	0	0	0		
T/R Hydrocarbons: >C28-C35	ND	2	0	0	0	0	0	0		
T/R Hydrocarbons: C6-C35	531.6	2	500	0	106	75	125	0		
Surr: 1-Chlorooctane	42.33	0	25	0	169	85	150	0		S
Surr: Octacosane	26.72	0	25	0	107	85	150	0		

Sample ID ICV-040130	Batch ID: R17086	TestNo: TX1005	Units: mg/L							
SampType ICV	Run ID: GC12_040130A	Analysis Date: 1/30/04 9:42:43 AM	Prep Date:							
Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

T/R Hydrocarbons: C6-C12	504.3	2	0	0	0	0	0	0		
T/R Hydrocarbons: >C12-C28	655.1	2	0	0	0	0	0	0		

Qualifiers: ND - Not Detected at the Reporting Limit R - RPD outside accepted recovery limits
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank
 S - Spike Recovery outside accepted recovery limits

CLIENT: HBC Engineering
Work Order: 0401126
Project: Fedex

ANALYTICAL QC SUMMARY REPORT

RunID: GC12_040130A

Sample ID	ICV-040130	Batch ID:	R17086	TestNo:	TX1005	Units:	mg/L
SampType	ICV	Run ID:	GC12_040130A	Analysis Date:	1/30/04 9:42:43 AM	Prep Date:	

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
T/R Hydrocarbons: >C28-C35	0.3727	2	0	0	0	0	0	0		
T/R Hydrocarbons: C6-C35	1160	2	1000	0	116	75	125	0		
Surr: 1-Chlorooctane	90.95	0	50	0	182	85	150	0		S
Surr: Octacosane	51.9	0	50	0	104	85	150	0		

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits
 S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits
 B - Analyte detected in the associated Method Blank

CLIENT: HBC Engineering
 Work Order: 0401126
 Project: Fedex

ANALYTICAL QC SUMMARY REPORT

RunID: GC9_040129B

Sample ID MB-15367	Batch ID: 15367	TestNo: SW8021B	Units: µg/L
SampType MBLK	Run ID: GC9_040129B	Analysis Date: 1/29/04 11:47:51 AM	Prep Date: 1/29/04

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether	ND	6								
Benzene	ND	2								
Toluene	ND	6								
Ethylbenzene	ND	6								
Xylenes, Total	ND	9								
Surr: Tetrachloroethene	165.6	0	200	0	82.8	50	130	0		

Sample ID LCS-15367	Batch ID: 15367	TestNo: SW8021B	Units: µg/L
SampType LCS	Run ID: GC9_040129B	Analysis Date: 1/29/04 11:29:41 AM	Prep Date: 1/29/04

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether	49.8	6	50	0	99.6	60	124	0		
Benzene	51.31	2	50	0	103	75	125	0		
Toluene	52.11	6	50	0	104	71	129	0		
Ethylbenzene	49.6	6	50	0	99.2	70	125	0		
Xylenes, Total	141.2	9	150	0	94.2	71	133	0		
Surr: Tetrachloroethene	182.2	0	200	0	91.1	50	130	0		

Sample ID 0401117-01A MS	Batch ID: 15367	TestNo: SW8021B	Units: µg/L
SampType MS	Run ID: GC9_040129B	Analysis Date: 1/29/04 2:51:48 PM	Prep Date: 1/29/04

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether	50.11	6	50	6.513	87.2	60	124	0		
Benzene	45.79	2	50	0	91.6	75	125	0		
Toluene	45.89	6	50	0	91.8	71	129	0		
Ethylbenzene	42.78	6	50	0	85.6	70	125	0		
Xylenes, Total	121.3	9	150	0	80.8	71	133	0		
Surr: Tetrachloroethene	159.8	0	200	0	79.9	50	130	0		

Sample ID 0401117-01A MSD	Batch ID: 15367	TestNo: SW8021B	Units: µg/L
SampType MSD	Run ID: GC9_040129B	Analysis Date: 1/29/04 3:09:45 PM	Prep Date: 1/29/04

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether	49.3	6	50	6.513	85.6	60	124	1.63	20	
Benzene	45.09	2	50	0	90.2	75	125	1.54	20	
Toluene	45.29	6	50	0	90.6	71	129	1.32	20	
Ethylbenzene	42.28	6	50	0	84.6	70	125	1.18	20	
Xylenes, Total	119.5	9	150	0	79.7	71	133	1.46	20	
Surr: Tetrachloroethene	159.9	0	200	0	80	50	130	0	0	

Qualifiers: ND - Not Detected at the Reporting Limit R - RPD outside accepted recovery limits
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank
 S - Spike Recovery outside accepted recovery limits

CLIENT: HBC Engineering
 Work Order: 0401126
 Project: Fedex

ANALYTICAL QC SUMMARY REPORT

RunID: GC9_040129B

Sample ID	CCV1-040129	Batch ID:	R17067	TestNo:	SW8021B	Units:	µg/L			
SampType	CCV	Run ID:	GC9_040129B	Analysis Date:	1/29/04 4:03:54 PM	Prep Date:				
Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Methyl tert-butyl ether	44.89	6	50	0	89.8	80	120	0		
Benzene	50.71	2	50	0	101	85	115	0		
Toluene	50.21	6	50	0	100	85	115	0		
Ethylbenzene	47.19	6	50	0	94.4	85	115	0		
Xylenes, Total	134.2	9	150	0	89.5	85	115	0		
Surr: Tetrachloroethene	177	0	200	0	88.5	50	130	0		

Sample ID	CCV2-040129	Batch ID:	R17067	TestNo:	SW8021B	Units:	µg/L			
SampType	CCV	Run ID:	GC9_040129B	Analysis Date:	1/29/04 8:12:07 PM	Prep Date:				
Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Methyl tert-butyl ether	46.39	6	50	0	92.8	80	120	0		
Benzene	50.51	2	50	0	101	85	115	0		
Toluene	50.01	6	50	0	100	85	115	0		
Ethylbenzene	46.19	6	50	0	92.4	85	115	0		
Xylenes, Total	130.8	9	150	0	87.2	85	115	0		
Surr: Tetrachloroethene	172.8	0	200	0	86.4	50	130	0		

Sample ID	CCV3-040129	Batch ID:	R17067	TestNo:	SW8021B	Units:	µg/L			
SampType	CCV	Run ID:	GC9_040129B	Analysis Date:	1/29/04 10:00:27 PM	Prep Date:				
Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Methyl tert-butyl ether	48.7	6	50	0	97.4	80	120	0		
Benzene	53.91	2	50	0	108	85	115	0		
Toluene	51.81	6	50	0	104	85	115	0		
Ethylbenzene	49.8	6	50	0	99.6	85	115	0		
Xylenes, Total	142.1	9	150	0	94.7	85	115	0		
Surr: Tetrachloroethene	181.2	0	200	0	90.6	50	130	0		

Sample ID	ICV-040129	Batch ID:	R17067	TestNo:	SW8021B	Units:	µg/L			
SampType	ICV	Run ID:	GC9_040129B	Analysis Date:	1/29/04 11:11:38 AM	Prep Date:				
Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Methyl tert-butyl ether	93.82	6	100	0	93.8	80	120	0		
Benzene	98.22	2	100	0	98.2	85	115	0		
Toluene	101.2	6	100	0	101	85	115	0		
Ethylbenzene	96.32	6	100	0	96.3	85	115	0		
Xylenes, Total	277.2	9	300	0	92.4	85	115	0		
Surr: Tetrachloroethene	184.1	0	200	0	92.1	50	130	0		

Qualifiers: ND - Not Detected at the Reporting Limit R - RPD outside accepted recovery limits
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank
 S - Spike Recovery outside accepted recovery limits

CLIENT: HBC Engineering
 Work Order: 0401126
 Project: Fedex

ANALYTICAL QC SUMMARY REPORT

RunID: GC9_040130A

Sample ID MB-15378	Batch ID: 15378	TestNo: SW8021B	Units: µg/L
SampType MBLK	Run ID: GC9_040130A	Analysis Date: 1/30/04 10:48:09 AM	Prep Date: 1/30/04

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether	ND	6								
Benzene	ND	2								
Toluene	ND	6								
Ethylbenzene	ND	6								
Xylenes, Total	ND	9								
Surr: Tetrachloroethene	169.2	0	200	0	84.6	50	130	0		

Sample ID LCS-15378	Batch ID: 15378	TestNo: SW8021B	Units: µg/L
SampType LCS	Run ID: GC9_040130A	Analysis Date: 1/30/04 10:29:56 AM	Prep Date: 1/30/04

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether	51.01	6	50	0	102	60	124	0		
Benzene	53.81	2	50	0	108	75	125	0		
Toluene	52.71	6	50	0	105	71	129	0		
Ethylbenzene	49.4	6	50	0	98.8	70	125	0		
Xylenes, Total	141.4	9	150	0	94.3	71	133	0		
Surr: Tetrachloroethene	180.8	0	200	0	90.4	50	130	0		

Sample ID 0401129-05A MS	Batch ID: 15378	TestNo: SW8021B	Units: µg/L
SampType MS	Run ID: GC9_040130A	Analysis Date: 1/30/04 8:09:34 PM	Prep Date: 1/30/04

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether	50.31	6	50	0	101	60	124	0		
Benzene	52.81	2	50	0	106	75	125	0		
Toluene	51.71	6	50	0	103	71	129	0		
Ethylbenzene	48.3	6	50	0	96.6	70	125	0		
Xylenes, Total	138.2	9	150	0	92.1	71	133	0		
Surr: Tetrachloroethene	176.9	0	200	0	88.5	50	130	0		

Sample ID 0401129-05A MSD	Batch ID: 15378	TestNo: SW8021B	Units: µg/L
SampType MSD	Run ID: GC9_040130A	Analysis Date: 1/30/04 8:27:30 PM	Prep Date: 1/30/04

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether	45.39	6	50	0	90.8	60	124	10.3	20	
Benzene	50.51	2	50	0	101	75	125	4.45	20	
Toluene	49.81	6	50	0	99.6	71	129	3.74	20	
Ethylbenzene	45.99	6	50	0	92	70	125	4.89	20	
Xylenes, Total	131	9	150	0	87.3	71	133	5.34	20	
Surr: Tetrachloroethene	173.5	0	200	0	86.8	50	130	0	0	

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits
 S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits
 B - Analyte detected in the associated Method Blank

CLIENT: HBC Engineering
 Work Order: 0401126
 Project: Fedex

ANALYTICAL QC SUMMARY REPORT

RunID: GC9_040130A

Sample ID	CCV1-040130	Batch ID:	R17095	TestNo:	SW8021B	Units:	µg/L
SampType	CCV	Run ID:	GC9_040130A	Analysis Date:	1/30/04 3:58:00 PM	Prep Date:	

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether	46.79	6	50	0	93.6	80	120	0		
Benzene	52.81	2	50	0	106	85	115	0		
Toluene	51.91	6	50	0	104	85	115	0		
Ethylbenzene	47.8	6	50	0	95.6	85	115	0		
Xylenes, Total	134.9	9	150	0	89.9	85	115	0		
Surr: Tetrachloroethene	180.1	0	200	0	90.1	50	130	0		

Sample ID	CCV1-040130	Batch ID:	R17095	TestNo:	SW8021B	Units:	µg/L
SampType	CCV	Run ID:	GC9_040130A	Analysis Date:	1/30/04 9:03:43 PM	Prep Date:	

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether	47.7	6	50	0	95.4	80	120	0		
Benzene	51.21	2	50	0	102	85	115	0		
Toluene	48.8	6	50	0	97.6	85	115	0		
Ethylbenzene	47.6	6	50	0	95.2	85	115	0		
Xylenes, Total	137.2	9	150	0	91.5	85	115	0		
Surr: Tetrachloroethene	174.3	0	200	0	87.2	50	130	0		

Sample ID	CCV2-040130	Batch ID:	R17095	TestNo:	SW8021B	Units:	µg/L
SampType	CCV	Run ID:	GC9_040130A	Analysis Date:	1/30/04 10:34:10 PM	Prep Date:	

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether	47.19	6	50	0	94.4	80	120	0		
Benzene	53.11	2	50	0	106	85	115	0		
Toluene	50.91	6	50	0	102	85	115	0		
Ethylbenzene	49.1	6	50	0	98.2	85	115	0		
Xylenes, Total	140.9	9	150	0	93.9	85	115	0		
Surr: Tetrachloroethene	180.8	0	200	0	90.4	50	130	0		

Sample ID	CCV1-040131	Batch ID:	R17095	TestNo:	SW8021B	Units:	µg/L
SampType	CCV	Run ID:	GC9_040130A	Analysis Date:	1/31/04 1:53:31 PM	Prep Date:	

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether	45.79	6	50	0	91.6	80	120	0		
Benzene	50.11	2	50	0	100	85	115	0		
Toluene	49.5	6	50	0	99	85	115	0		
Ethylbenzene	46.49	6	50	0	93	85	115	0		
Xylenes, Total	133.5	9	150	0	89	85	115	0		
Surr: Tetrachloroethene	174.9	0	200	0	87.5	50	130	0		

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits
 S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits
 B - Analyte detected in the associated Method Blank

CLIENT: HBC Engineering
 Work Order: 0401126
 Project: Fedex

ANALYTICAL QC SUMMARY REPORT

RunID: GC9_040130A

Sample ID	CCV2-040131	Batch ID:	R17095	TestNo:	SW8021B	Units:	µg/L
SampType	CCV	Run ID:	GC9_040130A	Analysis Date:	1/31/04 7:38:21 PM	Prep Date:	

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether	49.6	6	50	0	99.2	80	120	0		
Benzene	51.71	2	50	0	103	85	115	0		
Toluene	49.5	6	50	0	99	85	115	0		
Ethylbenzene	47.9	6	50	0	95.8	85	115	0		
Xylenes, Total	137.1	9	150	0	91.4	85	115	0		
Surr: Tetrachloroethene	180.2	0	200	0	90.1	50	130	0		

Sample ID	CCV3-040131	Batch ID:	R17095	TestNo:	SW8021B	Units:	µg/L
SampType	CCV	Run ID:	GC9_040130A	Analysis Date:	1/31/04 9:45:04 PM	Prep Date:	

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether	47.7	6	50	0	95.4	80	120	0		
Benzene	51.41	2	50	0	103	85	115	0		
Toluene	49.5	6	50	0	99	85	115	0		
Ethylbenzene	48.2	6	50	0	96.4	85	115	0		
Xylenes, Total	137.9	9	150	0	91.9	85	115	0		
Surr: Tetrachloroethene	177.3	0	200	0	88.7	50	130	0		

Sample ID	ICV-40130	Batch ID:	R17095	TestNo:	SW8021B	Units:	µg/L
SampType	ICV	Run ID:	GC9_040130A	Analysis Date:	1/30/04 10:11:44 AM	Prep Date:	

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether	92.62	6	100	0	92.6	80	120	0		
Benzene	98.62	2	100	0	98.6	85	115	0		
Toluene	97.92	6	100	0	97.9	85	115	0		
Ethylbenzene	91.52	6	100	0	91.5	85	115	0		
Xylenes, Total	265.4	9	300	0	88.5	85	115	0		
Surr: Tetrachloroethene	180.4	0	200	0	90.2	50	130	0		

Sample ID	ICV-040131	Batch ID:	R17095	TestNo:	SW8021B	Units:	µg/L
SampType	ICV	Run ID:	GC9_040130A	Analysis Date:	1/31/04 11:46:55 AM	Prep Date:	

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether	96.92	6	100	0	96.9	80	120	0		
Benzene	99.92	2	100	0	99.9	85	115	0		
Toluene	99.62	6	100	0	99.6	85	115	0		
Ethylbenzene	93.72	6	100	0	93.7	85	115	0		
Xylenes, Total	271.5	9	300	0	90.5	85	115	0		
Surr: Tetrachloroethene	186.6	0	200	0	93.3	50	130	0		

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits
 S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits
 B - Analyte detected in the associated Method Blank

CLIENT: HBC Engineering
Work Order: 0401126
Project: Fedex

ANALYTICAL QC SUMMARY REPORT

RunID: GC9_040202A

Sample ID CCV-040202	Batch ID: R17096	TestNo: SW8021B	Units: µg/L
SampType CCV	Run ID: GC9_040202A	Analysis Date: 2/2/04 3:07:08 PM	Prep Date:

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	51.11	2	50	0	102	85	115	0		
Toluene	50.51	6	50	0	101	85	115	0		
Ethylbenzene	47.09	6	50	0	94.2	85	115	0		
Xylenes, Total	132.8	9	150	0	88.6	85	115	0		
Surr: Tetrachloroethene	183.3	0	200	0	91.7	50	130	0		

Sample ID ICV-040202	Batch ID: R17096	TestNo: SW8021B	Units: µg/L
SampType ICV	Run ID: GC9_040202A	Analysis Date: 2/2/04 12:41:16 PM	Prep Date:

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	99.12	2	100	0	99.1	85	115	0		
Toluene	98.82	6	100	0	98.8	85	115	0		
Ethylbenzene	93.22	6	100	0	93.2	85	115	0		
Xylenes, Total	269.2	9	300	0	89.7	85	115	0		
Surr: Tetrachloroethene	185	0	200	0	92.5	50	130	0		

Qualifiers: ND - Not Detected at the Reporting Limit R - RPD outside accepted recovery limits
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank
 S - Spike Recovery outside accepted recovery limits

CLIENT: HBC Engineering
Work Order: 0401126
Project: Fedex

MQL SUMMARY REPORT

TestNo: TX1005	MDL	MQL
Analyte	mg/L	mg/L
T/R Hydrocarbons: C6-C12	0.7	2
T/R Hydrocarbons: >C12-C28	0.7	2
T/R Hydrocarbons: >C28-C35	0.7	2
T/R Hydrocarbons: C6-C35	0.7	2

TestNo: SW8021B	MDL	MQL
Analyte	µg/L	µg/L
Methyl tert-butyl ether	2	6
Benzene	0.8	2
Toluene	2	6
Ethylbenzene	2	6
Xylenes, Total	3	9

OCT 20 2003



October 16, 2003

Russ Ford
HBC Engineering
5307 Industrial Oaks Blvd., Suite 160
Austin, Texas 78735

TEL: (512) 442-1122
FAX (512) 442-1181

RE: Fedex@Techni Center

Order No.: 0310054

Dear Russ Ford:

DHL Analytical received 3 samples on 10/13/03 for the analyses presented in the following report.

There were no problems with the analyses and all data for associated QC met EPA or laboratory specifications except where noted in the Case Narrative and all estimated uncertainties of results are within method specifications.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

A handwritten signature in black ink, appearing to read "John DuPont". The signature is fluid and cursive, with a large initial "J" and "D".

John DuPont
QA Manager

DHL Analytical

Date: 16-Oct-03

CLIENT: HBC Engineering
Project Name: Fedex@Techni Center
Project No: 96-0071-45
Lab Order: 0310054

Client Sample ID: Influent
Lab ID: 0310054-01
Collection Date: 10/11/03 7:40:00 AM
Matrix: AIR

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TPH AIR TO HEXANE		SW8015B					Analyst: DEW
TPH: C4-C10 as Hexane	1460	100	100		ppmV	10	10/13/03 10:35:12 PM

Qualifiers:
ND - Not Detected at the Method Detection Limit
J - Analyte detected between MDL and RL
B - Analyte detected in the associated Method Blank

S - Spike Recovery outside control limits
C - Sample Result or QC discussed in Case Narrative
E - TPH pattern not Gas or Diesel Range Pattern

DHL Analytical

Date: 16-Oct-03

CLIENT: HBC Engineering
Project Name: Fedex@Techni Center
Project No: 96-0071-45
Lab Order: 0310054

Client Sample ID: Effluent
Lab ID: 0310054-02
Collection Date: 10/11/03 7:50:00 AM
Matrix: AIR

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
BTEX IN AIR		SW8021B					Analyst: DEW
Benzene	ND	3.1	3.10		ppmV	1	10/13/03 3:56:32 PM
Ethylbenzene	ND	2.3	2.30		ppmV	1	10/13/03 3:56:32 PM
Methyl tert-butyl ether	ND	5.0	5.00		ppmV	1	10/13/03 3:56:32 PM
Toluene	ND	2.7	2.70		ppmV	1	10/13/03 3:56:32 PM
Xylenes, Total	ND	2.3	2.30		ppmV	1	10/13/03 3:56:32 PM
TPH AIR TO HEXANE		SW8015B					Analyst: DEW
TPH: C4-C10 as Hexane	ND	10	10.0		ppmV	1	10/13/03 8:04:02 PM

Qualifiers:
ND - Not Detected at the Method Detection Limit
J - Analyte detected between MDL and RL
B - Analyte detected in the associated Method Blank

S - Spike Recovery outside control limits
C - Sample Result or QC discussed in Case Narrative
E - TPH pattern not Gas or Diesel Range Pattern

DHL Analytical

Date: 16-Oct-03

CLIENT: HBC Engineering
Project Name: Fedex@Techni Center
Project No: 96-0071-45
Lab Order: 0310054

Client Sample ID: Influent
Lab ID: 0310054-03
Collection Date: 10/11/03 10:40:00 AM
Matrix: AIR

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
BTEX IN AIR		SW8021B		Analyst: DEW			
Benzene	ND	3.1	3.10		ppmV	1	10/13/03 4:46:04 PM
Ethylbenzene	ND	2.3	2.30		ppmV	1	10/13/03 4:46:04 PM
Methyl tert-butyl ether	5.22	5.0	5.00		ppmV	1	10/13/03 4:46:04 PM
Toluene	3.01	2.7	2.70		ppmV	1	10/13/03 4:46:04 PM
Xylenes, Total	5.40	2.3	2.30		ppmV	1	10/13/03 4:46:04 PM
TPH AIR TO HEXANE		SW8015B		Analyst: DEW			
TPH: C4-C10 as Hexane	227	10	10.0		ppmV	1	10/13/03 6:36:36 PM

Qualifiers: ND - Not Detected at the Method Detection Limit
 J - Analyte detected between MDL and RL
 B - Analyte detected in the associated Method Blank

S - Spike Recovery outside control limits
 C - Sample Result or QC discussed in Case Narrative
 E - TPH pattern not Gas or Diesel Range Pattern

CLIENT: HBC Engineering
Project: Fedex@Techni Center
Lab Order: 0310054

CASE NARRATIVE

Samples were analyzed using the methods outlined in the following references:

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition

All method blanks, laboratory spikes, and/or sample duplicates met quality assurance objectives.

DHL Analytical

Sample Receipt Checklist

Client Name HBC Engineering

Date Received: 10/13/03

Work Order Number 0310054

Received by: MKS

Checklist completed by Meyant 1013-3 Signature Date

Reviewed by (JD) 10/13/03 Initials Date

Carrier name: Hand Delivered

- Shipping container/cooler in good condition? Yes No Not Present
- Custody seals intact on shipping container/cooler? Yes No Not Present
- Custody seals intact on sample bottles? Yes No Not Present
- Chain of custody present? Yes No
- Chain of custody signed when relinquished and received? Yes No
- Chain of custody agrees with sample labels? Yes No
- Samples in proper container/bottle? Yes No
- Sample containers intact? Yes No
- Sufficient sample volume for indicated test? Yes No
- All samples received within holding time? Yes No
- Container/Temp Blank temperature in compliance? Yes No
- Water - VOA vials have zero headspace? No VOA vials submitted Yes No
- Water - pH acceptable upon receipt? Yes No NotApplicable

Adjusted? _____ Checked by _____

Any No response must be detailed in the comments section below.

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action Taken: _____

CLIENT: HBC Engineering
 Work Order: 0310054
 Project: Fedex@Techni Center

ANALYTICAL QC SUMMARY REPORT

RunID: GC4_031013A

Sample ID: 0310054-03A DUP	Batch ID: R16089	TestNo: SW8015B	Units: ppmV							
SampType: DUP	Run ID: GC4_031013A	Analysis Date: 10/13/03 7:20:52 PM	Prep Date:							
Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
TPH: C4-C10 as Hexane	244.5	10	0	0	0	0	0	7.28	30	

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits
 S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits
 B - Analyte detected in the associated Method Blank

CLIENT: HBC Engineering
Work Order: 0310054
Project: Fedex@Techni Center

ANALYTICAL QC SUMMARY REPORT

RunID: GC9_031013A

Sample ID: 0310054-03A DUP	Batch ID: R16090	TestNo: SW8021B	Units: ppmV
SampType: DUP	Run ID: GC9_031013A	Analysis Date: 10/13/03 5:08:17 PM	Prep Date:

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	3.1	0	0	0	0	0	0	30	
Ethylbenzene	ND	2.3	0	0	0	0	0	0	30	
Methyl tert-butyl ether	5.207	5	0	0	0	0	0	0.269	30	
Toluene	2.802	2.7	0	0	0	0	0	7.22	30	
Xylenes, Total	4.604	2.3	0	0	0	0	0	15.9	30	

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank



APPENDIX B

Delmar Environmental

P.O. Box 469 Van Vleck Texas, 77482
(979) 245-8800
Fax (979) 245-8801

Specializing in Environmental Remediation

October 16, 2003

Subject: High Vacuum Multi-Phase Extraction (HVME)
4-Hour HVME event with off gas abatement at:
Federal Express
5811 Techni Center
Austin, Texas

Test Results

A high vacuum multi-phase extraction (HVME) system using a patented process consisting of a modified Internal combustion engine (ICE) with a high vacuum knockout tank was used to extract and destroy fuel hydrocarbons as both vapor and liquid.

The V4 (dual engine) H.V.M.E. system was used to extract and destroy approximately 0.77 gallons of phase-separated hydrocarbons (PSH extracted as vapor), and 0 gallons of product (PSH extracted as liquid) totaling 0.77 gallons of PSH removed from the site. This process also extracted a total of 413 gallons of contaminated water. Please refer to the Table 1 attached.

During this 4-hour event on 10-11-03

1. Post catalytic temperature was recorded at 964F
2. Measured vacuum at wells was 30"-50" H₂O

Three monitoring wells MW-5, 6, & 9 were remediated during the test. Prior to and immediately after the extraction process, the wells were measured for depth to water and depth to product. The results are recorded in Table 3 of the attached report.

Conclusion

During the above-mentioned event the engines operated between 1680 rpm and 1767 rpm during the event period. The HVME event took place without incident. The vapor and liquid hydrocarbons were removed while maintaining off gas emissions for VOC (volatile organic compounds) at < 1 lb. Per event.

Respectfully Submitted by,

Tony Poss

Tony Poss

Delmar Environmental

TABLE 1 SUMMARY: V4 Dual Phase Extraction and Air Abatement Event

Date:	10/11/03	Arrival Time:	6:30 a.m.	Influent:				Vacuum	EVENT #
Site Name:	Federal Express 5811 Techni Center Austin, Texas	End Time:	11:05 a.m.	VOC Infl	CO2 Infl	Oxy Infl		@ well(s)	
				ppmv	ppmv	%		inches of H2O	
								30"-50"	
Total VOC Removed As Vapor	0.77 gallons			Effluent				Post Cat	
Total VOC Removed As Liquid	0.00 gallons			VOC Eff	CO Eff	Oxy Eff		Temp	
Total VOC Removed	0.77 gallons			ppmv	ppmv	%		degrees F	
Total Product/Water Disposed	413.00 gallons					0.9		964	

TABLE 2 Data logger Data- engine 1&2-

		Site Name				Federal Expre Controller ID #115			Unit 170 engine 1				
Well	Intervals (15 min)	dilution air	fuel	well	Applied vac	Est TPH	Est Energy	Eng Speed	Eng Vac	air	fuel	well	
Connections	Interval #	(scfm)	(scfm)	(scfm)	(InH2O)	(ppmV)	(BTU/Hr)	(RPM)	(InHg)	valve	valve	valve	
MW-5	10/11/03 6:50	34	1.533	3	0	0	0	1704	21.7	68	54	0	
MW-5	10/11/03 7:04	32	1.333	9	208.52	8600	28800	1700	20.91	58	54	128	
MW-5	10/11/03 7:19	33	1.4	9	234.48	6000	19200	1723	20.59	60	58	236	
MW-5	10/11/03 7:34	31	1.533	17	210.82	2400	14400	1736	19.48	58	62	344	
MW-5	10/11/03 7:49	33	1.533	16	212.97	2700	16000	1691	19.48	60	60	452	
MW-5	10/11/03 8:04	36	1.4	10	238.78	5700	20800	1737	20.59	54	58	48	
MW-5	10/11/03 8:19	37	1.4	5	245.24	12900	24000	1677	20.91	60	56	226	
MW-5	10/11/03 8:34	27	1.333	17	228.03	5500	35200	1718	20.43	44	58	328	
MW-5,MW-6,MW-9	10/11/03 8:49	36	1.267	9	234.48	12600	41600	1701	20.43	60	52	344	
MW-5,MW-6,MW-9	10/11/03 9:04	33	1.267	11	236.63	10300	41600	1680	20.43	56	56	450	
MW-5,MW-6,MW-9	10/11/03 9:19	5	1.6	44	96.8	700	12800	1720	19.32	4	64	256	
MW-5,MW-6,MW-9	10/11/03 9:34	12	1.467	31	68.84	1000	11200	1700	20.43	14	62	174	
MW-5,MW-6,MW-9	10/11/03 9:49	35	1.533	14	202.21	2800	14400	1705	19.48	54	60	220	
MW-5,MW-6,MW-9	10/11/03 10:04	13	1.467	31	81.75	900	9600	1709	20.28	14	64	184	
MW-5,MW-6,MW-9	10/11/03 10:19	15	1.467	33	96.8	1300	16000	1685	19.96	14	60	200	
MW-5,MW-6,MW-9	10/11/03 10:34	19	1.467	32	111.86	2300	27200	1701	19.32	20	62	214	
MW-5,MW-6,MW-9	10/11/03 10:49	15	1.467	33	94.65	1500	19200	1726	19.8	14	66	200	
MW-5,MW-6,MW-9	10/11/03 11:04	15	1.4	28	36.57	2200	24000	1717	20.59	10	58	148	
	4.0	hrs actual run time					22,117	average btu/hr (as vapor)					
							4	lbs/event (as vapor)					
							0.65	gall/event (as vapor)					
Unit 170 engine 2	Intervals (15 min)	air	fuel	well	well vac	Est TPH	Est Energy	Eng Speed	Eng Vac	air	fuel	well	
	Interval #	(scfm)	(scfm)	(scfm)	(InH2O)	(ppmV)	(BTU/Hr)	(RPM)	(InHg)	valve	valve	valve	
MW-6	10/11/03 6:50	40	1.533	0	0	0	0	1680	21.38	64	70	0	
MW-6	10/11/03 7:05	20	1.267	22	126.92	5200	43200	1743	21.07	20	62	158	
MW-6	10/11/03 7:20	14	1.4	28	98.96	1100	11200	1727	21.07	4	66	170	
MW-6	10/11/03 7:35	21	1.467	24	68.84	500	4800	1767	20.91	10	68	144	
MW-6	10/11/03 7:50	38	1.467	4	240.93	3400	4800	1723	20.91	42	66	154	
MW-6	10/11/03 8:05	36	1.467	7	251.69	1300	3200	1724	20.75	40	68	262	
MW-6	10/11/03 8:20	34	1.467	8	253.84	1100	3200	1701	20.75	38	72	370	

MW-6	10/11/03 8:35	29	0.733	14	144.13	900	2000	1683	20.75	28	48	126	
MW-6	10/11/03 8:38	39	1.267	2	148.65	900	2000	1711	20.91	54	72	135	
	1.8	hrs actual run time					9,300	average btu/hr (as vapor)					
Moved engine two to engine one because of no burn.								1	lbs/event (as vapor)				
							0.12	gall/event (as vapor)					

Table 3: Site Name: Federal Express
Groundwater/free product drawdown data

Well Data	Prior to DPES		
Well ID	DTP	DTW	PSH
MW-5	35.59	35.95	0.36
MW-6	35.09	35.29	0.20
MW-9	0.00	32.51	0.00

After DPES			Result
DTP	DTW	PSH	Static Change
0.00	35.65	0.00	0.06
0.00	35.24	0.00	0.15
0.00	32.60	0.00	0.09

DTP = Depth to Product
 DTW=Depth to Water
 PSH= Phase Separated Hydrocarbons

Delmar Environmental

P.O. Box 469 Van Vleck, Texas 77482

(979) 245-8800

Fax (979) 245-8801

E-mail Delmar@wt.net

Specializing in Environmental Remediation

FID Readings for: Federal Express
5811 Techni Center
Austin, Texas

Date October 11, 2003

Time 7:50am	Reading 1000ppm	Time _____	Reading _____
Time 8:20am	Reading 2000ppm	Time _____	Reading _____
Time 8:50am	Reading 4000ppm	Time _____	Reading _____
Time 9:20am	Reading 3500ppm	Time _____	Reading _____
Time 9:50am	Reading 3000ppm	Time _____	Reading _____
Time 10:20am	Reading 3000ppm	Time _____	Reading _____
Time _____	Reading _____	Time _____	Reading _____
Time _____	Reading _____	Time _____	Reading _____
Time _____	Reading _____	Time _____	Reading _____
Time _____	Reading _____	Time _____	Reading _____
Time _____	Reading _____	Time _____	Reading _____
Time _____	Reading _____	Time _____	Reading _____
Time _____	Reading _____	Time _____	Reading _____
Time _____	Reading _____	Time _____	Reading _____
Time _____	Reading _____	Time _____	Reading _____
Time _____	Reading _____	Time _____	Reading _____

See attached calibration sheet.



Milco Safety Rental, INC.

Manufacturer: Heath Model No: DP III Serial No: 749

"Zero Air"

"Calibration"

Initial Reading 10ppm
Adjusted Reading 0ppm

Calibration Gas 95ppm Methane
Initial Reading 95ppm
Adjusted Reading 85ppm

Technician : **R.S.**

Date: 10/8/03

APPENDIX C

Texas Natural Resource Conservation Commission
PETROLEUM STORAGE TANK
PRODUCT RECOVERY REPORT

Submit this form on a semi-annual basis unless an alternative schedule is directed by the TNRCC. Continue to submit this form until product is no longer observed.

Complete All Applicable Blanks.

Date: 3/19/04

GENERAL INFORMATION

LPST ID No.: 111747

Facility ID No.: 0029044

Responsible Party: Federal Express Corporation

Facility Name: Federal Express Facility

Facility Physical Address: 5811 Technicenter Drive

Facility City: Austin

County: Travis

PHASE-SEPARATED PRODUCT RECOVERY

Reporting Period: **October 11, 2003**

Estimated volume (gallons) remaining: Less than 50 gallons

Estimated time to recover remaining product to 0.1 foot: No wells currently exhibiting PSH above 0.1 foot

Volume of fluids (product & water) recovered during past reporting period: 413.77 gallons

Volume of phase-separated product recovered during past reporting period: 0.77 gallons

Total volume of fluids recovered to date: 2,881.27 gallons

Total volume of product recovered to date: 2,468.27 gallons

Method of product recovery: continuously (automated) pulsed (automated) hand bailing
 sorbents other, describe: High Vacuum Multi-phase Extraction event

Pumping rate (for automated systems only): _____

Phase-separated product recovery schedule: daily bi-weekly weekly other, describe: One-time (10/11/03)

Maximum phase-separated product thickness remaining: 0.09

Indicate all monitoring wells and other locations impacted with phase-separated product: MW-6

Are the product thicknesses diminishing over time? YES or NO (check one) If no, is a new release suspected? YES or NO describe: _____

Is product currently being recovered in any monitor wells, trenches, etc. in which the thickness is less than or equal to 0.1 foot? YES or NO

WASTE DISPOSITION

Indicate the status of all wastes generated: All recovered product and water were transported for disposal at an authorized facility.

REPORT PREPARATION

Project Manager: Russell C. Ford PM Reg. No.: 1502 Expiration Date: 7/16/2004

Company: HBC/Terracon City: Austin State: TX Zip: 78735

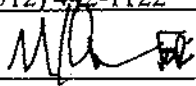
Phone No.: (512) 442-1122 Fax No.: (512) 442-1181

Signature:  Date: 3/19/04

Corrective Action Specialist Rep: Hilary Johns CAS No.: 825 Expiration Date: 2/25/05

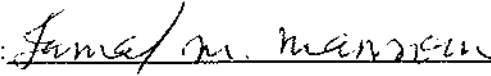
Company: HBC/Terracon City: Austin State: TX Zip: 78735

Phone No.: (512) 442-1122 Fax No.: (512) 442-1181

Signature:  Date: 3/19/04

Name of Responsible Party contact: Mr. Jamal Mansour

Telephone No.: (901) 434-8458 Fax No.: (901) 434-9235

Signature:  Date: 3-23-04

Attachments:

- Table of cumulative recovery by month
- Graph of cumulative product recovered versus time

APPENDIX D

Bill To - **Delmar Environmental**

NON-HAZARDOUS LIQUID TRANSPORTATION MANIFEST

1409

GENERATOR INFORMATION

(MUST BE COMPLETED BY GENERATOR)

BUSINESS NAME: Federal Express LPSt # 111747
ADDRESS: 5811 Technicenter Drive Austin Tx

TELEPHONE: _____

MATERIAL REMOVED FROM: _____ UST _____ UST HOLE _____
_____ OTHER _____ WELL POINTS

I CERTIFY THAT THE MATERIAL REMOVED FROM THE ABOVE PREMISES CONTAINS NO HAZARDOUS MATERIALS.

GENERATOR/REPRESENTATIVE NAME: X Saf
(PRINT) _____
10-11-03 _____
(DATE SERVICED) (GENERATOR/REPRESENTATIVE SIGNATURE)

TRANSPORTER INFORMATION

(MUST BE COMPLETED BY TRANSPORTER)

BUSINESS NAME: DELMAR ENVIRONMENTAL
ADDRESS: P. O. BOX 469 VAN VLECK, TEXAS 77482 TELEPHONE: 979-245-8800
GALLONS PRODUCT REMOVED: 0 VEHICLE PERMIT NO: TXDOT 005567638C
TOTAL GALLONS REMOVED: 413

I CERTIFY THAT THE INFORMATION PROVIDED ABOVE IS CORRECT, AND THAT ONLY THE MATERIAL CERTIFIED FOR REMOVAL BY THE GENERATOR IS CONTAINED IN THE SERVICING VEHICLE. I AM AWARE THAT FALSIFICATION OF THIS TRIP TICKET MAY RESULT IN PROSECUTION.

DRIVER NAME: Michael Hopkins
(PRINT) _____
10-11-03 11:36am _____
(DATE AND TIME MATERIAL TRANSPORTED) (DRIVER SIGNATURE)

DESTINATION INFORMATION

(MUST BE COMPLETED BY DISPOSER)

BUSINESS NAME: U.S. Filter
ADDRESS: 2200 E. Pierce St. Irving Tx TELEPHONE: 940-875-3260
TNRCC FACILITY ID #: _____

I CERTIFY THAT I HAVE BEEN AUTHORIZED BY THE STATE OF TEXAS TO ACCEPT THE ABOVE SPECIFIED MATERIAL AND THAT I HAVE DISPOSED OF THE MATERIAL IN ACCORDANCE WITH THE REQUIREMENTS OUTLINED IN THAT AUTHORIZATION.

SITE OPERATOR NAME: Louis DeCruz
(PRINT) _____
10-13-03 11:30A 413 _____
(DATE AND TIME MATERIAL RECEIVED) (GALLONS REMOVED) (SITE OPERATOR SIGNATURE)

**TEXAS NATURAL RESOURCE CONSERVATION COMMISSION
PETROLEUM STORAGE TANK
CORRESPONDENCE IDENTIFICATION SHEET**

*LPST
111747*

Date: September 20, 2002
 Site Name: Federal Express Corporation
 Site Address: 5811 Technicenter Drive, Austin, TX

LPST ID No.: 111747
 Facility ID No.: 0029044

This checklist **must** accompany all correspondence submitted to the RPR Section and should be affixed to the front of your submittal as a cover page. Please check the appropriate box for the type of correspondence which you have submitted to the RPR Section. Check all boxes that apply if you are submitting more than one type of correspondence. If you cannot find an appropriate category, please complete the "other" section.

PROPOSALS		
<input type="checkbox"/> Initial Abatement (1)	<input type="checkbox"/> Tank Removal (2)	<input type="checkbox"/> Excavation (3)
<input type="checkbox"/> Waste Treatment (4)	<input type="checkbox"/> Site Assessment (5)	<input type="checkbox"/> Aquifer Testing (6)
<input type="checkbox"/> VES/Sparge Testing (7)	<input type="checkbox"/> Qtrly. GW Monitoring (8)	<input type="checkbox"/> CAP Prep. (9)
<input type="checkbox"/> GW Extrac./Treatment (10)	<input type="checkbox"/> Soil Vapor Extrac. (11)	<input type="checkbox"/> Operation & Main. (12)
<input type="checkbox"/> Site Closure (13)	<input type="checkbox"/> Plan A Risk Ass. (14)	<input type="checkbox"/> Plan B Risk Ass. (15)
<input type="checkbox"/> Semi-annual GW Mon. (16)*	<input type="checkbox"/> Annual GW Mon. (18)	<input type="checkbox"/> Product Recovery (19)
<input type="checkbox"/> Other proposal _____		

*Monitoring
SEP
MAR*

REPORTING FORMS	
<input type="checkbox"/> Assessment Report Form (TNRCC-0562)	<input type="checkbox"/> Release Report Form (TNRCC-0621)
<input checked="" type="checkbox"/> Product Recovery Report Form (TNRCC-0016)	<input type="checkbox"/> Monitoring Event Summary and Status Report (TNRCC-0013)
<input checked="" type="checkbox"/> Site Closure Request Form (TNRCC-0028)	<input type="checkbox"/> Final Site Closure Report Form (TNRCC-0038)
<input type="checkbox"/> Other form _____	

REPORTS		
<input type="checkbox"/> Tank Closure/Removal	<input type="checkbox"/> Plan A Risk Assessment	<input checked="" type="checkbox"/> Annual Groundwater Monitoring
<input type="checkbox"/> O&M/Performance Mon.	<input type="checkbox"/> Plan B Risk Assessment	<input type="checkbox"/> CAP Installation/Modification
<input type="checkbox"/> Property Divestiture/Phase I ESA	<input type="checkbox"/> Corrective Action Plan (CAP)	<input type="checkbox"/> Aquifer/Pilot Test Results

MISCELLANEOUS		Received
<input type="checkbox"/> Off-site access assistance	<input type="checkbox"/> Deadline Extension Request	SEP 30 2002
<input type="checkbox"/> Tank tightness test results	<input type="checkbox"/> Request for State-Lead	TNRCC/PST-RPR
<input type="checkbox"/> Request for LPST Waste Code	<input type="checkbox"/> Class V ReInjection Request	
<input type="checkbox"/> Notice to Owner/Operator for CAS Services	<input type="checkbox"/> Petroleum-Substance Waste Manifest	
<input type="checkbox"/> Underground Storage Tank Registration Form	<input type="checkbox"/> Aboveground Storage Tank Registration Form	
<input type="checkbox"/> Other (anything that does not fit into one of the categories above) _____		

* The proposal for semi-annual monitoring and annual report (Proposal Activity 17) has been discontinued. For semi-annual monitoring, use Proposal Activity 16.

I attest that all work has been conducted in accordance with accepted industry standards/practices and adhered to TNRCC guidance and rules. I certify that I am aware that misrepresentation of any of the above claims is a violation of 30 TAC 334.453(b)(1)(E) and that this violation may result in the disciplinary actions set forth in 30 TAC 334.453 and or 334.463 and 334.465.

If a proposal is attached for preapproval, has the proposed work, in part or in whole, already been performed or in progress?

If yes, what work? _____

HBC Engineering _____ 825 _____ 2/25/04
(Registered Corrective Action Specialist) (RCAS Reg. No.) (Expiration date)

William D. Johns _____ 9/25/02
(Signature) (Date)
(512) 442-1122 _____ (512) 442-1181
(Telephone #) (FAX #)

Russell C. Ford _____ 1502 _____ 5/9/04
(Project Manager) (CAPM Reg. No.) (Expiration date)

Russell C. Ford _____ 9/25/02
(Signature) (Date)
(512) 442-1122 _____ (512) 442-1181
(Telephone #) (FAX #)

By signature below, I certify that documents checked above are included.

Mr. Jamal Mansour _____ Federal Express Corporation
(Name of Responsible Party Contact) (Company)

Jamal Mansour _____ 9-24-02
(Signature) (Date)
(901) 434-8458 _____ (901) 434-9235
(Telephone #) (FAX #)

800 486 9872

Received
SEP 30 2002
TNRCC/PST-RPR

SITE CLOSURE REQUEST FORM

I. GENERAL INFORMATION

LPST ID No.: 111747 Facility ID No.: 0029044

Responsible Party: Federal Express Corporation

Responsible Party Address: 3620 Hacks Cross Boulevard, Building B City: Memphis State: TN Zip: 38125

Facility Name: Federal Express Facility

Facility Street Address: 5811 Technicenter Drive

Facility City: Austin County: Travis

What is the current use of site? (indicate all that apply):

Residence¹ School or Day Care center Commercial/Industrial¹ Recreational Agricultural

What is the anticipated future use of the site? (indicate all that apply):

Residence¹ School or Day Care center Commercial/Industrial¹ Recreational Agricultural

Adjacent property use (indicate all that apply):

Residence School or Day Care Center Commercial/Industrial¹ Recreational Agricultural

Distance to nearest off-site residence from property line: 1,000 feet in Northwest direction.

Distance to nearest school or day care center from property line: 100 feet in West direction.

II. CLOSURE SCREENING INFORMATION

Based on the *Limited Site Assessment Report* form or the *Risk-Based Assessment Report Form* (TNRCC-0562), the site is currently a **Priority** 4.1 site. If the site priority has changed, list the other priorities that previously pertained to this site: _____

Yes No Have non-aqueous phase liquids (NAPL) ever been present at this site (including tankpit observation wells)? If yes, is NAPL present now (thickness ≥ 0.1 feet)? Yes No Current thickness: 0.01 ft. If NAPL is currently present, stop here and do not submit this form for case closure. Initiate or continue activities necessary for the removal of all recoverable NAPL at the site.

Yes No Were all soils, recovered contaminated groundwater, and any phase-separated hydrocarbons properly disposed of, treated, recycled or reused in accordance with TNRCC requirements? If No, stop here and do not submit this form. Provide a proposal (if the site is eligible for reimbursement) to properly dispose or otherwise manage the wastes/materials or, if the site is not eligible for reimbursement, provide documentation of proper disposition of the wastes.

Yes No Do contaminant concentrations show a consistent decreasing or low static trend? If No, is the contaminant plume increasing in size? Yes No If Yes, stop here, do not submit this form, and initiate activities to control plume migration.

¹ See definition in 30 TAC 334.202

III. RELEASE ABATEMENT/REMEDIATION

Date Release Discovered: 10/1996

Substance(s) released: (check all that apply) Gasoline Alcohol-blended fuel (Type and percentage of alcohol: _____)
 Diesel Used Oil Jet Fuel (type: _____) Aviation Gasoline Other: (be specific) _____

Source of Release (specify all that apply):
 Spills/overfills Piping leaks Dispenser leaks Tank corrosion Other: _____

Yes No Has a receptor survey been conducted?
 Yes No Has a water well inventory been conducted?

Yes No Have vapor impacts to buildings or utility lines ever been associated with this release? If Yes, specify the measures taken to abate the impact and indicate the latest date that an impact was noted:

Yes No Have subsurface utilities ever been affected with NAPL or vapors by this release? If Yes, indicate the latest date that an impact was noted:

If not already provided in *Release Determination Report Form (TNRCC-0621)*, or if the information has changed since submittal of the *Release Determination Report*, indicate number of tanks currently and formerly located at this site (attach pages as necessary): No changes since *Release Determination Report* submitted.

	<u>Type (UST/AST)</u>	<u>Product Type</u>	<u>Size (approx. gal)</u>	
Current:	_____	_____	_____	
	_____	_____	_____	
	_____	_____	_____	
	_____	_____	_____	
	_____	_____	_____	
	_____	_____	_____	<u>Date Removed from Service</u>
Former:	_____	_____	_____	_____
	_____	_____	_____	_____
	_____	_____	_____	_____
	_____	_____	_____	_____

Yes No If the tanks were permanently removed from service, were native soil samples collected from beneath the tanks and the entire length of the piping? If No, explain why not:
AST was removed at an unknown time prior to site investigation. Monitor well MW-2 was installed immediately adjacent to the former AST location and provides for source sampling point.

Yes No Was a new UST system installed? If Yes, indicate the date, number of tanks and their contents:

Yes No Are there any open excavations at the site? If Yes, state size, location, purpose, and status for each of the excavations:

Type(s) of soil remediation and time periods the remediation method was operational (indicate all that apply):

- Excavation _____ to _____ (dates), and
 - Aboveground Bioremediation/Aeration _____ to _____ (dates), OR
 - Thermal Treatment _____ to _____ (dates), OR
 - Disposal _____ to _____ (dates).
- Soil Vapor Extraction 9/00 to 5/01 (dates).
- In-Situ Bioremediation _____ to _____ (dates).
- None

III. RELEASE ABATEMENT/REMEDATION (Continued)

Type(s) of groundwater remediation and time periods the remediation method was operational (indicate all that apply):

- Groundwater Pump and Treat _____ to _____ (dates)
- Air Sparging/SVE _____ to _____ (dates)
- In-Situ Bioremediation _____ to _____ (dates)
- Other: _____ to _____ (dates)
- None

Yes No Were copies of all receipts and manifests to document disposition of all wastes submitted to the TNRCC? If No, attach copies to this form.

Measured total volume of NAPL recovered: 2,467 gallons.

Estimated total volume of soil treated/removed: _____ cubic yards (exclude soil cuttings removed from borings).

Estimated total volume of groundwater treated/removed: _____ gallons (if known).

Estimated pounds of hydrocarbons removed or treated from soil (if known): _____

Estimated pounds of hydrocarbons removed or treated from groundwater (if known): _____

Estimated percent of total contaminants removed or treated (if known): _____

IV. SOIL DATA VALIDATION

Are there now affected surface soils (contamination exceeding health-based target concentrations) present within 2 feet below the ground surface? Yes* No Unknown

Type of surface cover over affected surface soil area:

Paved [Asphalt or Concrete] Percent of affected soils covered? Unpaved

Other: _____

Is there public access to the uncovered affected surface soil area? Yes No

*- Affected area (TP-10) currently being remediated and closure documentation will be submitted within 2 weeks.

Total number of borings: 11 (including those completed as monitor wells)

Yes No Was the vertical and horizontal extent of soil impacts defined (to the more stringent of health-based target or groundwater protective soil concentrations horizontally and to groundwater or nondetect vertically) by the borings?

Yes No Are shallow (0-15 feet below ground surface) soils affected (contaminant levels exceed health-based target concentrations) on adjacent properties (including right-of-way properties).

Yes No Were all soil sample collection, handling, transport, and analytical procedures conducted in accordance with TNRCC and EPA requirements? If No, provide justification: _____

Soil Contaminants	Sample Date	Sample Location	MAXIMUM SOIL CONCENTRATION LEVELS			Target Cleanup Goals** (indicate source of target cleanup goals: 1990 or 1994 [Plan A or B] guidance)
			Depth (in feet below ground surface)	Analytical Method	Maximum Concentration* (mg/kg)	
Benzene	2/5/97	MW-6	36.5'-37.5'	8260	11.4	0.45
Toluene	2/5/97	MW-6	36.5'-37.5'	8260	56.5	466
Ethylbenzene	2/5/97	MW-6	36.5'-37.5'	8260	23.8	289
Total Xylenes	2/5/97	MW-6	36.5'-37.5'	8260	164	2,433
TPH	2/5/97	MW-6	36.5'-37.5'	1005	4,000	NA
Other <u>Total Lead</u>	2/5/97	MW-6	36.5'-37.5'	6020	<10	500
Other <u>Naphthalene</u>	10/29/96	B-1	30.5'-31.5'	8015	8.61	389
Other _____						

* Enter maximum soil analytical results for soils remaining beneath the site (take into account all available data, including information obtained during the release determination (tank removal from service, minimal site assessment, etc)).

** If Plan A cleanup goals were used, provide the potential groundwater beneficial use category and a justification of how it was determined in Section VI.

1990 cleanup goals may be used only if all activities necessary to meet those goals were completed by November 8, 1995.

*** Arsenic value risk-based derived using calculations and default values contained in RG-36.

V. GROUNDWATER DATA VALIDATION

Is groundwater at the site impacted? Yes No

Did the assessment document that groundwater was not impacted? Yes No If No or unsure, provide justification for not determining whether there is a groundwater impact: _____

Total number of monitoring wells installed: 11 Number of monitor wells remaining at the site: 11
Will any of the remaining wells be used in the future? Yes No If Yes, specify exactly which well(s) will be used: _____

If No, they must be plugged in accordance with Water Code 32.017 after obtaining approval for site closure. Do not plug the wells until you receive concurrence on site closure. Costs of well plugging may be allowable for reimbursement if all eligibility requirements are met and if the wells were installed under the direction of the TNRCC specifically to address the confirmed release at the site. Provide a proposal with this form (if the site is eligible for reimbursement) for costs of the well plugging.

Measured total dissolved solids (TDS) concentration in groundwater: 478 mg/l. From which monitor well(s) was/were the sample(s) collected? MW-3

Measured groundwater yield at the site: _____ gallons/day (as determined from well adequately screened in the impacted aquifer). Not determined.

Measured groundwater depth at the site ranges between 29 and 35 feet below the top of well casing.

Time period of groundwater monitoring at the site (dates): November, 1996 to June, 2002

Total number of groundwater monitoring events: 9

What type of aquifer is impacted? (unconfined, confined, semi-confined): Unconfined

Distance from maximum plume concentration point to nearest existing downgradient well location (not monitor well): >0.5 mile ft. in _____ direction (Input ">0.5 mile" if there is no well within 0.5 mile downgradient)

Are any water supply wells impacted or immediately threatened? Yes No
If Yes, specify type of well: Drinking water Non-drinking water

Are there any existing water wells located within the area of impacted groundwater? Yes No
If Yes, specify type of well: Drinking water Non-drinking water

Has surface water been affected? Yes No

Will the groundwater contaminants likely discharge to a surface water body? Yes No

What is the potential impact of affected groundwater discharge on surface water?
 Current impact Discharges within 500 ft. Discharges within 500 to 0.25 miles
 No potential impact

Yes No Were groundwater sample collection, handling, transport, and analytical procedures conducted and documented in accordance with TNRCC requirements? If no, provide justification: _____

V. GROUNDWATER DATA VALIDATION (Continued)

- Yes No Is the extent of groundwater contamination defined (to MCL concentrations)? If No, provide justification for not defining the plume:

- Yes No Have groundwater impacts from this release been detected on adjacent properties? If No, is off-site migration probable? Yes No Is there documentation that off-site migration has not occurred (sample results from off-site sampling point)? Yes No
- Yes No Was the static groundwater level above the top of the well screen in any monitor wells during any of the last 4 monitoring events? If Yes, provide a statement of validity regarding these samples:

- Yes No Have groundwater samples from all monitor wells met the target cleanup goals for the last four consecutive sampling events?

_____ No, however, the concentrations are either reducing or are stable.

MAXIMUM GROUNDWATER CONCENTRATIONS					
Groundwater Contaminants	Sample Date	Sample Location	Laboratory Method	Maximum Concentration* (mg/l)	Target Cleanup Goals** (indicate source of target cleanup goals: 1990 or 1994 [Plan A or B] guidance)
Benzene	11/11/96	MW-3	8260	1.920	0.0294
Toluene	3/27/02	MW-11	8260	5.17	7.3
Ethylbenzene	3/27/02	MW-2	8260	1.04	3.65
Total Xylenes	12/27/01	MW-2	8260	10.6	73
TPH	9/24/01	MW-2	1005	189.0	None established
Other MTBE	12/27/01	MW-5	8260	2.85	0.47
Other Naphthalene	4/4/01	MW-2	8015	1.86	1.46
Other _____					

* Enter maximum groundwater analytical results from the most recent 12 months of monitoring.
 ** 1990 cleanup goals may be used only if all activities necessary to meet those goals were completed by November 8, 1995.
 *** NA-Not Applicable. These constituents were not detected in groundwater.

VII. REPORT PREPARATION

Based on the results of the site investigation and the additional information presented herein, I certify that the site investigation activities performed either by me, or under my direct supervision, including subcontracted work, were conducted in accordance with accepted industry standards/practices and further, that all such tasks were conducted in compliance with applicable TNRCC published rules, guidelines and the laws of the State of Texas. I have reviewed the information included within this report, and consider it to be complete, accurate and representative of the conditions discovered during the site investigation. I acknowledge that if I intentionally or knowingly make false statements, representations, or certifications in this report, I may be subject to administrative, civil, and/or criminal penalties. **I certify that the site has met all requirements for closure and that closure is appropriate.**

Project Manager: Russell C. Ford CAPM No.: 1502 Expiration date: 5/9/04

Company: HBC Engineering, a division of Terracon

Address: 5307 Industrial Oaks Boulevard, Suite 160 City: Austin State: TX Zip: 78735

Telephone No.: (512) 442-1122 Fax No.: (512) 442-1181

Signature:  Date: 9/25/02

By my signature affixed below, I certify that I am the duly authorized representative of the Correction Action Specialist named and that I have personally reviewed the site investigation results and other relevant information presented herein and considered them to be in accordance with accepted standards/practices and in compliance with the applicable TNRCC published rules, guidelines and the laws of the State of Texas. Further, that the information presented herein is considered complete, accurate and representative of the conditions discovered during the site investigation. I acknowledge that if I intentionally or knowingly make false statements, representations, or certifications in this report, I may be subject to administrative, civil, and/or criminal penalties. **I certify that the site has met all requirements for closure and that closure is appropriate.**

Corrective Action Specialist: Hilary Johns CAS No.: 00825 Expiration date: 2/25/04

Company: HBC Engineering, a division of Terracon

Address: 5307 Industrial Oaks Boulevard, Suite 160 City: Austin State: TX Zip: 78735

Telephone No.: (512) 442-1122 Fax No.: (512) 442-1181

Signature:  Date: 9/25/02

By my signature affixed below, I certify that I have reviewed this report for accuracy and completeness of information regarding points of contact and the facility and storage tank system history and status. I acknowledge that if I intentionally or knowingly make false statements, representations, or certifications in this report related to the contact information, and the facility and storage tank system history and status information, I may be subject to administrative, civil, and/or criminal penalties. I attest that I have reviewed this report for accuracy and completeness. I understand that I am responsible for addressing this matter. **I certify that the site has met all requirements for closure and that closure is appropriate.**

Name of Responsible Party contact: Jamal Mansour

Telephone No.: (901) 434-8458 Fax No.: (901) 434-9235

Signature:  Date: 9-22-02

Received
SEP 30 2002

TNRCC/PST-RPR

THE FOLLOWING ITEMS MUST BE SUBMITTED WITH THIS FORM IF NOT PREVIOUSLY SUBMITTED:

- A site map illustrating the locations of the entire UST and/or AST system (including piping, dispensers, observation wells, etc.), all soil borings and monitoring wells and all other sampling points, subsurface utilities, and surface water within 500 feet.
- A copy of the latest groundwater gradient map (if monitor wells were completed).
- Summary tables of all soil, groundwater and surface water analytical results, including samples collected from any tank removal from service activities, tank system repair activities, and those collected from borings and monitor wells. The tables must clearly identify the sample number, date of collection, sampling locations, depths (if applicable), and analytical results.
- Copies of any manifests or other waste receipts, and any other documents necessary for case closure.



**Texas Commission on Environmental Quality
2001-2002 Annual Groundwater Monitoring Report
Federal Express Corporation
5811 Technicenter Drive
Austin, Travis County, Texas
LPST No. 111747**

Prepared for:

**Federal Express Corporation
3620 Hacks Cross Road, Building B
Memphis, TN 38125-7113**

**Russell C. Ford, CAPM
Senior Project Manager**

Prepared by:

**HBC Engineering,
a division of Terracon
5307 Industrial Oaks Boulevard, Suite 160
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September 20, 2002

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TABLES, GRAPHS AND MAPS

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- Appendix B – Product Recovery Report (TNRCC-0025)
- Appendix C – Waste Disposal Manifest



**2001-2022 Annual Groundwater Monitoring Report
Federal Express Corporation
5811 Technicenter Drive
Austin, Travis County, Texas
LPST No. 111747**

I. REPORT SUMMARY

HBC Engineering, a division of Terracon (HBC) performed quarterly groundwater monitoring at the Federal Express Corporation Facility, located at 5811 Technicenter Drive in Austin, Texas. This report represents data from the four quarterly groundwater monitoring events conducted during the period from September 24, 2001 to June 17, 2002. In addition, results from passive non-aqueous phase liquid (NAPL) hydrocarbon recovery operations conducted concurrently with the groundwater monitoring are also presented. The report is presented in the format suggested by the Texas Commission on Environmental Quality (TCEQ) Regulatory Guidance publication *Groundwater Monitoring and Reporting* (RG-43).

Groundwater Monitoring

HBC collected and analyzed groundwater samples from the on-site monitor wells, in general accordance with the schedule provided in the TCEQ Corrective Action Response Form (CARF) dated July 13, 2001. The groundwater sampling events occurred on the following dates: September 24, 2001; December 27, 2001; March 27, 2002; and June 17, 2002.

Groundwater samples were not collected from monitor well MW-6 during any of the quarterly groundwater monitoring events and from MW-5 during the first quarterly event (9/24/01), due to the presence of NAPL in those wells.

Each groundwater sample was analyzed by DHL Analytical in Round Rock, Texas, for total petroleum hydrocarbons (TPH) using Texas method 1005, methyl tertiary butyl ether (MTBE) using EPA method SW 8021B, and benzene, toluene, ethylbenzene, and xylenes (BTEX) using EPA method SW 8021B. The CARF indicated the sample exhibiting the highest TPH concentration for the site was to be additionally analyzed for polynuclear aromatic hydrocarbons (PAH). Based on the analytical data, samples from MW-2 were additionally analyzed for PAH.

Tables summarizing the data are attached. Copies of the laboratory reports, including chain-of-custody forms, are included in Appendix A. As seen in the data summary tables, laboratory analysis indicates either stable or reducing petroleum hydrocarbon concentrations in the site wells. Wells MW-7 and MW-10 exhibited no detectable TPH or BTEX concentrations, which is consistent with historical results. TPH and total BTEX concentrations from wells MW-1, MW-2, MW-3, and MW-4, which are all located closest to the source area, have shown a significant decrease over time. TPH and BTEX data from wells MW-8 and MW-9 also show a decreasing trend. Dissolved petroleum hydrocarbon concentrations from MW-5, which used to contain NAPL, exhibit a relatively stable pattern. The hydrocarbon concentrations from MW-11 have

Date Completed	Brief Description	Brief Summary of Results
10/97	Corrective Action Plan prepared and submitted by HBC. Plan detailed the installation of a SVE remediation system using 3 recovery wells with destruction of the vapors using an internal combustion (IC) engine.	Plan was approved by TNRCC in February 1998.
5/98 to 1/99	SVE system installed and operated. System experienced significant operation and maintenance problems.	System operated as designed initially, however, destruction rates began to drop significantly after about 90 days of operation and system was removed from operation in January of 1999.
7/16/98	Groundwater sampling event conducted by HBC during operation of SVE system. Total of 5 samples collected.	NAPL present in wells MW-1 through MW-6.
11/19/98	Groundwater sampling event conducted by HBC during operation of SVE system. Total of 5 samples collected.	NAPL present in wells MW-1 through MW-6.
3/24/00	Operation, Monitoring, and Performance (OMP) report for initial SVE system submitted along with proposal to replace IC vapor destruction unit with thermal destruction flare and restart the SVE system.	Proposal for new system approved by TNRCC on 8/22/00.
10/2/00-5/9/01	New SVE system installed and operated. System operated total of 188 days. Utilized 3 recovery wells (MW-1, MW-2, and MW-6) with extracted vapors destroyed thermally (flare unit).	SVE removed approximately 400 gallons of NAPL. NAPL removed entirely from 4 of 6 wells and NAPL thickness reduced from almost 2 feet to less than 0.5 feet.
10/5/00	First semi-annual sampling event by HBC (5 groundwater samples). Samples collected following startup of SVE system.	NAPL present in wells MW-1, MW-2, MW-3, MW-4, MW-5 and MW-6.
4/4/01	Second semi-annual sampling event performed by HBC (9 groundwater samples). Samples collected near the end of the SVE system operation.	NAPL present in wells MW-5 and MW-6.
5/29/01	OMP Report submitted to TNRCC along with proposals for annual groundwater monitoring and passive skimming of NAPL in wells MW-5 and MW-6.	Proposals for groundwater monitoring and passive skimming approved by TNRCC on 7/13/01.
9/24/01	First quarterly groundwater sampling event performed by HBC. Samples collected from 9 on-site monitor wells.	NAPL observed in monitor wells MW-5 and MW-6. Groundwater data shows reduction in most wells.
12/27/01	Second quarterly groundwater sampling event performed by HBC. Samples collected from 10 on-site monitor wells.	NAPL observed in monitor well MW-6. Groundwater data shows reduction in most wells.

Date Completed	Brief Description	Brief Summary of Results
3/27/02	Third quarterly groundwater sampling event performed by HBC. Sample collected from 10 on-site monitor wells.	NAPL observed in monitor well MW-6. Groundwater data shows reduction in most wells. Slight increase observed in MW-11.
6/17/02	Fourth quarterly groundwater sampling event performed by HBC. Samples collected from 10 on-site monitor wells.	NAPL observed in monitor well MW-6. Groundwater data shows reduction in most wells. Concentrations from MW-11 back to within historical levels.

III. TABLES, GRAPHS AND MAPS

The following tables, graphs and maps are attached:

- Table of analytical results
- Table of groundwater gauging data
- Dissolved hydrocarbon concentration versus time graphs (MW-1; MW-2; MW-3; MW-4; MW-5; MW-8; MW-9; MW-11)
- Site map
- Groundwater gradient maps (9/24/01; 12/27/01; 3/27/02; 6/17/02)
- Hydrocarbon distribution maps (9/24/01; 12/27/01; 3/27/02; 6/17/02)

IV. CONCLUSIONS AND RECOMMENDATIONS

Based on results of the quarterly groundwater monitoring, HBC makes the following conclusions and recommendations:

- NAPL was observed in monitor wells MW-5 and MW-6 during the initial sampling event in September, 2001 and then only in MW-6 for the other 3 sampling events. NAPL was recovered from MW-5 and MW-6 using passive skimmers with a total of about 4.5 gallons recovered during the monitoring period.
- Wells MW-7 and MW-10 exhibited no detectable TPH or BTEX concentrations, which is consistent with historical results.
- TPH and total BTEX concentrations from wells MW-1, MW-2, MW-3, and MW-4, which are all located closest to the source area, have shown a significant decrease over time. TPH and BTEX data from wells MW-8 and MW-9 also show a decreasing trend.

- Dissolved hydrocarbon concentrations from MW-5, which used to contain NAPL, exhibit a relatively stable pattern. The concentrations from MW-11 have fluctuated slightly during the monitoring period (possibly due to seasonal water level fluctuations), but overall they show a relatively stable pattern.
- Based on the reduction of NAPL thickness to below 0.1 feet in the site wells and the relative stability of the dissolved hydrocarbon plume, as documented by the analytical data collected to date, no additional NAPL removal or groundwater monitoring appears necessary and the site is eligible for closure. A separate request for site closure has been prepared and is being submitted to the TCEQ concurrently with this report.

V. QUALITY ASSURANCE/QUALITY CONTROL

The following sampling protocol was employed by HBC personnel during each sampling event:

- Each monitor well was visually inspected to ensure well integrity.
- The water level indicator was thoroughly decontaminated before and after each use.
- Each monitor well was purged of at least three well volumes or to dryness using a new, disposable bailer.
- Subsequent to sufficient recharge, groundwater samples were collected using new, disposable bailers.
- Monitor wells were sampled from least to most contaminated.
- TPH and BTEX/MTBE samples were stored in 40-milliliter VOA vials with no headspace, and preserved with hydrochloric acid. Holding time for preserved samples is 14 days.
- PAH samples were stored in unpreserved, one-liter, amber, glass bottles. Holding time for PAH samples is 7 days until extraction.
- All samples were properly labeled, sealed with custody tape, placed in a cooler with ice, and hand delivered along with chain-of-custody documentation to DHL Analytical in Round Rock, Texas.
- Samples were analyzed using the following approved methods:
 - BTEX/MTBE - EPA SW 8021B
 - TPH - Texas 1005
 - PAH - EPA SW 8270C

TABLES, GRAPHS AND MAPS

FEDERAL EXPRESS CORPORATION

5811 Technicenter Drive, Austin, TX

LPST # 111747

GROUNDWATER ANALYTICAL DATA SUMMARY

(all concentrations in mg/L)

MW-1								
DATE	PAH	TDS	TPH	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
11/11/1996	NAPL							
7/16/1998	NAPL							
10/5/2000	NAPL							
4/4/2001	NA	NA	57.1	0.480	1.240	0.226	6.010	0.113
9/24/2001	NA	NA	62.1	0.253	0.685	0.196	6.990	0.062
12/27/2001	NA	NA	12.9	0.129	0.364	0.105	2.380	0.054
3/27/2002	NA	NA	8.7	0.045	0.107	0.041	0.952	0.040
6/17/2002	NA	NA	4.8	0.036	0.108	0.039	0.954	<0.080

SVE system ran
9/00 - 5/01

MW-2								
DATE	PAH	TDS	TPH	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
11/11/1996	NAPL							
7/16/1998	NAPL							
10/5/2000	NAPL							
4/4/2001	1.877*	NA	164.0	0.045	2.330	0.175	8.610	0.313
9/24/2001	0.636**	NA	189.0	0.265	2.180	0.442	6.400	0.458
12/27/2001	1.669***	NA	129.0	0.036	2.480	0.927	10.600	0.249
3/27/2002	0.525****	NA	43.2	0.032	0.804	1.040	8.740	0.197
6/17/2002	0.356*****	NA	28.2	0.055	0.486	0.934	8.010	<0.020

*-Benzo(a)anthracene-0 0005, Benzo(b)fluoranthene-0 0007, Benzopyrene-0 0006, Benzo(k)fluoranthene-0 0007, Chrysene-0 0002, Fluoranthene-0 002, Naphthalene-1 86, Phenanthrene-0 01, Pyrene-0 001

** -Acenaphthene-0 004, Anthracene-0 0009, Benzo(a)anthracene-0 0003, Benzo(b)fluoranthene-0 0003, Benzopyrene-0 0003, Benzo(a)pyrene-0 0002, Chrysene-0 0003, Fluoranthene-0 0006, Fluorene-0 007, Naphthalene-0 619, Phenanthrene-0 003, Pyrene-0 001

*** -Acenaphthene-0 017, Fluoranthene-0 002, Fluorene-0 030, Naphthalene-1 60, Phenanthrene-0 014, Pyrene-0 006

**** -Acenaphthene-0 0009, Fluorene-0 001, Naphthalene-0 522, Phenanthrene-0 0005

***** -Acenaphthene-0 0004, Fluorene-0 0007, Naphthalene-0 355, Phenanthrene-0 0003

FEDERAL EXPRESS CORPORATION

5811 Technicenter Drive, Austin, TX
 LPST # 111747

GROUNDWATER ANALYTICAL DATA SUMMARY

(all concentrations in mg/L)

MW-3								
DATE	PAH	TDS	TPH	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
11/11/1996	NA	478	10	1.920	2.250	0.313	2.880	1.150
7/16/1998	NAPL							
10/5/2000	NAPL							
4/4/2001	NA	NA	20.6	0.219	0.162	0.111	0.888	0.024
9/24/2001	NA	NA	19.7	0.241	0.072	0.114	0.906	0.056
12/27/2001	NA	NA	<4.85	0.096	0.023	0.027	0.266	0.017
3/27/2002	NA	NA	2.1	0.135	0.015	0.045	0.151	0.034
6/17/2002	NA	NA	3.5	0.121	0.015	0.051	0.222	0.028

MW-4								
DATE	PAH	TDS	TPH	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
2/18/1997	NA	NA	<0.50	0.004	<0.001	<0.001	<0.001	<0.001
7/16/1998	NAPL							
10/5/2000	NAPL							
4/4/2001	NA	NA	57.7	0.174	0.656	0.419	2.630	0.320
9/24/2001	NA	NA	20.9	1.030	1.770	0.364	3.460	0.155
12/27/2001	NA	NA	23.6	1.290	2.780	0.596	6.370	0.216
3/27/2002	NA	NA	24.9	1.270	3.510	0.408	5.500	0.420
6/17/2002	NA	NA	13.6	0.551	1.100	0.246	2.570	<0.020

FEDERAL EXPRESS CORPORATION

5811 Technicenter Drive, Austin, TX
 LPST # 111747

GROUNDWATER ANALYTICAL DATA SUMMARY

(all concentrations in mg/L)

MW-5								
DATE	PAH	TDS	TPH	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
2/18/1997	0.0006*	NA	3.9	0.520	0.811	0.096	1.070	0.449
7/16/1998	NAPL							
10/5/2000	NAPL							
4/4/2001	NAPL							
9/24/2001	NAPL							
12/27/2001	NA	NA	35	3.57	3.98	0.62	6.07	2.85
3/27/2002	NA	NA	14	2.90	2.29	0.40	2.36	2.04
6/17/2002	NA	NA	19	3.09	2.74	0.50	3.21	2.13

MW-7								
DATE	PAH	TDS	TPH	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
2/18/1997	NA	NA	<0.5	<0.001	<0.001	<0.001	<0.001	<0.01
7/16/1998	NA	NA	<5.1	<0.001	<0.001	<0.001	<0.002	<0.02
11/19/1998	NA	NA	<4.4	<0.005	<0.005	<0.005	<0.005	<0.005
10/5/2000	NA	NA	<5	<0.005	<0.005	<0.005	<0.005	<0.005
4/4/2001	NA	NA	<6.4	<0.002	<0.004	<0.004	<0.004	<0.004
9/24/2001	NA	NA	<4.78	<0.002	<0.004	<0.004	<0.004	<0.004
12/27/2001	NA	NA	<4.84	<0.002	<0.004	<0.004	<0.004	<0.004
3/27/2002	NA	NA	<1.98	<0.002	<0.004	<0.004	<0.004	<0.004
6/17/2002	NA	NA	<1.95	<0.002	<0.004	<0.004	<0.004	<0.004

*-Fluorene detected at 0.006 mg/L

FEDERAL EXPRESS CORPORATION

5811 Technicenter Drive, Austin, TX
 LPST # 111747

GROUNDWATER ANALYTICAL DATA SUMMARY

(all concentrations in mg/L)

MW-8								
DATE	PAH	TDS	TPH	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
2/18/1997	NA	NA	<0.05	0.005	0.003	<0.001	0.004	<0.01
7/20/1998	NA	NA	<4.9	0.034	0.004	0.007	0.020	<0.02
11/19/1998	NA	NA	<6	<0.005	<0.005	<0.005	<0.005	<0.005
10/5/2000	NA	NA	<5	0.007	<0.005	<0.005	<0.005	<0.005
4/4/2001	NA	NA	<4.67	0.029	0.005	<0.004	0.011	0.004
9/24/2001	NA	NA	<4.89	0.014	0.010	<0.004	0.114	0.006
12/27/2001	NA	NA	<4.90	0.011	<0.004	<0.004	<0.004	0.006
3/27/2002	NA	NA	<1.97	0.015	<0.004	<0.004	0.020	0.012
6/17/2002	NA	NA	<1.95	<0.002	<0.004	<0.004	<0.004	<0.004

MW-9								
DATE	PAH	TDS	TPH	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
3/24/1997	NA	NA	1	0.106	0.120	0.008	0.135	0.038
7/16/1998	NA	NA	<5.3	<0.001	<0.001	<0.001	0.002	0.035
11/19/1998	NA	NA	<4.1	0.012	<0.005	<0.005	<0.005	0.178
10/5/2000	0.002*	NA	<5	0.149	<0.005	<0.005	<0.005	0.225
4/4/2001	NA	NA	<5.5	0.154	<0.004	<0.004	<0.004	0.454
9/24/2001	NA	NA	<4.95	0.005	<0.004	<0.004	<0.004	0.129
12/27/2001	NA	NA	<4.87	<0.002	<0.004	<0.004	<0.004	0.060
3/27/2002	NA	NA	<1.98	<0.002	<0.004	<0.004	<0.004	0.034
6/17/2002	NA	NA	<1.95	<0.002	<0.004	<0.004	<0.004	0.074

*-Naphthalene detected at 0.002 mg/L

FEDERAL EXPRESS CORPORATION

5811 Technicenter Drive, Austin, TX
 LPST # 111747

GROUNDWATER ANALYTICAL DATA SUMMARY

(all concentrations in mg/L)

MW-10								
DATE	PAH	TDS	TPH	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
3/24/1997	NA	NA	<0.5	<0.001	<0.001	<0.001	<0.001	<0.01
7/16/1998	NA	NA	<4.8	<0.001	<0.001	<0.001	0.002	<0.02
11/19/1998	NA	NA	<4.7	<0.005	<0.005	<0.005	<0.005	<0.005
10/5/2000	NA	NA	<5	<0.005	<0.005	<0.005	<0.005	<0.005
4/4/2001	NA	NA	<4.9	<0.002	<0.004	<0.004	<0.004	<0.004
9/24/2001	NA	NA	<4.84	<0.002	<0.004	<0.004	<0.004	<0.004
12/27/2001	NA	NA	<4.81	<0.002	<0.004	<0.004	<0.004	<0.004
3/27/2002	NA	NA	<1.97	<0.002	<0.004	<0.004	<0.004	<0.004
6/17/2002	NA	NA	<1.95	<0.002	<0.004	<0.004	<0.004	<0.004

MW-11								
DATE	PAH	TDS	TPH	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
3/24/1997	NA	NA	<0.50	<0.001	<0.001	<0.001	<0.001	<0.01
7/16/1998	NA	NA	<5	0.053	0.009	0.003	0.012	0.026
11/19/1998	NA	NA	25.3	1.850	2.200	0.036	2.210	<0.005
10/5/2000	NA	NA	<5	<0.005	<0.005	<0.005	<0.005	<0.005
4/4/2001	NA	NA	<5.28	1.770	3.570	0.399	2.600	0.525
9/24/2001	NA	NA	9.7	1.620	3.080	0.625	2.480	0.134
12/27/2001	NA	NA	<4.85	0.071	0.085	0.088	0.142	0.040
3/27/2002	NA	NA	20.0	1.010	5.170	0.894	4.350	0.409
6/17/2002	NA	NA	13.1	0.952	3.550	0.523	2.390	<0.020

FEDERAL EXPRESS CORPORATION5811 Technicenter Drive, Austin, TX
LPST # 111747**FLUID GAUGING DATA SUMMARY**

DATE	MW-1			MW-2			MW-3			MW-4		
	DTW	NAPL	GWE	DTW	NAPL	GWE	DTW	NAPL	GWE	DTW	NAPL	GWE
9/24/2001	29.68	0.00	529.42	31.01	0.00	529.21	31.89	0.00	529.06	31.30	0.00	528.89
12/27/2001	27.79	0.00	531.31	29.13	0.00	531.09	30.01	0.00	530.94	29.33	0.00	530.86
3/27/2002	29.31	0.00	529.79	30.64	0.00	529.58	31.51	0.00	529.44	30.80	0.00	529.39
6/17/2002	30.56	0.00	528.54	31.98	0.00	528.24	32.80	0.00	528.15	32.06	0.00	528.13

Notes:

- 1) All measurements in feet
- 2) DTW-depth to water below top of surface casing
- 3) NAPL-non-aqueous phase liquid thickness
- 4) GWE-groundwater elevation (corrected for NAPL using 0.75 specific gravity) in feet above mean sea level

FEDERAL EXPRESS CORPORATION5811 Technicenter Drive, Austin, TX
LPST # 111747**FLUID GAUGING DATA SUMMARY**

DATE	MW-5			MW-6			MW-7			MW-8		
	DTW	NAPL	GWE	DTW	NAPL	GWE	DTW	NAPL	GWE	DTW	NAPL	GWE
9/24/2001	34.36	0.05	528.88	33.79	0.15	529.19	29.68	0.00	528.90	29.29	0.00	528.90
12/27/2001	32.32	0.00	530.88	31.86	0.08	531.07	27.74	0.00	530.84	27.25	0.00	530.94
3/27/2002	33.88	0.00	529.32	33.39	0.06	529.53	29.15	0.00	529.43	28.72	0.00	529.47
6/17/2002	35.06	0.00	528.14	34.30	0.01	528.58	30.43	0.00	528.15	30.00	0.00	528.19

Notes:

- 1) All measurements in feet
- 2) DTW-depth to water below top of surface casing
- 3) NAPL-non-aqueous phase liquid thickness
- 4) GWE-groundwater elevation (corrected for NAPL using 0.75 specific gravity) in feet above mean sea level

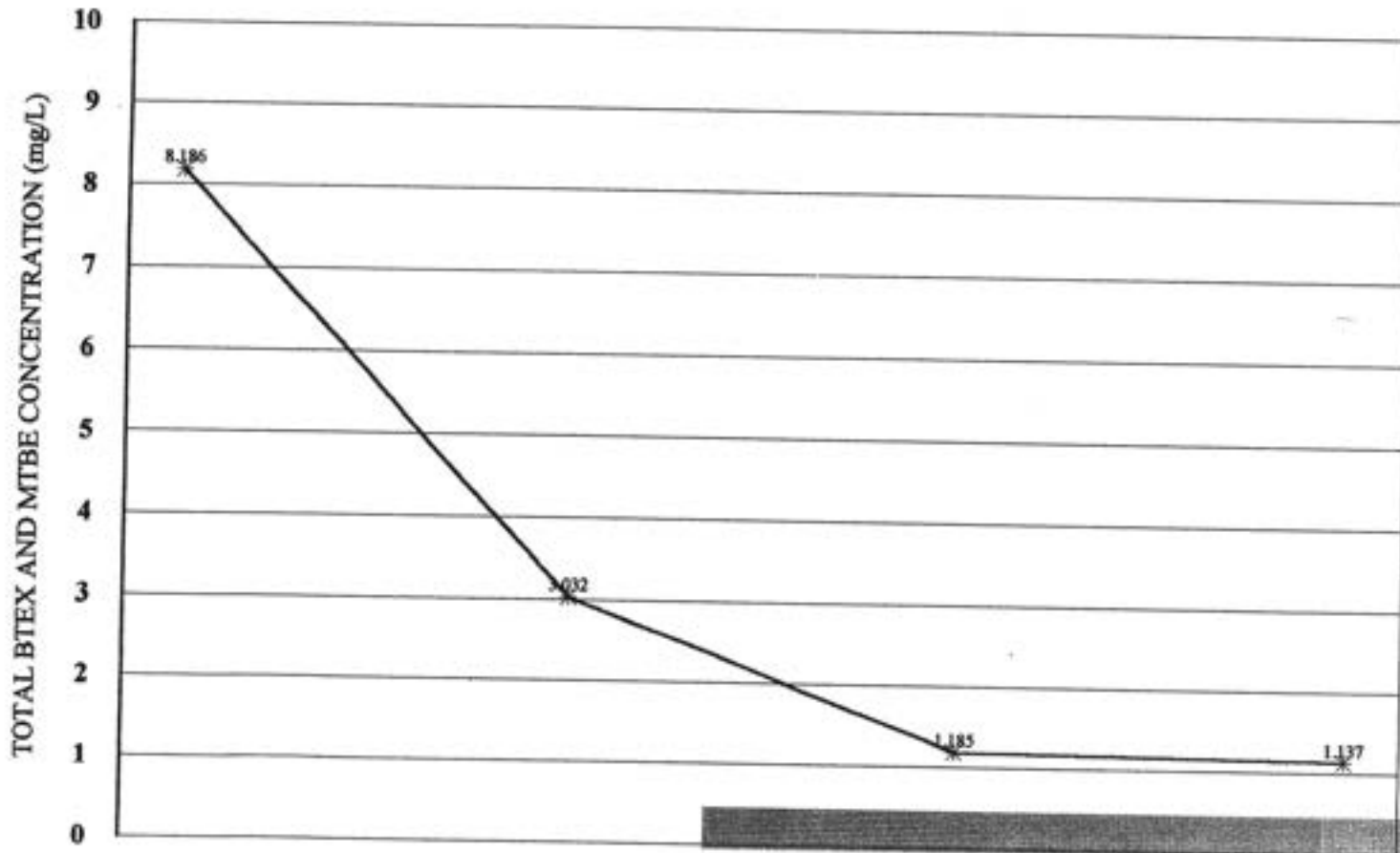
FEDERAL EXPRESS CORPORATION5811 Technicenter Drive, Austin, TX
LPST # 111747**FLUID GAUGING DATA SUMMARY**

DATE	MW-9			MW-10			MW-11		
	DTW	NAPL	GWE	DTW	NAPL	GWE	DTW	NAPL	GWE
9/24/2001	34.70	0.00	529.21	34.29	0.00	528.70	34.49	0.00	529.14
12/27/2001	32.80	0.00	531.11	32.22	0.00	530.77	32.55	0.00	531.08
3/27/2002	34.32	0.00	529.59	33.70	0.00	529.29	34.10	0.00	529.53
6/17/2002	35.48	0.00	528.43	34.90	0.00	528.09	35.24	0.00	528.39

Notes:

- 1) All measurements in feet
- 2) DTW-depth to water below top of surface casing
- 3) NAPL-non-aqueous phase liquid thickness
- 4) GWE-groundwater elevation (corrected for NAPL using 0.75 specific gravity) in feet above mean sea level

DISSOLVED HYDROCARBON CONCENTRATIONS-MW-1



09/24/01

12/27/01

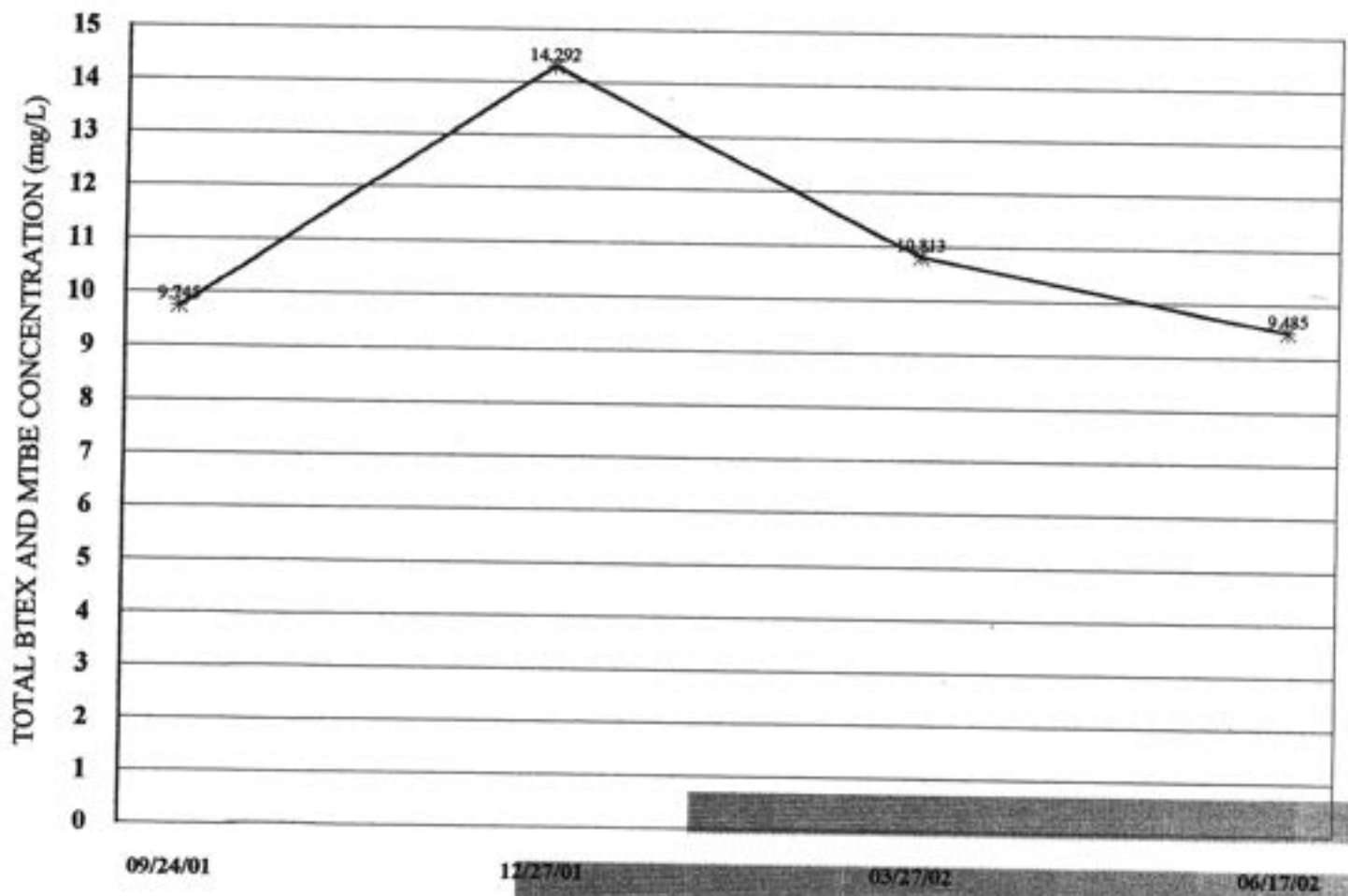
03/27/02

06/17/02

Date

FEDERAL EXPRESS CORPORATION
LPST # 111747

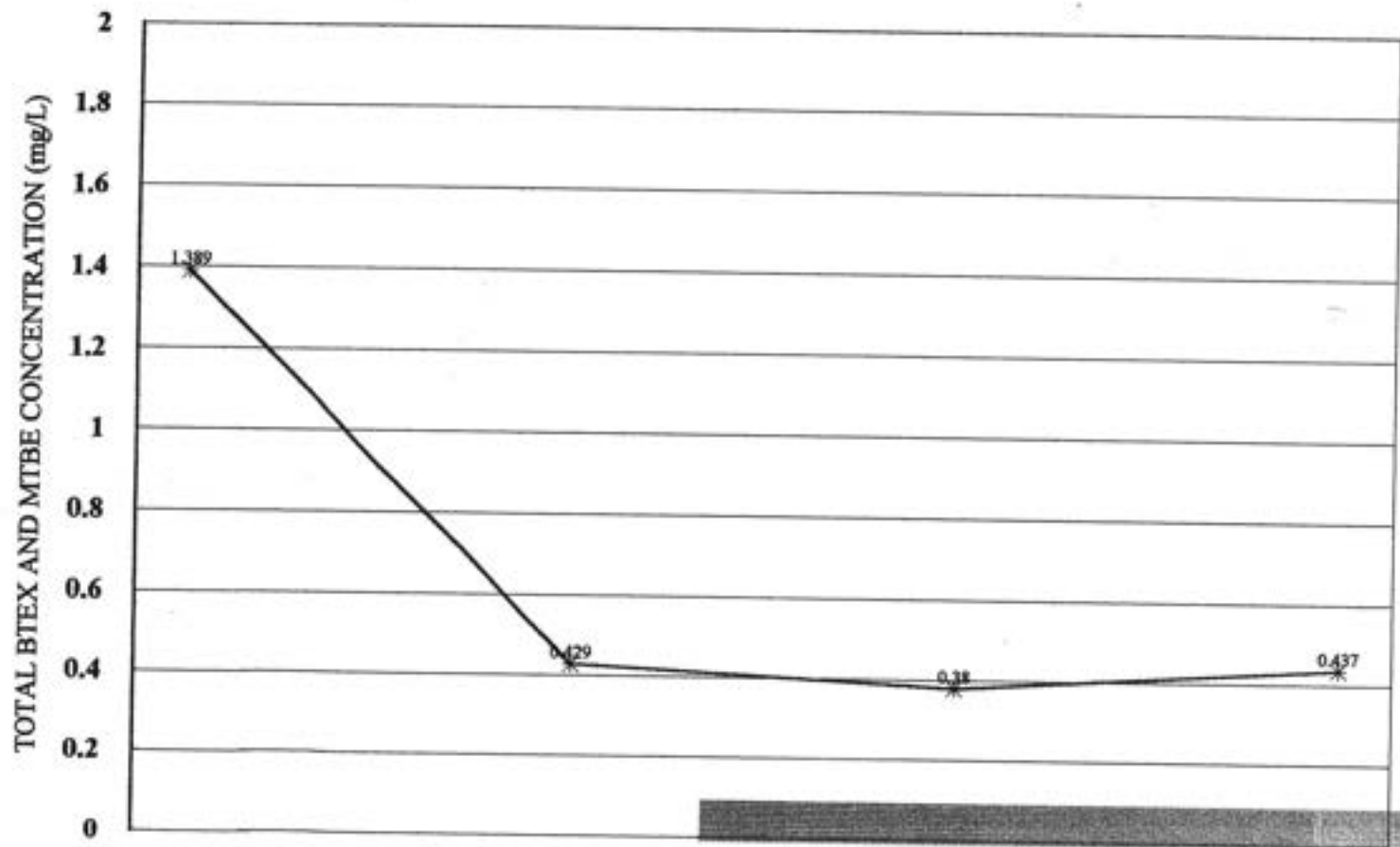
DISSOLVED HYDROCARBON CONCENTRATIONS-MW-2



Date

FEDERAL EXPRESS CORPORATION
LPST # 111747

DISSOLVED HYDROCARBON CONCENTRATIONS-MW-3



09/24/01

12/27/01

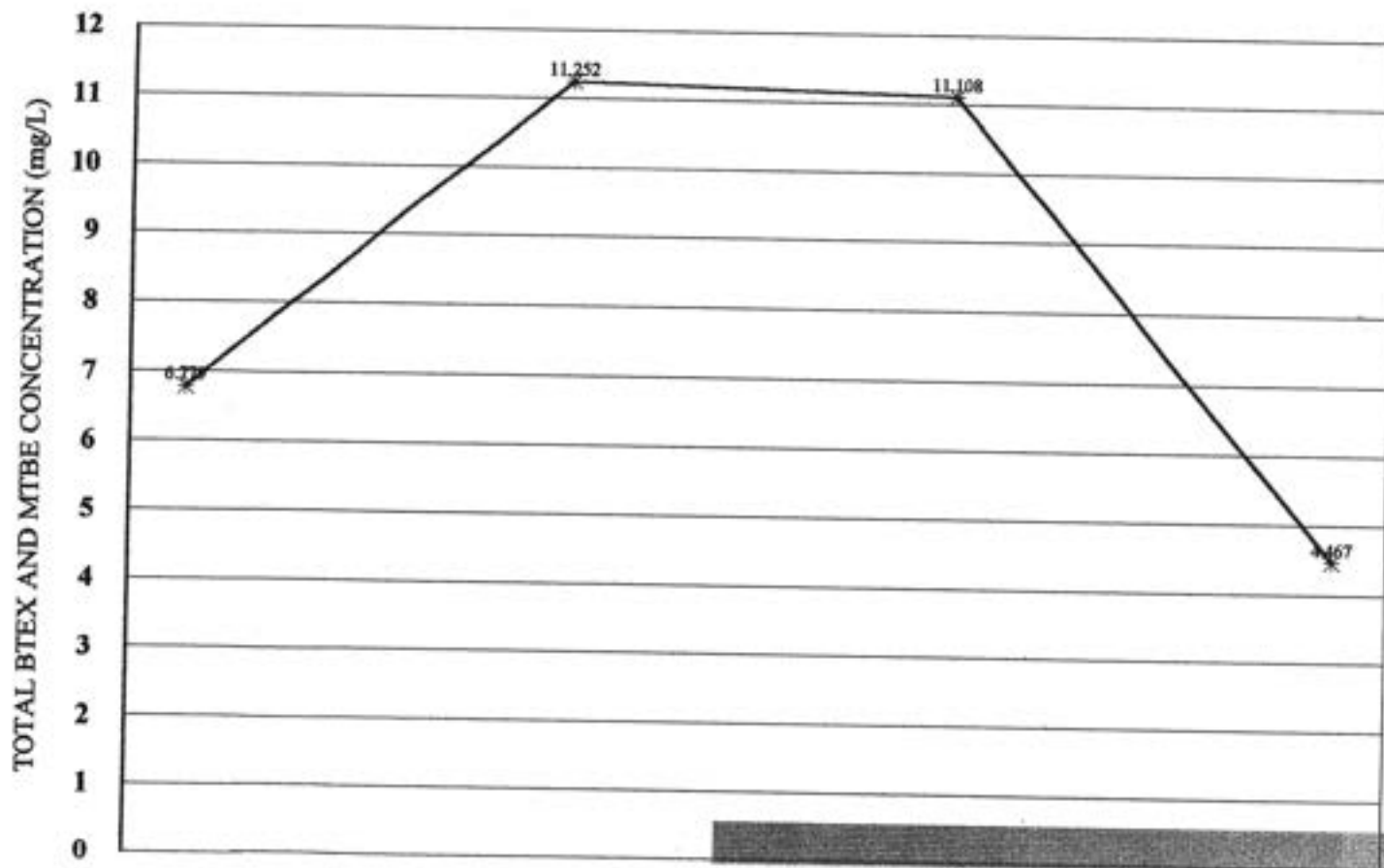
03/27/02

06/17/02

Date

FEDERAL EXPRESS CORPORATION
LPST # 111747

DISSOLVED HYDROCARBON CONCENTRATIONS-MW-4



09/24/01

12/27/01

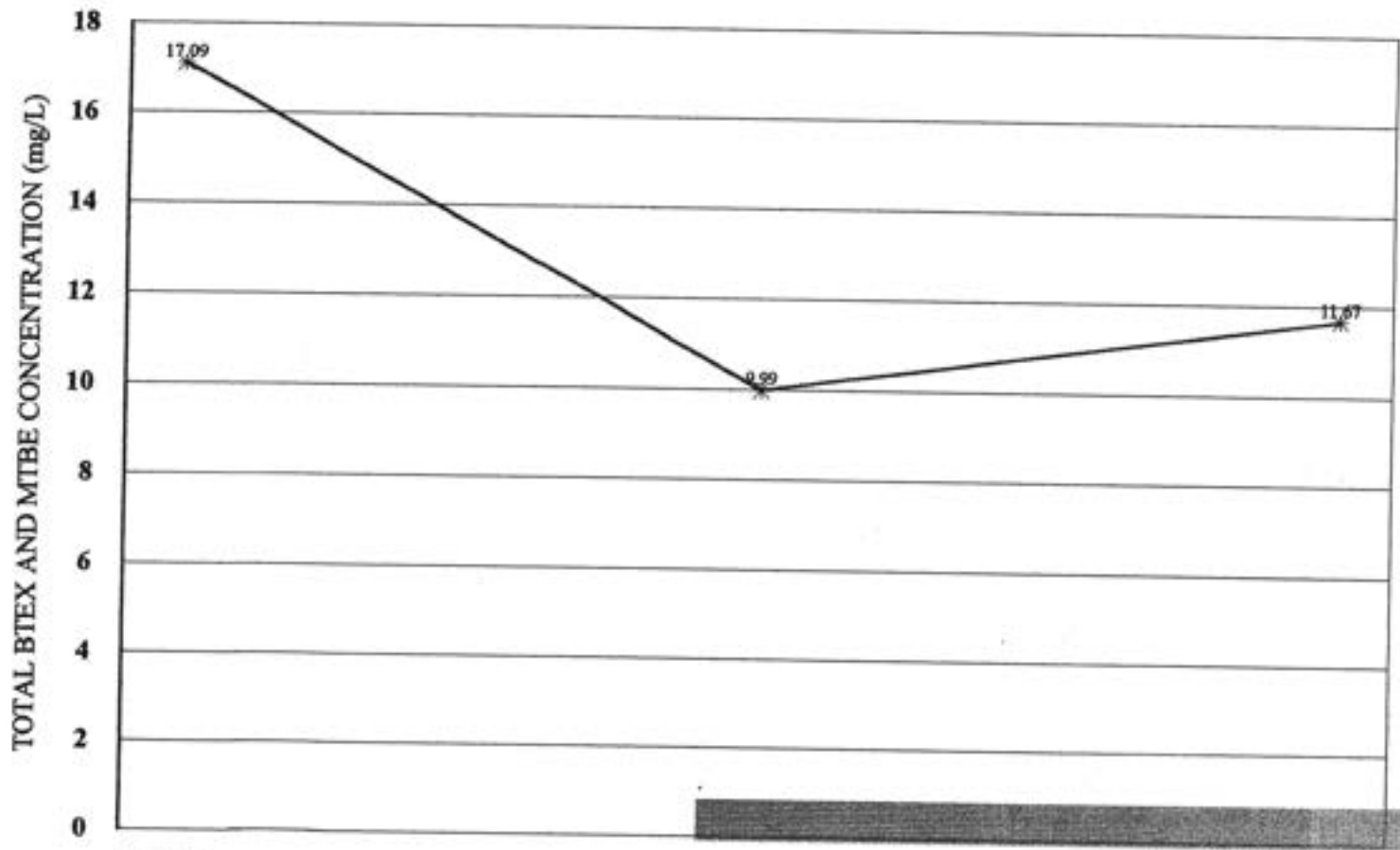
03/27/02

06/17/02

Date

FEDERAL EXPRESS CORPORATION
LPST # 111747

DISSOLVED HYDROCARBON CONCENTRATIONS-MW-5



12/27/01

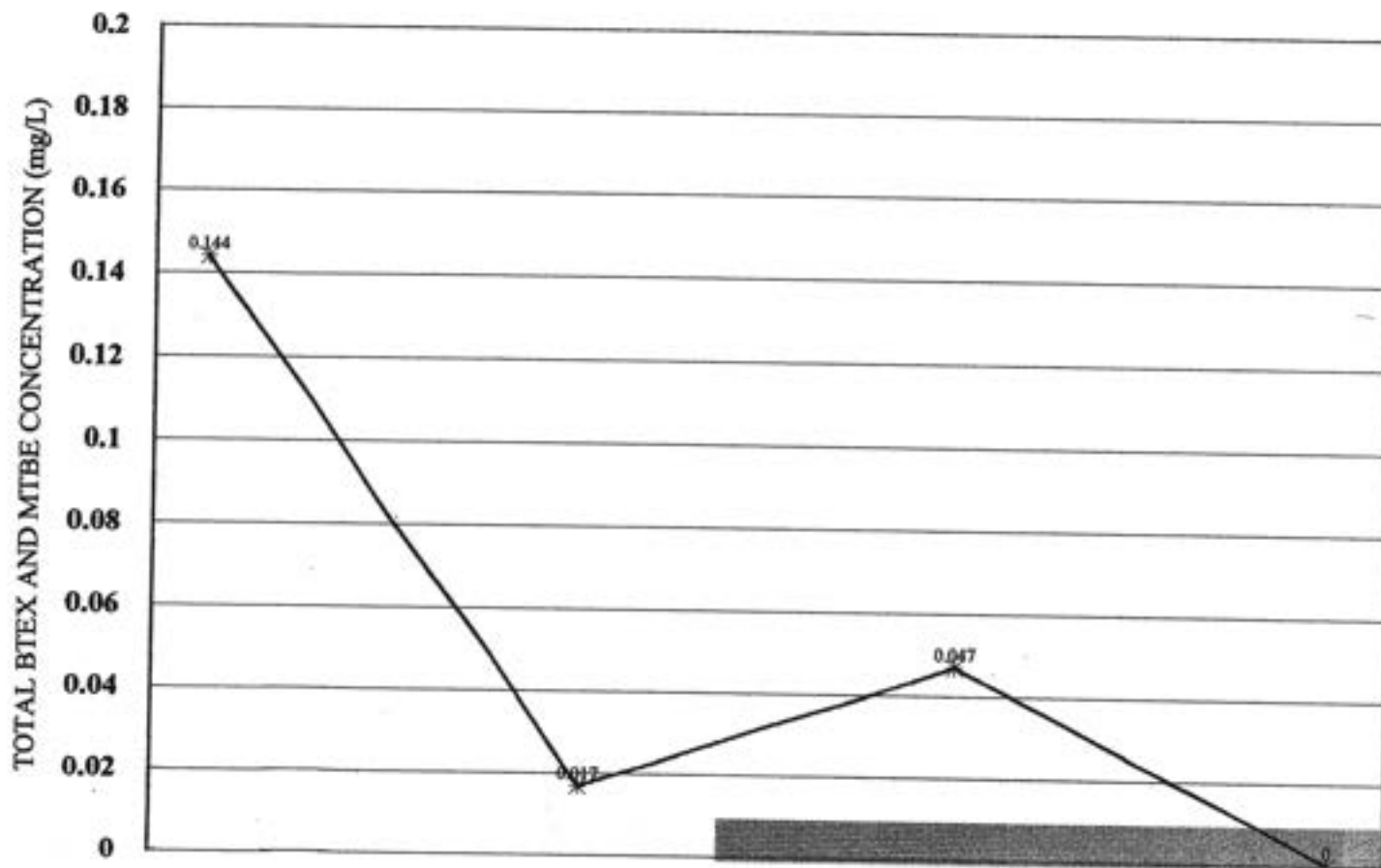
03/27/02

06/17/02

Date

FEDERAL EXPRESS CORPORATION
LPST # 111747

DISSOLVED HYDROCARBON CONCENTRATIONS-MW-8



09/24/01

12/27/01

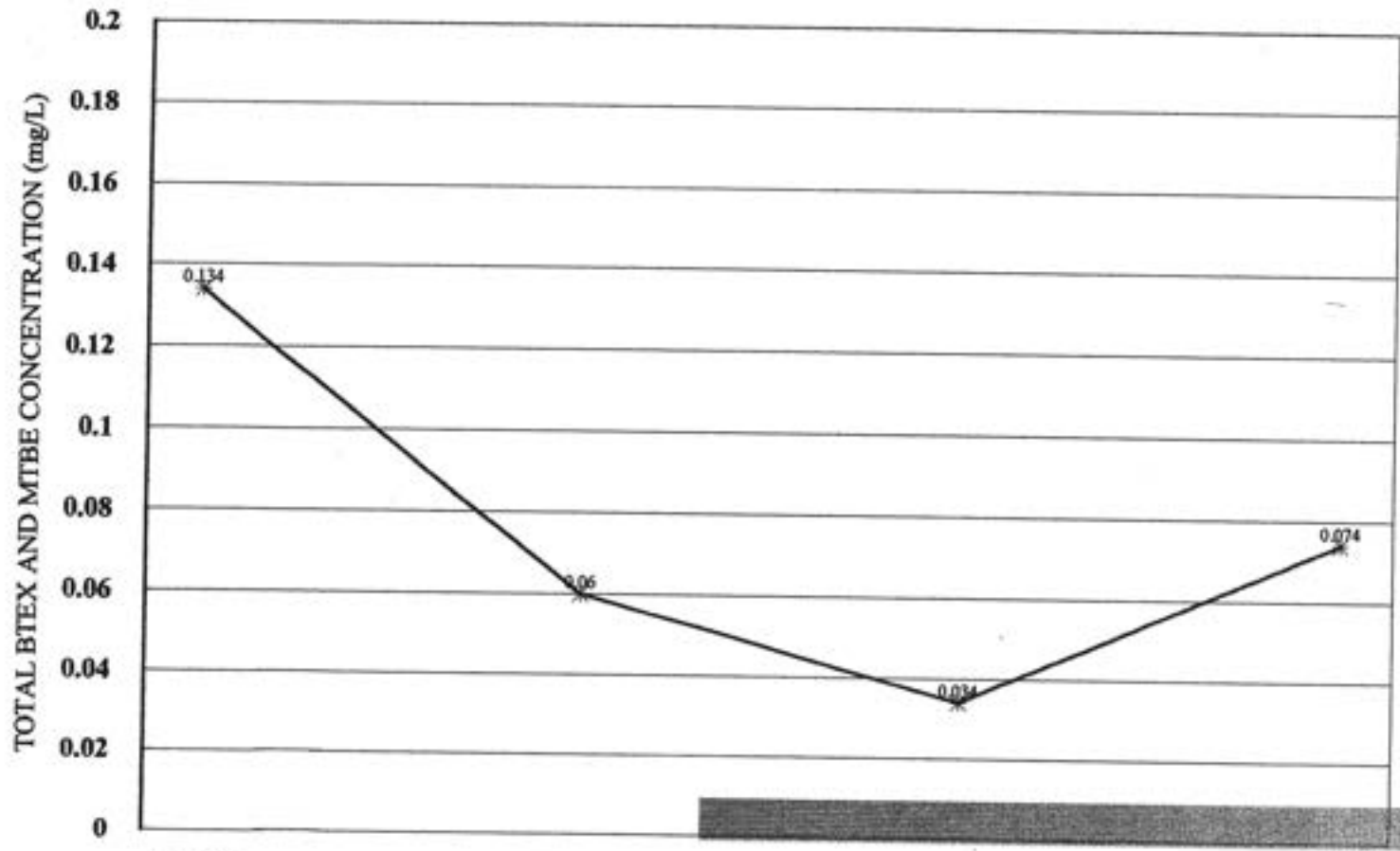
03/27/02

06/17/02

Date

FEDERAL EXPRESS CORPORATION
LPST # 111747

DISSOLVED HYDROCARBON CONCENTRATIONS-MW-9



09/24/01

12/27/01

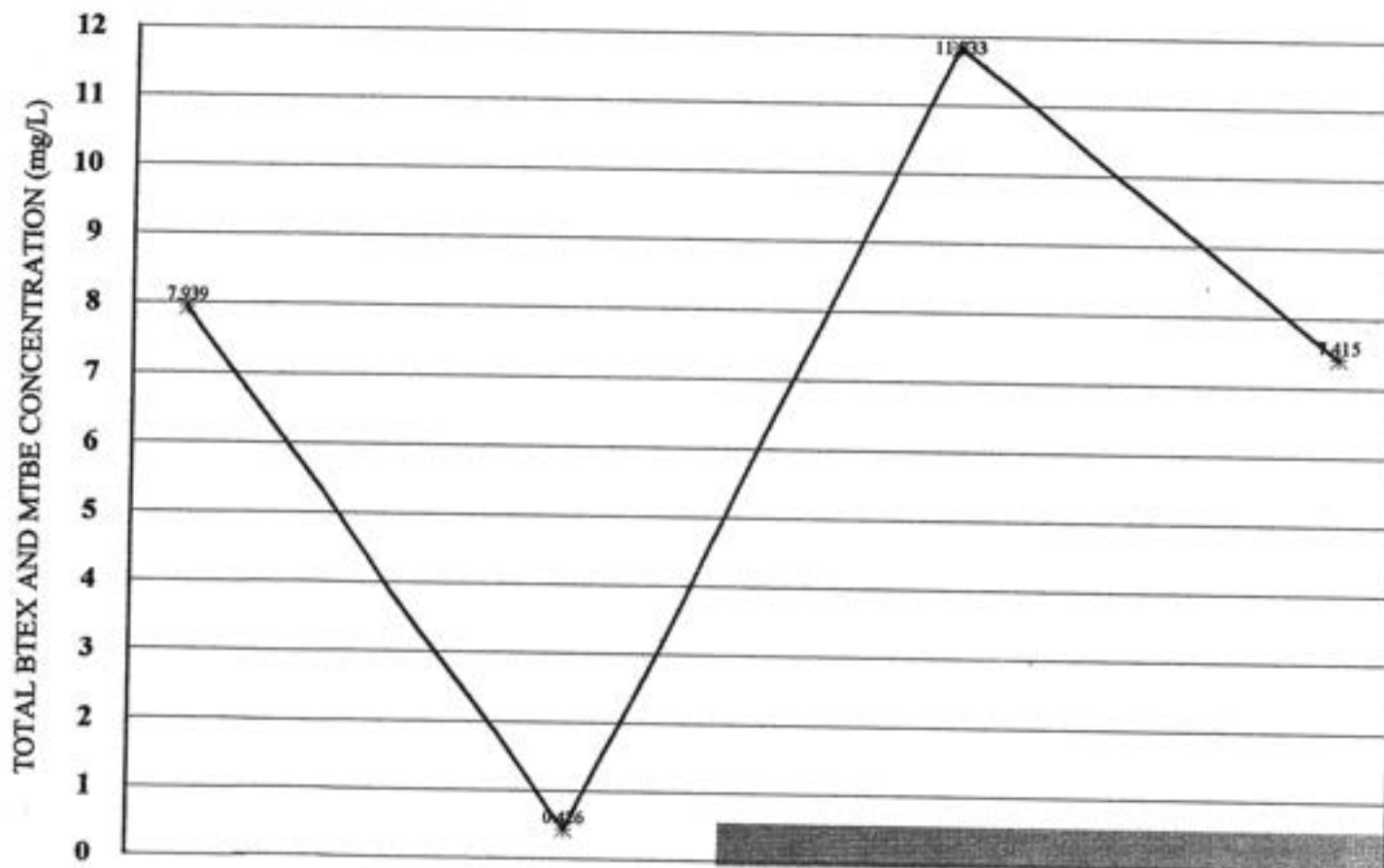
03/27/02

06/17/02

Date

FEDERAL EXPRESS CORPORATION
LPST # 111747

DISSOLVED HYDROCARBON CONCENTRATIONS-MW-11



09/24/01

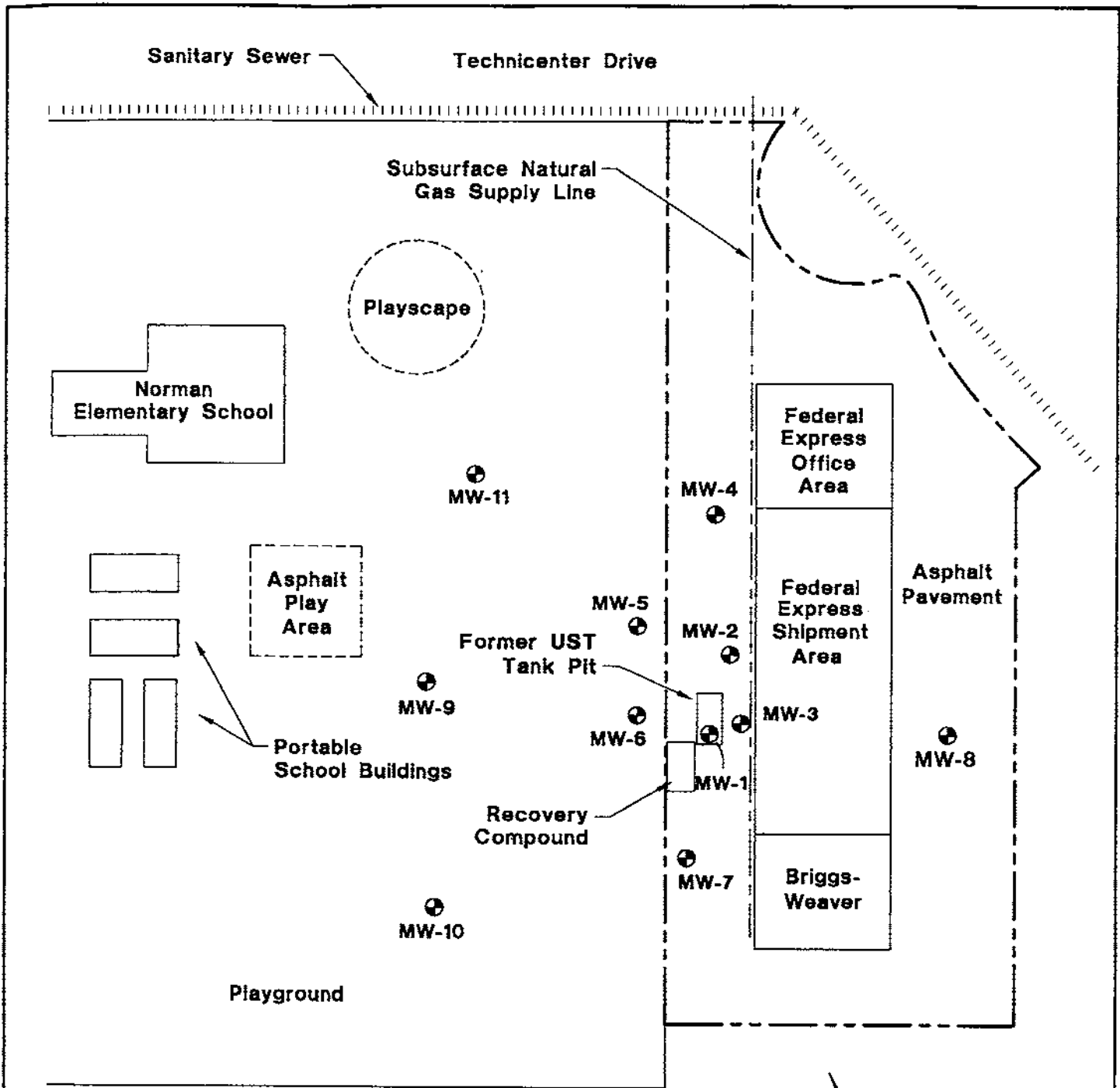
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03/27/02

06/17/02

Date

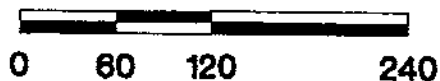
FEDERAL EXPRESS CORPORATION
LPST # 111747



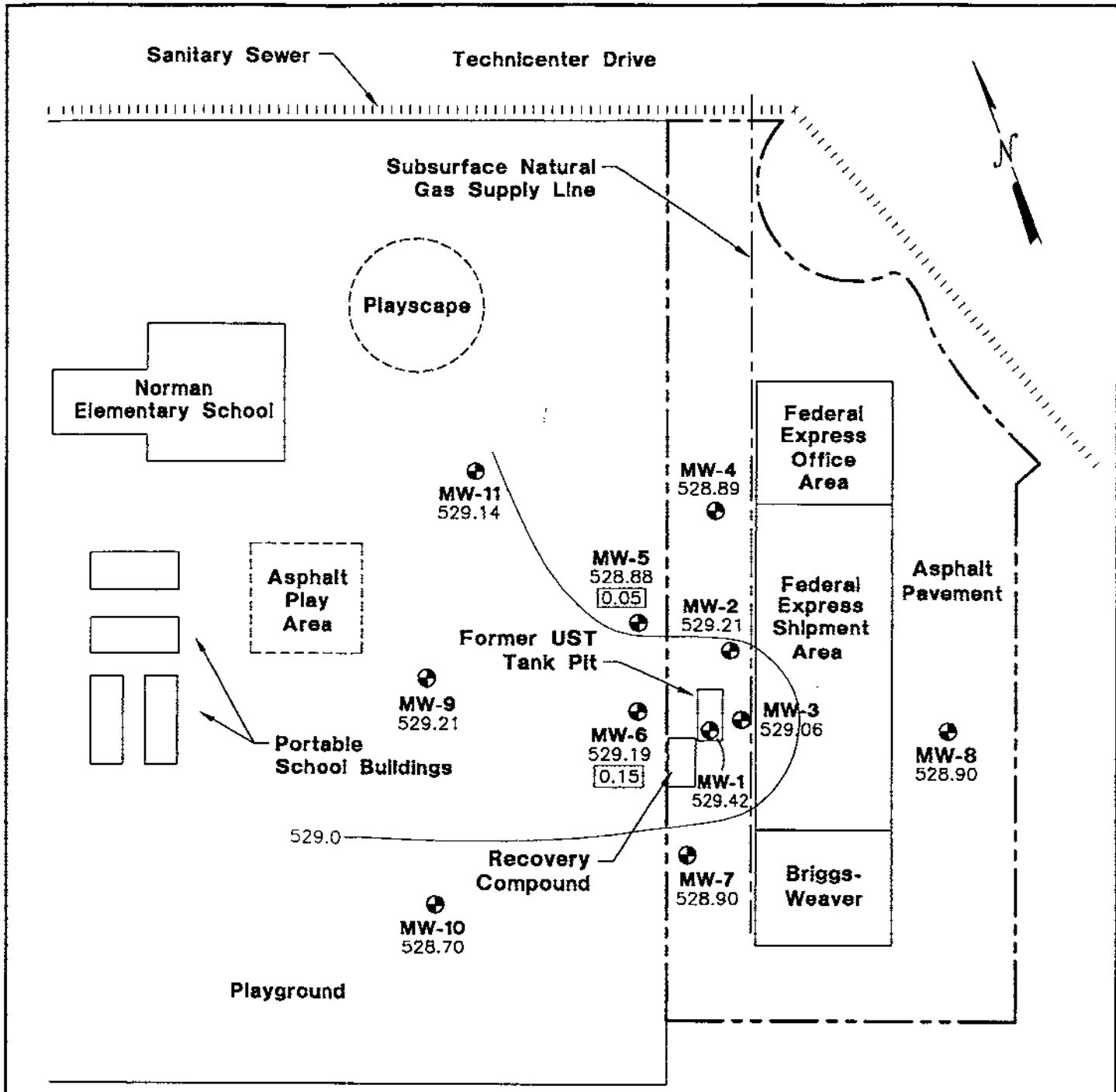
LEGEND

⊕ Monitoring Well Locations

SCALE-FEET



Site Drawing
Federal Express
Austin, Texas



LEGEND

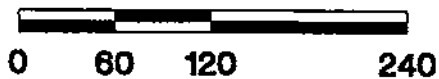
- ⊕ Monitoring Well Locations
- 529.14 Groundwater Elevation (Ft. MSL)
- 0.55 NAPL Thickness (Ft.)
- 529.0— Groundwater Elevation Contour

Groundwater Elevation Map

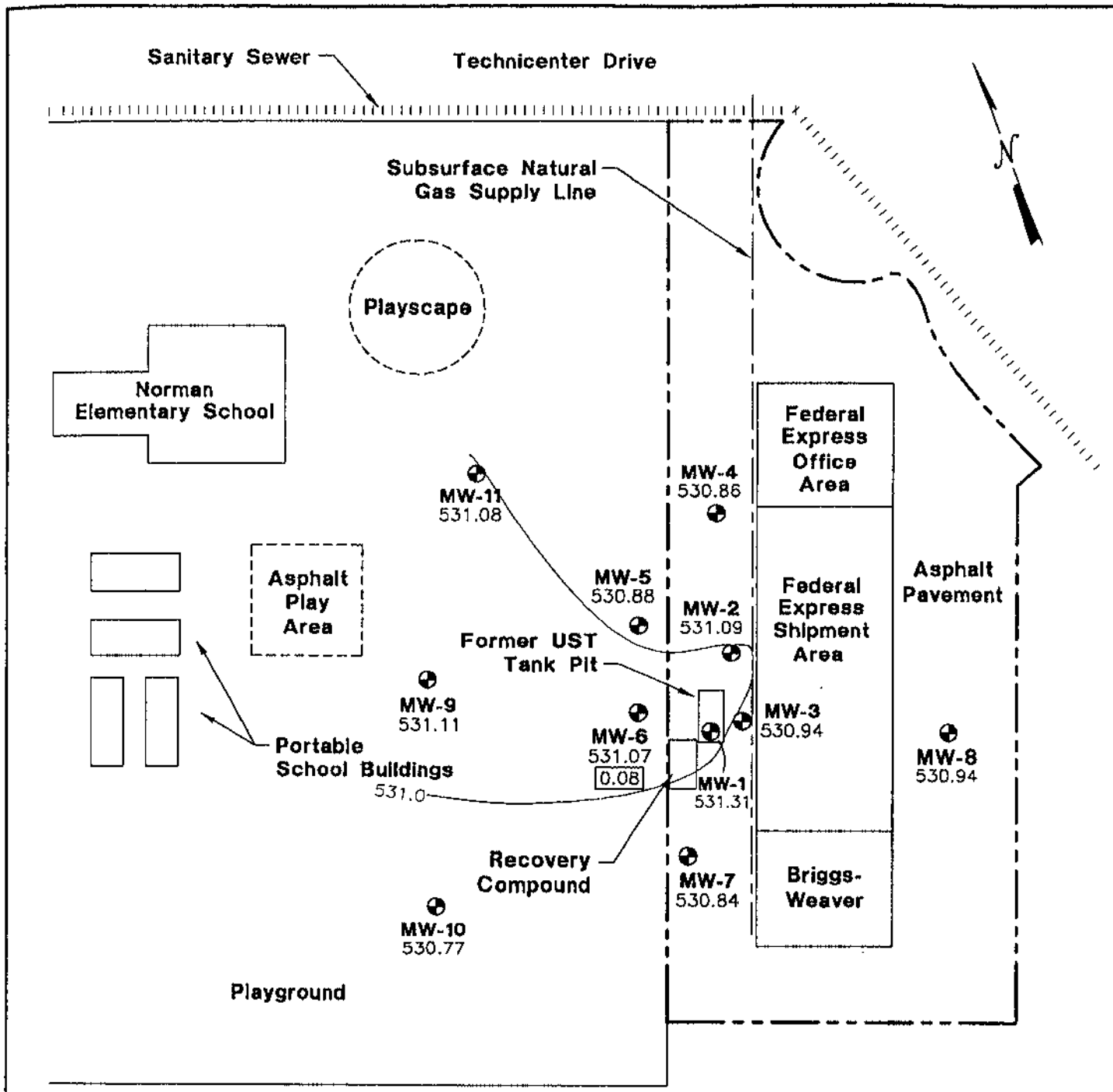
(9/24/01)

Federal Express
Austin, Texas

SCALE-FEET



HBC Project No. 96007145



LEGEND

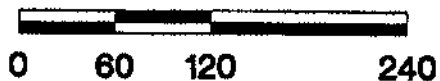
- ⊕ Monitoring Well Locations
- 521.11 Groundwater Elevation (Ft. MSL)
- 0.08 NAPL Thickness (Ft.)
- 531.0— Groundwater Elevation Contour

Groundwater Elevation Map

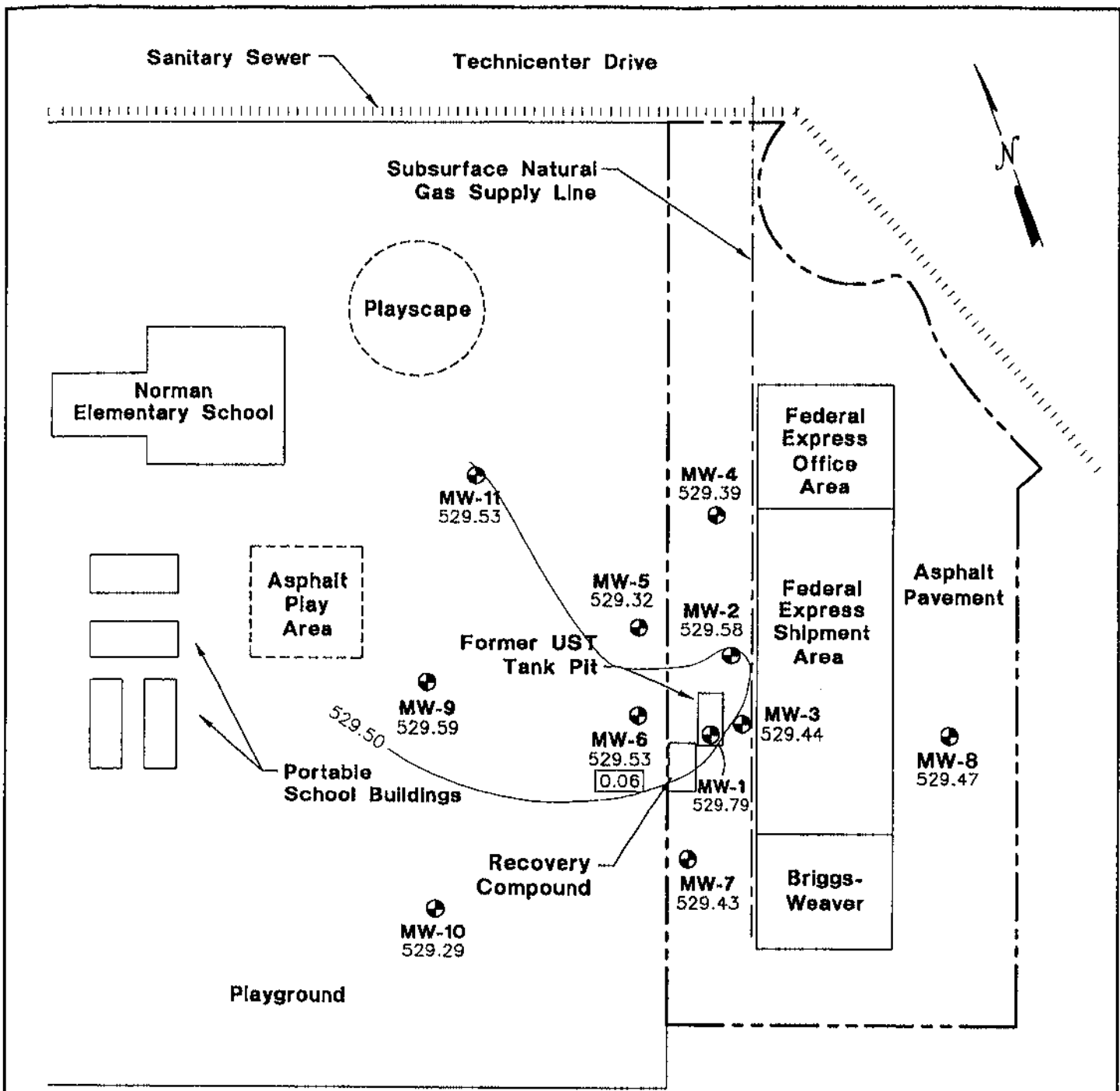
(12/27/01)

Federal Express
Austin, Texas



SCALE-FEET



HBC Project No. 96007145



LEGEND

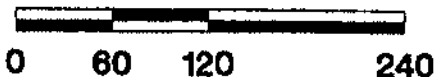
-  Monitoring Well Locations
- 529.14 Groundwater Elevation (Ft. MSL)
-  NAPL Thickness (Ft.)
- 529.0— Groundwater Elevation Contour

Groundwater Elevation Map

(3/27/02)

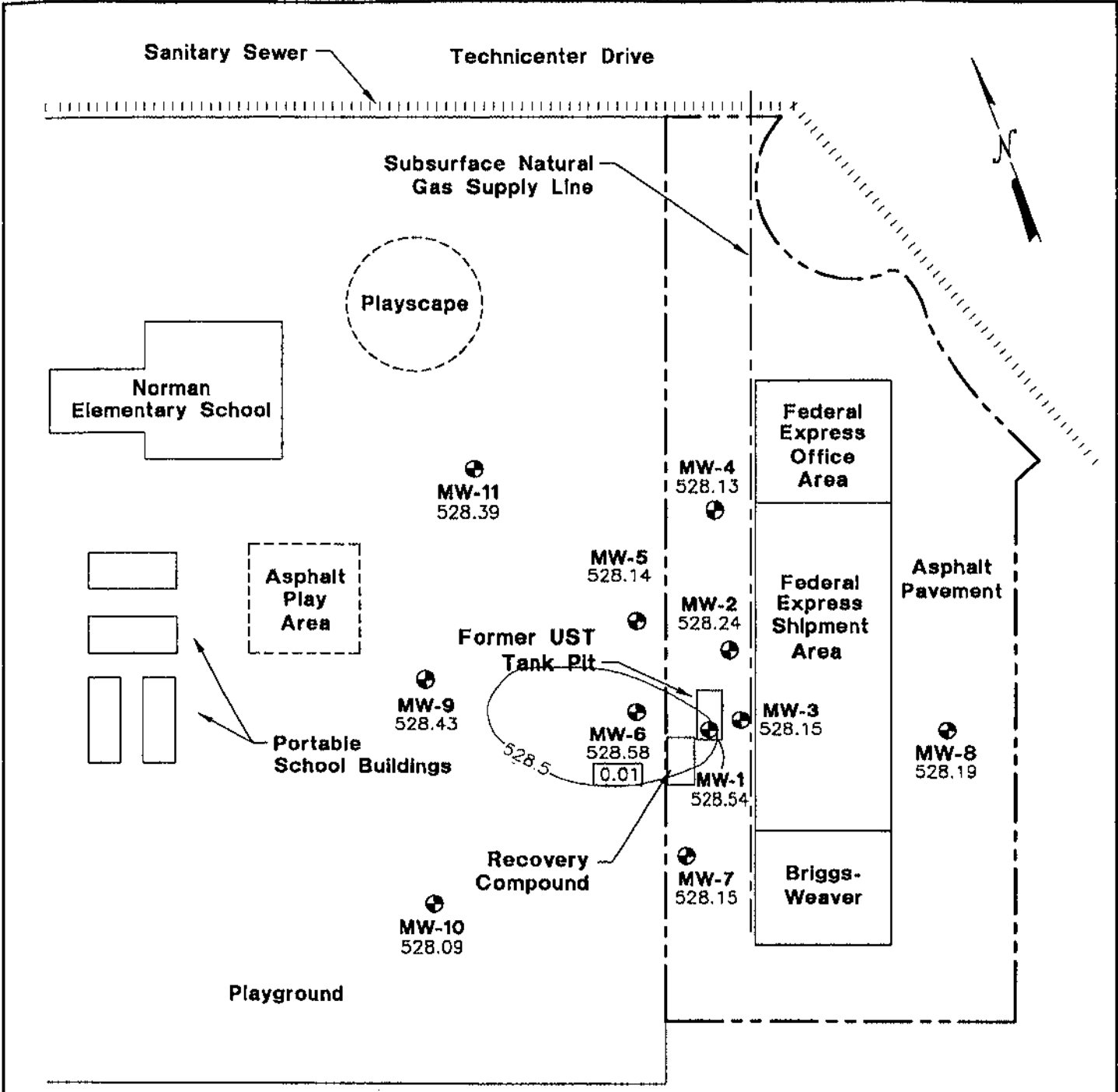
Federal Express
Austin, Texas

SCALE-FEET



HBC Project No.

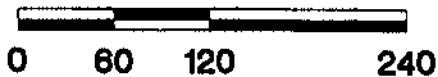
96007145



LEGEND

- ⊕ Monitoring Well Locations
- 528.43 Groundwater Elevation (Ft. MSL)
- [0.01] NAPL Thickness (Ft.)
- 528.5— Groundwater Elevation Contour

SCALE-FEET

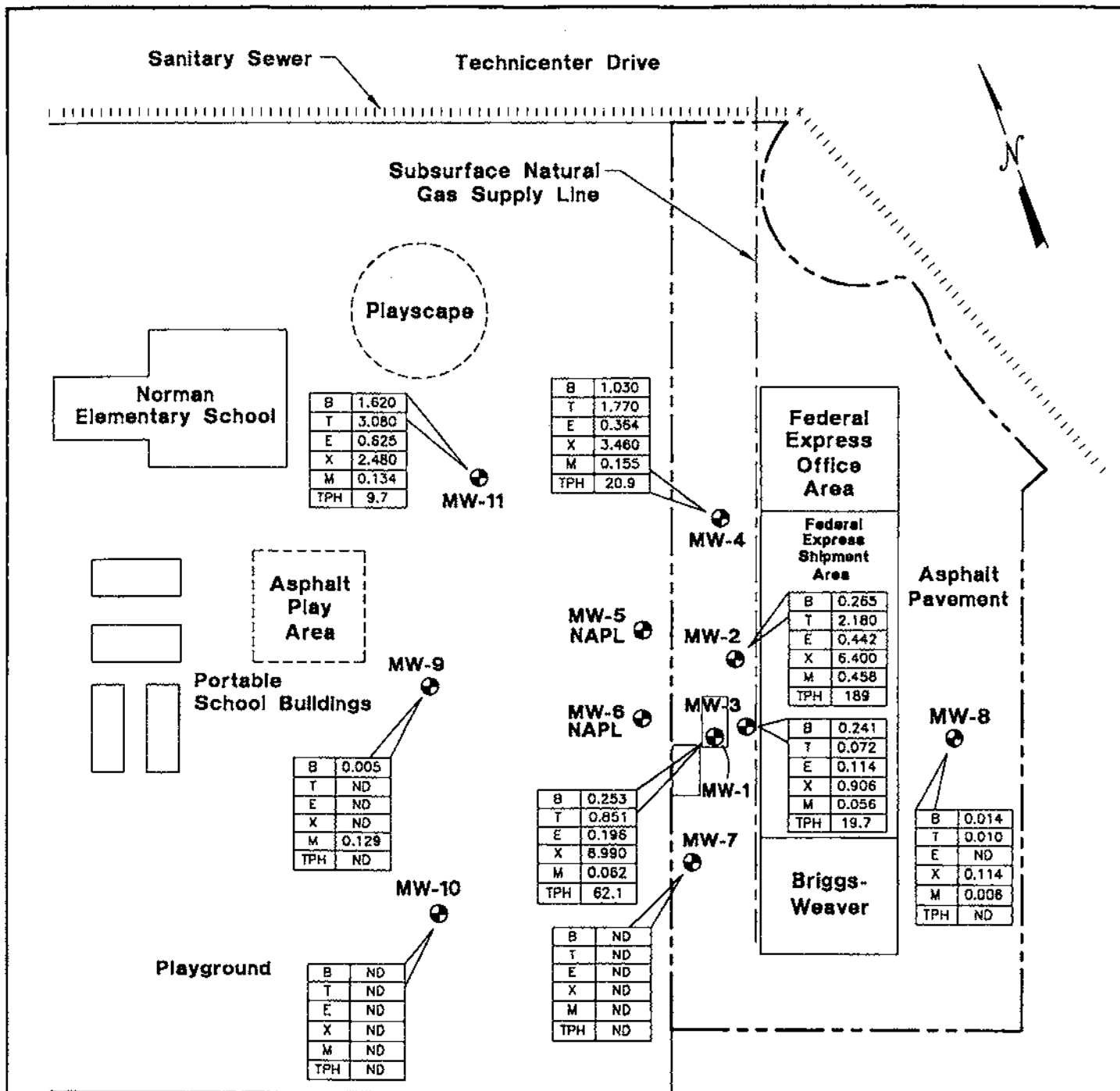


Groundwater Elevation Map

(6/17/02)

Federal Express
Austin, Texas

HBC Project No. 96007145

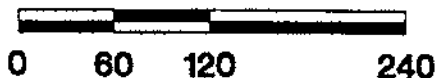


LEGEND

- ⊕ Monitoring Well Locations
- B Benzene
- T Toluene
- E Ethylbenzene
- X Xylenes
- M MTBE
- TPH Total Petroleum Hydrocarbons

*All concentrations in mg/L

SCALE-FEET

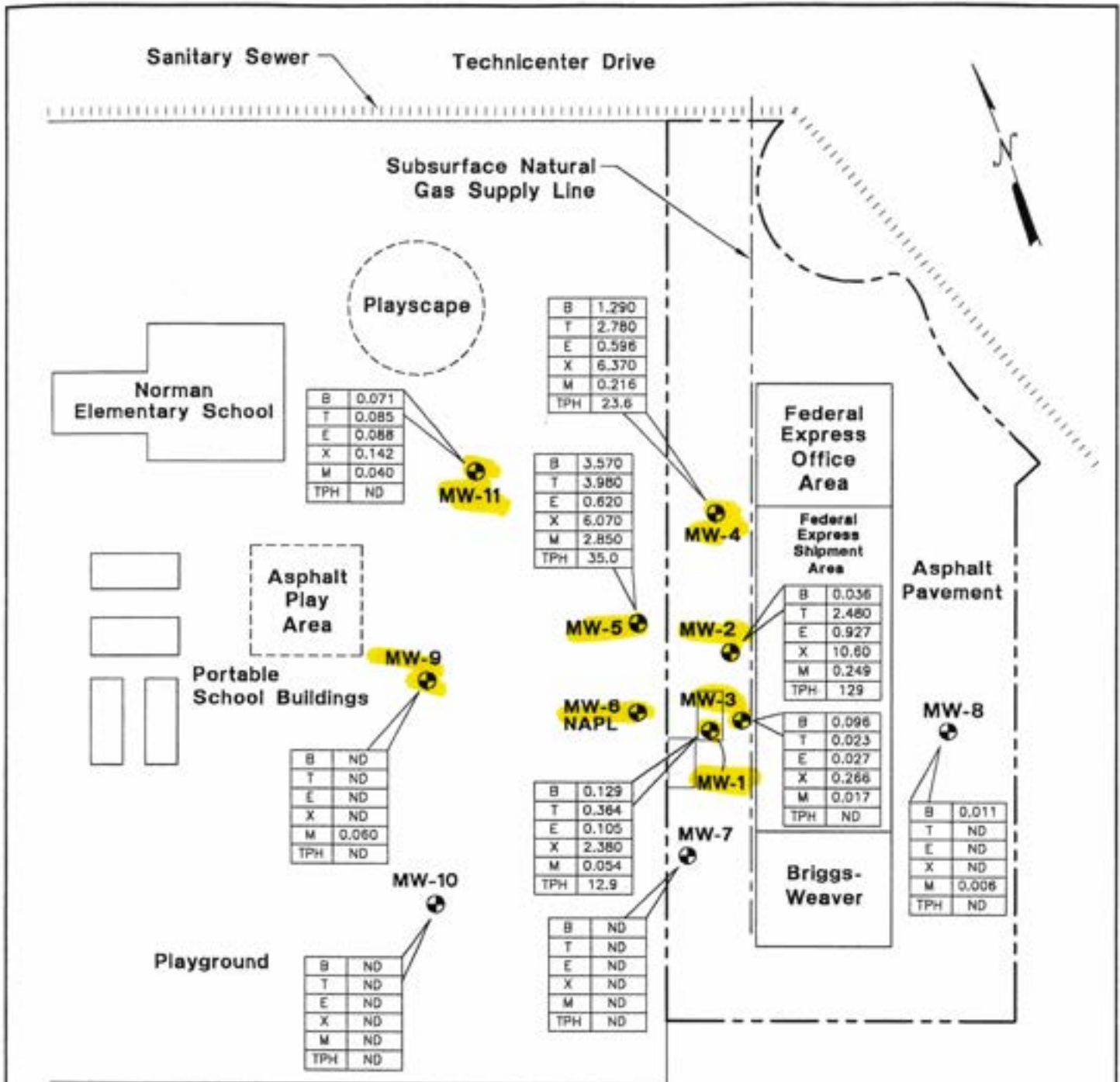


Hydrocarbon Distribution

(9/24/01)

Federal Express
Austin, Texas

HBC Project No. 96007145

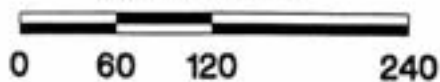


LEGEND

- ⊕ Monitoring Well Locations
- B Benzene
- T Toluene
- E Ethylbenzene
- X Xylenes
- M MTBE
- TPH Total Petroleum Hydrocarbons

*All concentrations in mg/L

SCALE-FEET



Hydrocarbon Distribution

(12/27/01)

Federal Express
Austin, Texas

HBC Project No. 96007145

Sanitary Sewer

Technicenter Drive

Subsurface Natural Gas Supply Line

Playscape

Norman Elementary School

B	1.010
T	5.170
E	0.894
X	4.350
M	0.409
TPH	20.0

MW-11

B	1.270
T	3.510
E	0.408
X	5.500
M	0.420
TPH	24.9

MW-4

B	2.900
T	2.290
E	0.400
X	2.360
M	2.040
TPH	14.0

MW-5

MW-2

Federal Express Office Area

Federal Express Shipment Area

B	0.032
T	0.804
E	1.040
X	8.740
M	0.197
TPH	43.2

Asphalt Pavement

Asphalt Play Area

Portable School Buildings

MW-9

B	ND
T	ND
E	ND
X	ND
M	0.034
TPH	ND

MW-8 NAPL

MW-3

B	0.135
T	0.015
E	0.045
X	0.151
M	0.034
TPH	2.1

MW-8

B	0.045
T	0.107
E	0.041
X	0.952
M	0.040
TPH	8.7

MW-1

MW-7

Briggs-Weaver

B	0.015
T	ND
E	ND
X	0.020
M	0.012
TPH	ND

Playground

MW-10

B	ND
T	ND
E	ND
X	ND
M	ND
TPH	ND

B	ND
T	ND
E	ND
X	ND
M	ND
TPH	ND

LEGEND

- ⊕ Monitoring Well Locations
- B Benzene
- T Toluene
- E Ethylbenzene
- X Xylenes
- M MTBE
- TPH Total Petroleum Hydrocarbons

*All concentrations in mg/L

SCALE-FEET



Hydrocarbon Distribution

(3/27/02)

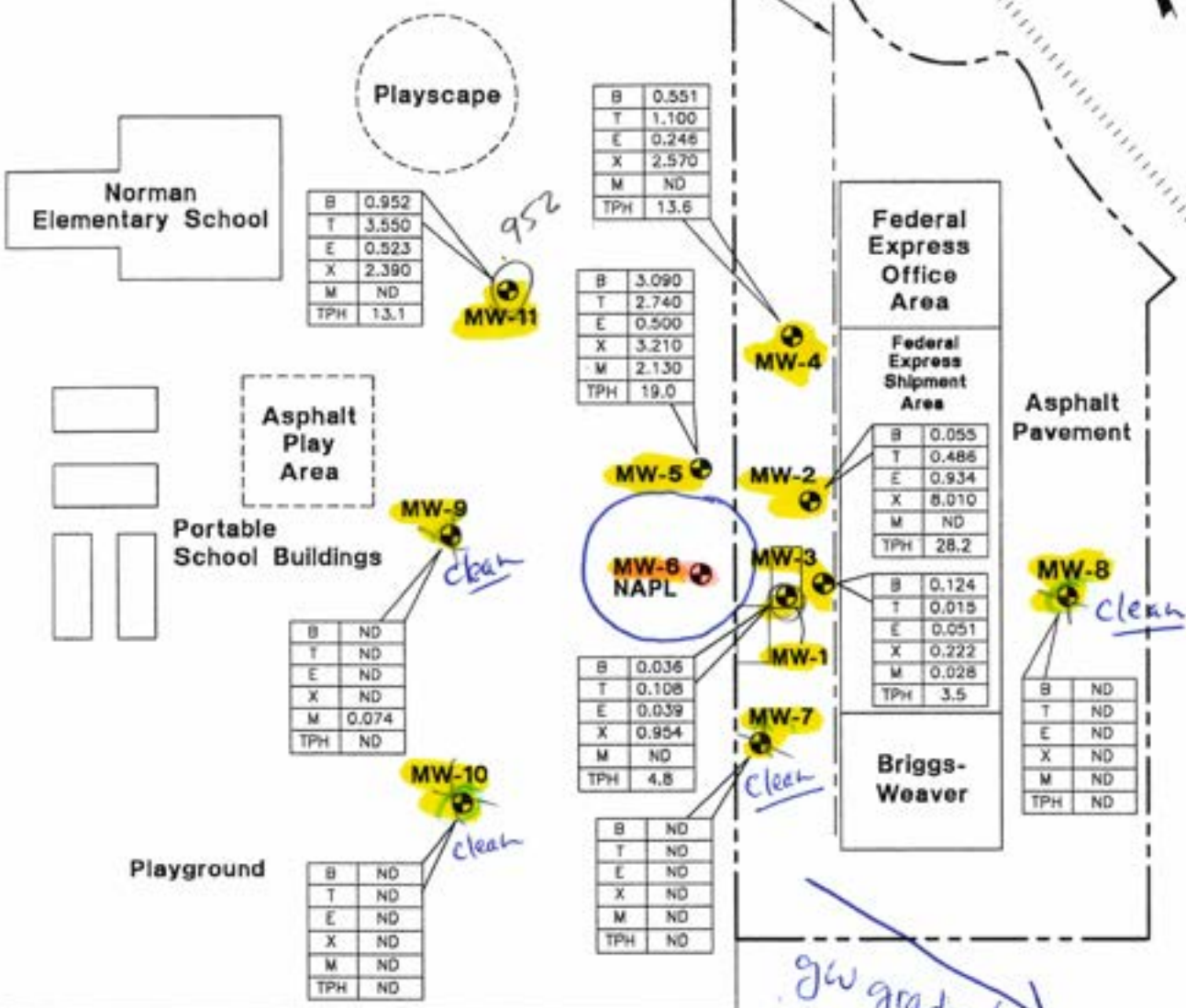
Federal Express
Austin, Texas

HBC Project No.

96007145

Sanitary Sewer Technicenter Drive

Subsurface Natural Gas Supply Line



B	0.952
T	3.550
E	0.523
X	2.390
M	ND
TPH	13.1

B	0.551
T	1.100
E	0.246
X	2.570
M	ND
TPH	13.6

B	3.090
T	2.740
E	0.500
X	3.210
M	2.130
TPH	19.0

B	0.055
T	0.486
E	0.934
X	8.010
M	ND
TPH	28.2

B	0.124
T	0.015
E	0.051
X	0.222
M	0.028
TPH	3.5

B	ND
T	ND
E	ND
X	ND
M	0.074
TPH	ND

B	0.036
T	0.108
E	0.039
X	0.954
M	ND
TPH	4.8

B	ND
T	ND
E	ND
X	ND
M	ND
TPH	ND

B	ND
T	ND
E	ND
X	ND
M	ND
TPH	ND

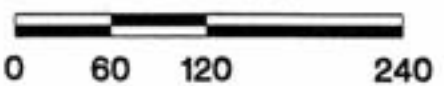
B	ND
T	ND
E	ND
X	ND
M	ND
TPH	ND

LEGEND

- ⊕ Monitoring Well Locations
- B Benzene
- T Toluene
- E Ethylbenzene
- X Xylenes
- M MTBE
- TPH Total Petroleum Hydrocarbons

* All concentrations in mg/L

SCALE- FEET



Hydrocarbon Distribution

(6/17/02)

Federal Express
Austin, Texas

APPENDIX A



RECEIVED
JUL 01 2002
BY: _____

June 26, 2002

Russ Ford
HBC Engineering
5307 Industrial Oaks Blvd., Suite 160
Austin, Texas 78735
TEL: (512) 442-1122
FAX (512) 442-1181
RE: Federal Express

Order No.: 0206066

Dear Russ Ford:

DHL Analytical received 10 samples on 6/17/02 for the analyses presented in the following report.

There were no problems with the analyses and all data for associated QC met EPA or laboratory specifications except where noted in the Case Narrative and all estimated uncertainties of results are within method specifications.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

A handwritten signature in black ink, appearing to read "John DuPont". The signature is written in a cursive, flowing style.

John DuPont
QA Manager

DHL Analytical

Date: 26-Jun-02

CLIENT: HBC Engineering
Project Name: Federal Express
Project No: 96007145
Lab Order: 0206066

Client Sample ID: MW-7
Lab ID: 0206066-01
Collection Date: 6/17/02 10:54:00 AM
Matrix: AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
TOTAL PETROLEUM HYDROCARBONS (TPH)		TX1005				Analyst: RPC
T/R Hydrocarbons: C6-C12	ND	1.95		mg/L	1	6/18/02 8:42:59 PM
T/R Hydrocarbons: >C12-C28	ND	1.95		mg/L	1	6/18/02 8:42:59 PM
T/R Hydrocarbons: >C28-C35	ND	1.95		mg/L	1	6/18/02 8:42:59 PM
T/R Hydrocarbons: C6-C35	ND	1.95		mg/L	1	6/18/02 8:42:59 PM
MTBE AND BTEX IN WATER		SW8021B				Analyst: RPC
Methyl tert-butyl ether	ND	4.00		µg/L	1	6/22/02 12:46:00 PM
Benzene	ND	2.00		µg/L	1	6/22/02 12:46:00 PM
Toluene	ND	4.00		µg/L	1	6/22/02 12:46:00 PM
Ethylbenzene	ND	4.00		µg/L	1	6/22/02 12:46:00 PM
Xylenes, Total	ND	4.00		µg/L	1	6/22/02 12:46:00 PM

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected between MDL and RL
 B - Analyte detected in the associated Method Blank

S - Spike Recovery outside control limits
 C - Sample Result or QC discussed in the Case Narrative
 E - TPH pattern not Gas or Diesel Range Pattern

DHL Analytical

Date: 26-Jun-02

CLIENT: HBC Engineering
Project Name: Federal Express
Project No: 96007145
Lab Order: 0206066

Client Sample ID: MW-4
Lab ID: 0206066-02
Collection Date: 6/17/02 11:20:00 AM
Matrix: AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
TOTAL PETROLEUM HYDROCARBONS (TPH)		TX1005				Analyst: RPC
T/R Hydrocarbons: C6-C12	11.0	1.96		mg/L	1	6/18/02 9:19:24 PM
T/R Hydrocarbons: >C12-C28	2.64	1.96		mg/L	1	6/18/02 9:19:24 PM
T/R Hydrocarbons: >C28-C35	ND	1.96		mg/L	1	6/18/02 9:19:24 PM
T/R Hydrocarbons: C6-C35	13.6	1.96		mg/L	1	6/18/02 9:19:24 PM
MTBE AND BTEX IN WATER		SW8021B				Analyst: RPC
Methyl tert-butyl ether	ND	20.0		µg/L	5	6/25/02 11:38:21 AM
Benzene	551	10.0		µg/L	5	6/25/02 11:38:21 AM
Toluene	1100	20.0		µg/L	5	6/25/02 11:38:21 AM
Ethylbenzene	248	20.0		µg/L	5	6/25/02 11:38:21 AM
Xylenes, Total	2570	20.0		µg/L	5	6/25/02 11:38:21 AM

Qualifiers:
 ND - Not Detected at the Reporting Limit
 J - Analyte detected between MDL and RL
 B - Analyte detected in the associated Method Blank

S - Spike Recovery outside control limits
 C - Sample Result or QC discussed in the Case Narrative
 E - TPH pattern not Gas or Diesel Range Pattern

DHL Analytical

Date: 26-Jun-02

CLIENT: HBC Engineering
Project Name: Federal Express
Project No: 96007145
Lab Order: 0206066

Client Sample ID: MW-2
Lab ID: 0206066-03
Collection Date: 6/17/02 12:10:00 PM
Matrix: AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
TOTAL PETROLEUM HYDROCARBONS (TPH)		TX1005				Analyst: RPC
T/R Hydrocarbons: C6-C12	24.0	1.95		mg/L	1	6/18/02 9:38:06 PM
T/R Hydrocarbons: >C12-C28	4.20	1.95		mg/L	1	6/18/02 9:38:06 PM
T/R Hydrocarbons: >C28-C35	ND	1.95		mg/L	1	6/18/02 9:38:06 PM
T/R Hydrocarbons: C6-C35	28.2	1.95		mg/L	1	6/18/02 9:38:06 PM
MTBE AND BTEX IN WATER		SW8021B				Analyst: RPC
Methyl tert-butyl ether	ND	20.0		µg/L	5	6/25/02 11:05:23 AM
Benzene	54.8	10.0		µg/L	5	6/25/02 11:05:23 AM
Toluene	486	20.0		µg/L	5	6/25/02 11:05:23 AM
Ethylbenzene	934	20.0		µg/L	5	6/25/02 11:05:23 AM
Xylenes, Total	8010	400		µg/L	100	6/22/02 1:51:54 PM
PAH'S (SW8270)		SW8270C				Analyst: MR
Acenaphthene	0.443	0.200		µg/L	1	6/24/02 3:58:00 PM
Acenaphthylene	ND	0.200		µg/L	1	6/24/02 3:58:00 PM
Anthracene	ND	0.200		µg/L	1	6/24/02 3:58:00 PM
Benzo[a]anthracene	ND	0.200		µg/L	1	6/24/02 3:58:00 PM
Benzo[a]pyrene	ND	0.200		µg/L	1	6/24/02 3:58:00 PM
Benzo[b]fluoranthene	ND	0.200		µg/L	1	6/24/02 3:58:00 PM
Benzo[g,h,i]perylene	ND	0.200		µg/L	1	6/24/02 3:58:00 PM
Benzo[k]fluoranthene	ND	0.200		µg/L	1	6/24/02 3:58:00 PM
Chrysene	ND	0.200		µg/L	1	6/24/02 3:58:00 PM
Dibenz[a,h]anthracene	ND	0.200		µg/L	1	6/24/02 3:58:00 PM
Fluoranthene	ND	0.200		µg/L	1	6/24/02 3:58:00 PM
Fluorene	0.743	0.200		µg/L	1	6/24/02 3:58:00 PM
Indeno[1,2,3-cd]pyrene	ND	0.200		µg/L	1	6/24/02 3:58:00 PM
Naphthalene	355	20.0		µg/L	100	6/25/02 11:18:00 AM
Phenanthrene	0.281	0.200		µg/L	1	6/24/02 3:58:00 PM
Pyrene	ND	0.200		µg/L	1	6/24/02 3:58:00 PM

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected between MDL and RL
 B - Analyte detected in the associated Method Blank

S - Spike Recovery outside control limits
 C - Sample Result or QC discussed in the Case Narrative
 E - TPH pattern not Gas or Diesel Range Pattern

DHL Analytical

Date: 26-Jun-02

CLIENT: HBC Engineering
Project Name: Federal Express
Project No: 96007145
Lab Order: 0206066

Client Sample ID: MW-1
Lab ID: 0206066-04
Collection Date: 6/17/02 1:00:00 PM
Matrix: AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
TOTAL PETROLEUM HYDROCARBONS (TPH)		TX1005				Analyst: RPC
T/R Hydrocarbons: C6-C12	4.81	1.94		mg/L	1	6/18/02 9:57:04 PM
T/R Hydrocarbons: >C12-C28	ND	1.94		mg/L	1	6/18/02 9:57:04 PM
T/R Hydrocarbons: >C28-C35	ND	1.94		mg/L	1	6/18/02 9:57:04 PM
T/R Hydrocarbons: C6-C35	4.81	1.94		mg/L	1	6/18/02 9:57:04 PM
MTBE AND BTEX IN WATER		SW8021B				Analyst: RPC
Methyl tert-butyl ether	ND	80.0		µg/L	20	6/22/02 2:24:50 PM
Benzene	35.6	2.00		µg/L	1	6/24/02 7:05:13 PM
Toluene	108	4.00		µg/L	1	6/24/02 7:05:13 PM
Ethylbenzene	39.0	4.00		µg/L	1	6/24/02 7:05:13 PM
Xylenes, Total	954	4.00		µg/L	1	6/24/02 7:05:13 PM

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected between MDL and RL
 B - Analyte detected in the associated Method Blank

S - Spike Recovery outside control limits
 C - Sample Result or QC discussed in the Case Narrative
 E - TPH pattern not Gas or Diesel Range Pattern

DHL Analytical

Date: 26-Jun-02

CLIENT: HBC Engineering
 Project Name: Federal Express
 Project No: 96007145
 Lab Order: 0206066

Client Sample ID: MW-3
 Lab ID: 0206066-05
 Collection Date: 6/17/02 1:35:00 PM
 Matrix: AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
TOTAL PETROLEUM HYDROCARBONS (TPH)		TX1005				Analyst: RPC
T/R Hydrocarbons: C6-C12	3.48	2.00		mg/L	1	6/24/02 12:30:33 PM
T/R Hydrocarbons: >C12-C28	ND	2.00		mg/L	1	6/24/02 12:30:33 PM
T/R Hydrocarbons: >C28-C35	ND	2.00		mg/L	1	6/24/02 12:30:33 PM
T/R Hydrocarbons: C6-C35	3.48	2.00		mg/L	1	6/24/02 12:30:33 PM
MTBE AND BTEX IN WATER		SW8021B				Analyst: RPC
Methyl tert-butyl ether	27.4	4.00		µg/L	1	6/22/02 2:41:19 PM
Benzene	121	2.00		µg/L	1	6/22/02 2:41:19 PM
Toluene	14.9	4.00		µg/L	1	6/22/02 2:41:19 PM
Ethylbenzene	50.7	4.00		µg/L	1	6/22/02 2:41:19 PM
Xylenes, Total	222	4.00		µg/L	1	6/22/02 2:41:19 PM

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected between MDL and RL
 B - Analyte detected in the associated Method Blank

S - Spike Recovery outside control limits
 C - Sample Result or QC discussed in the Case Narrative
 E - TPH pattern not Gas or Diesel Range Pattern

DHL Analytical

Date: 26-Jun-02

CLIENT: HBC Engineering
 Project Name: Federal Express
 Project No: 96007145
 Lab Order: 0206066

Client Sample ID: MW-10
 Lab ID: 0206066-06
 Collection Date: 6/17/02 2:00:00 PM
 Matrix: AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
TOTAL PETROLEUM HYDROCARBONS (TPH)		TX1005				Analyst: RPC
T/R Hydrocarbons: C6-C12	ND	1.95		mg/L	1	6/18/02 10:35:58 PM
T/R Hydrocarbons: >C12-C28	ND	1.95		mg/L	1	6/18/02 10:35:58 PM
T/R Hydrocarbons: >C28-C35	ND	1.95		mg/L	1	6/18/02 10:35:58 PM
T/R Hydrocarbons: C6-C35	ND	1.95		mg/L	1	6/18/02 10:35:58 PM
MTBE AND BTEX IN WATER		SW8021B				Analyst: RPC
Methyl tert-butyl ether	ND	4.00		µg/L	1	6/22/02 2:57:48 PM
Benzene	ND	2.00		µg/L	1	6/22/02 2:57:48 PM
Toluene	ND	4.00		µg/L	1	6/22/02 2:57:48 PM
Ethylbenzene	ND	4.00		µg/L	1	6/22/02 2:57:48 PM
Xylenes, Total	ND	4.00		µg/L	1	6/22/02 2:57:48 PM

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected between MDL and RL
 B - Analyte detected in the associated Method Blank

S - Spike Recovery outside control limits
 C - Sample Result or QC discussed in the Case Narrative
 E - TPH pattern not Gas or Diesel Range Pattern

DHL Analytical

Date: 26-Jun-02

CLIENT: HBC Engineering
 Project Name: Federal Express
 Project No: 96007145
 Lab Order: 0206066

Client Sample ID: MW-9
 Lab ID: 0206066-07
 Collection Date: 6/17/02 2:35:00 PM
 Matrix: AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
TOTAL PETROLEUM HYDROCARBONS (TPH)						
		TX1005				Analyst: RPC
T/R Hydrocarbons: C6-C12	ND	1.95		mg/L	1	6/18/02 10:55:29 PM
T/R Hydrocarbons: >C12-C28	ND	1.95		mg/L	1	6/18/02 10:55:29 PM
T/R Hydrocarbons: >C28-C35	ND	1.95		mg/L	1	6/18/02 10:55:29 PM
T/R Hydrocarbons: C6-C35	ND	1.95		mg/L	1	6/18/02 10:55:29 PM
MTBE AND BTEX IN WATER						
		SW8021B				Analyst: RPC
Methyl tert-butyl ether	73.8	4.00		µg/L	1	6/22/02 3:14:18 PM
Benzene	ND	2.00		µg/L	1	6/22/02 3:14:18 PM
Toluene	ND	4.00		µg/L	1	6/22/02 3:14:18 PM
Ethylbenzene	ND	4.00		µg/L	1	6/22/02 3:14:18 PM
Xylenes, Total	ND	4.00		µg/L	1	6/22/02 3:14:18 PM

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected between MDL and RL
 B - Analyte detected in the associated Method Blank

S - Spike Recovery outside control limits
 C - Sample Result or QC discussed in the Case Narrative
 E - TPH pattern not Gas or Diesel Range Pattern

DHL Analytical

Date: 26-Jun-02

CLIENT: HBC Engineering
Project Name: Federal Express
Project No: 96007145
Lab Order: 0206066

Client Sample ID: MW-11
Lab ID: 0206066-08
Collection Date: 6/17/02 3:00:00 PM
Matrix: AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
TOTAL PETROLEUM HYDROCARBONS (TPH)		TX1005				Analyst: RPC
T/R Hydrocarbons: C6-C12	11.0	1.96		mg/L	1	6/18/02 11:15:04 PM
T/R Hydrocarbons: >C12-C28	2.09	1.96		mg/L	1	6/18/02 11:15:04 PM
T/R Hydrocarbons: >C28-C35	ND	1.96		mg/L	1	6/18/02 11:15:04 PM
T/R Hydrocarbons: C6-C35	13.1	1.96		mg/L	1	6/18/02 11:15:04 PM
MTBE AND BTEX IN WATER		SW8021B				Analyst: RPC
Methyl tert-butyl ether	ND	20.0		µg/L	5	6/25/02 11:21:51 AM
Benzene	952	10.0		µg/L	5	6/25/02 11:21:51 AM
Toluene	3550	400		µg/L	100	6/22/02 3:30:44 PM
Ethylbenzene	523	20.0		µg/L	5	6/25/02 11:21:51 AM
Xylenes, Total	2390	20.0		µg/L	5	6/25/02 11:21:51 AM

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected between MDL and RL
 B - Analyte detected in the associated Method Blank

S - Spike Recovery outside control limits
 C - Sample Result or QC discussed in the Case Narrative
 E - TPH pattern not Gas or Diesel Range Pattern

DHL Analytical

Date: 26-Jun-02

CLIENT: HBC Engineering
Project Name: Federal Express
Project No: 96007145
Lab Order: 0206066

Client Sample ID: MW-5
Lab ID: 0206066-09
Collection Date: 6/17/02 3:20:00 PM
Matrix: AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
TOTAL PETROLEUM HYDROCARBONS (TPH)						Analyst: RPC
		TX1005				
T/R Hydrocarbons: C6-C12	16.5	1.93		mg/L	1	6/18/02 11:34:24 PM
T/R Hydrocarbons: >C12-C28	2.47	1.93		mg/L	1	6/18/02 11:34:24 PM
T/R Hydrocarbons: >C28-C35	ND	1.93		mg/L	1	6/18/02 11:34:24 PM
T/R Hydrocarbons: C6-C35	19.0	1.93		mg/L	1	6/18/02 11:34:24 PM
MTBE AND BTEX IN WATER						Analyst: RPC
		SW8021B				
Methyl tert-butyl ether	2130	400		µg/L	100	6/22/02 3:47:11 PM
Benzene	3090	200		µg/L	100	6/22/02 3:47:11 PM
Toluene	2740	400		µg/L	100	6/22/02 3:47:11 PM
Ethylbenzene	503	400		µg/L	100	6/22/02 3:47:11 PM
Xylenes, Total	3210	400		µg/L	100	6/22/02 3:47:11 PM

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected between MDL and RL
B - Analyte detected in the associated Method Blank

S - Spike Recovery outside control limits
C - Sample Result or QC discussed in the Case Narrative
E - TPH pattern not Gas or Diesel Range Pattern

DHL Analytical

Date: 26-Jun-02

CLIENT: HBC Engineering
Project Name: Federal Express
Project No: 96007145
Lab Order: 0206066

Client Sample ID: MW-8
Lab ID: 0206066-10
Collection Date: 6/17/02 4:00:00 PM
Matrix: AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
TOTAL PETROLEUM HYDROCARBONS (TPH)		TX1005				Analyst: RPC
T/R Hydrocarbons: C6-C12	ND	1.95		mg/L	1	6/18/02 11:53:46 PM
T/R Hydrocarbons: >C12-C28	ND	1.95		mg/L	1	6/18/02 11:53:46 PM
T/R Hydrocarbons: >C28-C35	ND	1.95		mg/L	1	6/18/02 11:53:46 PM
T/R Hydrocarbons: C6-C35	ND	1.95		mg/L	1	6/18/02 11:53:46 PM
MTBE AND BTEX IN WATER		SW8021B				Analyst: RPC
Methyl tert-butyl ether	ND	4.00		µg/L	1	6/22/02 4:03:38 PM
Benzene	ND	2.00		µg/L	1	6/22/02 4:03:38 PM
Toluene	ND	4.00		µg/L	1	6/22/02 4:03:38 PM
Ethylbenzene	ND	4.00		µg/L	1	6/22/02 4:03:38 PM
Xylenes, Total	ND	4.00		µg/L	1	6/22/02 4:03:38 PM

Qualifiers:
 ND - Not Detected at the Reporting Limit
 J - Analyte detected between MDL and RL
 B - Analyte detected in the associated Method Blank

S - Spike Recovery outside control limits
 C - Sample Result or QC discussed in the Case Narrative
 E - TPH pattern not Gas or Diesel Range Pattern

CLIENT: HBC Engineering
Project: Federal Express
Lab Order: 0206066

CASE NARRATIVE

Samples were analyzed using the methods outlined in the following references:

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition and TNRCC method Tx1005.

All method blanks, laboratory spikes, and/or matrix spikes met quality assurance objectives except where noted in the following. For TPH analysis by method Tx1005 the surrogate recoveries for the MS/MSD for both of the two surrogates were slightly above control limits. This was due to the surrogates co-eluting with the samples. No further actions were taken and no sample result was adversely affected.

CLIENT: HBC Engineering
 Work Order: 0206066
 Project: Federal Express

ANALYTICAL QC SUMMARY REPORT

RunID: GC12_020618A

Sample ID: MB-10796	Batch ID: 10796	TestNo: TX1005	Units: mg/L
SampType: MBLK	Run ID: GC12_020618A	Analysis Date: 6/18/02 7:11:31 PM	Prep Date: 6/18/02

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C6-C12	ND	2								
T/R Hydrocarbons: >C12-C28	ND	2								
T/R Hydrocarbons: >C28-C35	ND	2								
T/R Hydrocarbons: C6-C35	ND	2								

Sample ID: LCS-10796	Batch ID: 10796	TestNo: TX1005	Units: mg/L
SampType: LCS	Run ID: GC12_020618A	Analysis Date: 6/18/02 7:29:45 PM	Prep Date: 6/18/02

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C6-C35	21.94	2	25	0	87.8	75	125	0		

Sample ID: 0206045-01B MS	Batch ID: 10796	TestNo: TX1005	Units: mg/L
SampType: MS	Run ID: GC12_020618A	Analysis Date: 6/19/02 12:13:09 AM	Prep Date: 6/18/02

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C6-C35	21.76	1.95	24.43	0	89.1	75	125	0		

Sample ID: 0206045-01B MSD	Batch ID: 10796	TestNo: TX1005	Units: mg/L
SampType: MSD	Run ID: GC12_020618A	Analysis Date: 6/19/02 12:51:58 AM	Prep Date: 6/18/02

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C6-C35	20.46	1.95	24.35	0	84	75	125	6.13	30	

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits
 S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits
 B - Analyte detected in the associated Method Blank

CLIENT: HBC Engineering
Work Order: 0206066
Project: Federal Express

ANALYTICAL QC SUMMARY REPORT

RunID: GC12_020624A

Sample ID: MB-10827	Batch ID: 10827	TestNo: TX1005	Units: mg/L
SampType: MBLK	Run ID: GC12_020624A	Analysis Date: 6/24/02 12:37:08 PM	Prep Date: 6/24/02

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C6-C12	ND	2								
T/R Hydrocarbons: >C12-C28	ND	2								
T/R Hydrocarbons: >C28-C35	ND	2								
T/R Hydrocarbons: C6-C35	ND	2								

Sample ID: LCS-10827	Batch ID: 10827	TestNo: TX1005	Units: mg/L
SampType: LCS	Run ID: GC12_020624A	Analysis Date: 6/24/02 12:23:54 PM	Prep Date: 6/24/02

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C6-C35	25.16	2	25	0	101	75	125	0		

Qualifiers: ND - Not Detected at the Reporting Limit R - RPD outside accepted recovery limits
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank
 S - Spike Recovery outside accepted recovery limits

CLIENT: HBC Engineering
Work Order: 0206066
Project: Federal Express

ANALYTICAL QC SUMMARY REPORT

RunID: GC12_020625A

Sample ID: 0206086-01B MS	Batch ID: 10827	TestNo: TX1005	Units: mg/L
SampType: MS	Run ID: GC12_020625A	Analysis Date: 6/25/02 12:42:23 PM	Prep Date: 6/24/02

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C6-C35	26.97	2	25	0	108	75	125	0		

Sample ID: 0206086-01B MSD	Batch ID: 10827	TestNo: TX1005	Units: mg/L
SampType: MSD	Run ID: GC12_020625A	Analysis Date: 6/25/02 12:49:09 PM	Prep Date: 6/24/02

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C6-C35	25.55	2	25	0	102	75	125	5.39	30	

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits
 S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits
 B - Analyte detected in the associated Method Blank

CLIENT: HBC Engineering
 Work Order: 0206066
 Project: Federal Express

ANALYTICAL QC SUMMARY REPORT

RunID: GC4_020622A

Sample ID: MB-10823	Batch ID: 10823	TestNo: SW8021B	Units: µg/L
SampType: MBLK	Run ID: GC4_020622A	Analysis Date: 6/22/02 12:13:06 PM	Prep Date: 6/22/02

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether	ND	4								
Benzene	ND	2								
Toluene	ND	4								
Ethylbenzene	ND	4								
Xylenes, Total	ND	4								

Sample ID: LCS-10823	Batch ID: 10823	TestNo: SW8021B	Units: µg/L
SampType: LCS	Run ID: GC4_020622A	Analysis Date: 6/22/02 12:29:33 PM	Prep Date: 6/22/02

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether	48.16	4	50	0	96.3	60	124	0		
Benzene	50.08	2	50	0	100	75	125	0		
Toluene	50.86	4	50	0	102	71	129	0		
Ethylbenzene	49.97	4	50	0	99.9	70	125	0		
Xylenes, Total	152.5	4	150	0	102	71	133	0		

Sample ID: 0206066-01A MS	Batch ID: 10823	TestNo: SW8021B	Units: µg/L
SampType: MS	Run ID: GC4_020622A	Analysis Date: 6/22/02 1:02:27 PM	Prep Date: 6/22/02

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether	38.79	4	50	0	77.6	60	124	0		
Benzene	41.34	2	50	0	82.7	75	125	0		
Toluene	41.89	4	50	0	83.8	71	129	0		
Ethylbenzene	41.06	4	50	0	82.1	70	125	0		
Xylenes, Total	125.4	4	150	0	83.6	71	133	0		

Sample ID: 0206066-01A MSD	Batch ID: 10823	TestNo: SW8021B	Units: µg/L
SampType: MSD	Run ID: GC4_020622A	Analysis Date: 6/22/02 1:18:57 PM	Prep Date: 6/22/02

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether	43.11	4	50	0	86.2	60	124	10.5	20	
Benzene	47.23	2	50	0	94.5	75	125	13.3	20	
Toluene	49.25	4	50	0	98.5	71	129	16.2	20	
Ethylbenzene	49.22	4	50	0	98.4	70	125	18.1	20	
Xylenes, Total	151.8	4	150	0	101	71	133	19.0	20	

Qualifiers: ND - Not Detected at the Reporting Limit R - RPD outside accepted recovery limits
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank
 S - Spike Recovery outside accepted recovery limits

CLIENT: HBC Engineering
 Work Order: 0206066
 Project: Federal Express

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS6_020624A

Sample ID: MB-10825	Batch ID: 10825	TestNo: SW8270C	Units: µg/L
SampType: MBLK	Run ID: GCMS6_020624A	Analysis Date: 6/24/02 2:07:00 PM	Prep Date: 6/24/02

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	0.2								
Acenaphthylene	ND	0.2								
Anthracene	ND	0.2								
Benzo[a]anthracene	ND	0.2								
Benzo[a]pyrene	ND	0.2								
Benzo[b]fluoranthene	ND	0.2								
Benzo[g,h,i]perylene	ND	0.2								
Benzo[k]fluoranthene	ND	0.2								
Chrysene	ND	0.2								
Dibenz[a,h]anthracene	ND	0.2								
Fluoranthene	ND	0.2								
Fluorene	ND	0.2								
Indeno[1,2,3-cd]pyrene	ND	0.2								
Naphthalene	ND	0.2								
Phenanthrene	ND	0.2								
Pyrene	ND	0.2								

Sample ID: LCS-10825	Batch ID: 10825	TestNo: SW8270C	Units: µg/L
SampType: LCS	Run ID: GCMS6_020624A	Analysis Date: 6/24/02 2:44:00 PM	Prep Date: 6/24/02

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	2.715	0.2	4	0	67.9	40	140	0		
Acenaphthylene	3.234	0.2	4	0	80.9	40	140	0		
Anthracene	2.987	0.2	4	0	74.7	40	140	0		
Benzo[a]anthracene	3.608	0.2	4	0	90.2	40	140	0		
Benzo[a]pyrene	3.5	0.2	4	0	87.5	40	140	0		
Benzo[b]fluoranthene	3.469	0.2	4	0	86.7	40	140	0		
Benzo[g,h,i]perylene	3.568	0.2	4	0	89.2	40	140	0		
Benzo[k]fluoranthene	3.52	0.2	4	0	88	40	140	0		
Chrysene	3.298	0.2	4	0	82.5	40	140	0		
Dibenz[a,h]anthracene	3.669	0.2	4	0	91.7	40	140	0		
Fluoranthene	3.327	0.2	4	0	83.2	40	140	0		
Fluorene	3.188	0.2	4	0	79.7	40	140	0		
Indeno[1,2,3-cd]pyrene	3.713	0.2	4	0	92.8	40	140	0		
Naphthalene	2.521	0.2	4	0	63	40	140	0		
Phenanthrene	3.077	0.2	4	0	76.9	40	140	0		
Pyrene	3.588	0.2	4	0	89.7	40	140	0		

Sample ID: LCSD-10825	Batch ID: 10825	TestNo: SW8270C	Units: µg/L
SampType: LCSD	Run ID: GCMS6_020624A	Analysis Date: 6/24/02 3:21:00 PM	Prep Date: 6/24/02

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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Qualifiers: ND - Not Detected at the Reporting Limit R - RPD outside accepted recovery limits
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank
 S - Spike Recovery outside accepted recovery limits

CLIENT: HBC Engineering
 Work Order: 0206066
 Project: Federal Express

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS6_020624A

Sample ID: LCSD-10825	Batch ID: 10825	TestNo: SW8270C	Units: µg/L
SampType: LCSD	Run ID: GCMS6_020624A	Analysis Date: 6/24/02 3:21:00 PM	Prep Date: 6/24/02

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	2.896	0.2	4	0	72.4	40	140	6.44	30	
Acenaphthylene	3.418	0.2	4	0	85.5	40	140	5.53	30	
Anthracene	3.251	0.2	4	0	81.3	40	140	8.46	30	
Benzo[a]anthracene	3.911	0.2	4	0	97.8	40	140	8.04	30	
Benzo[a]pyrene	4.043	0.2	4	0	101	40	140	14.4	30	
Benzo[b]fluoranthene	4.134	0.2	4	0	103	40	140	17.5	30	
Benzo[g,h,i]perylene	4.143	0.2	4	0	104	40	140	14.9	30	
Benzo[k]fluoranthene	4.211	0.2	4	0	105	40	140	17.9	30	
Chrysene	3.532	0.2	4	0	88.3	40	140	6.86	30	
Dibenz[a,h]anthracene	4.247	0.2	4	0	106	40	140	14.6	30	
Fluoranthene	3.578	0.2	4	0	89.5	40	140	7.30	30	
Fluorene	3.396	0.2	4	0	84.9	40	140	6.31	30	
Indeno[1,2,3-cd]pyrene	4.352	0.2	4	0	109	40	140	15.8	30	
Naphthalene	2.629	0.2	4	0	65.7	40	140	4.19	30	
Phenanthrene	3.266	0.2	4	0	81.6	40	140	5.95	30	
Pyrene	3.704	0.2	4	0	92.6	40	140	3.19	30	

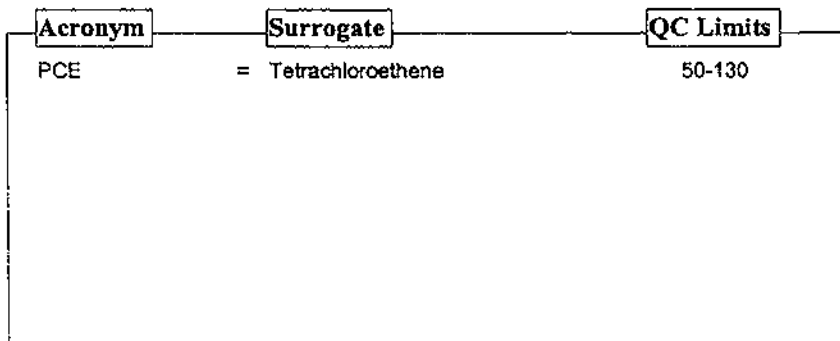
Qualifiers: ND - Not Detected at the Reporting Limit R - RPD outside accepted recovery limits
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank
 S - Spike Recovery outside accepted recovery limits

CLIENT: HBC Engineering
 Work Order: 0206066
 Project: Federal Express
 Test No: SW8021B

Matrix: W

**QC SUMMARY REPORT
 SURROGATE RECOVERIES**

Sample ID	PCE							
0206066-01A	102							
0206066-01A MS	106							
0206066-01A MSD	103							
0206066-02A	105							
0206066-03A	104							
0206066-04A	104							
0206066-05A	102							
0206066-06A	106							
0206066-07A	105							
0206066-08A	103							
0206066-09A	105							
0206066-10A	106							
LCS-10823	107							
MB-10823	107							



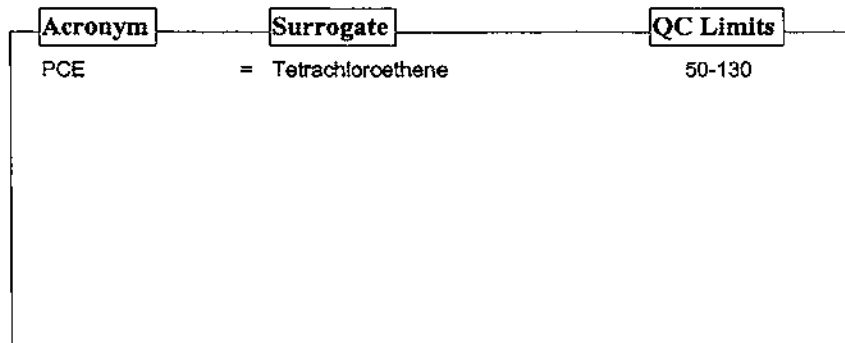
* Surrogate recovery outside acceptance limits

CLIENT: HBC Engineering
 Work Order: 0206066
 Project: Federal Express
 Test No: SW8021B

Matrix: W

**QC SUMMARY REPORT
 SURROGATE RECOVERIES**

Sample ID	PCE							
0206066-01A	102							
0206066-01A MS	106							
0206066-01A MSD	103							
0206066-02A	105							
0206066-03A	104							
0206066-04A	104							
0206066-05A	102							
0206066-06A	106							
0206066-07A	105							
0206066-08A	103							
0206066-09A	105							
0206066-10A	106							
LCS-10823	107							
MB-10823	107							



* Surrogate recovery outside acceptance limits

CLIENT: HBC Engineering
 Work Order: 0206066
 Project: Federal Express
 Test No: SW8270C

**QC SUMMARY REPORT
 SURROGATE RECOVERIES**

Matrix: W

Sample ID	NAPH1F	PHEN2F						
0206066-03C	100	61.7						
LCS-10825	53.3	58.8						
LCSD-10825	58.5	65.1						
MB-10825	52.2	55.9						

Acronym	Surrogate	QC Limits
NAPH1F	= Fluoronaphthalene	40-140
PHEN2F	= 2-Fluorobiphenyl	40-140

* Surrogate recovery outside acceptance limits

CLIENT: HBC Engineering
 Work Order: 0206066
 Project: Federal Express
 Test No: TX1005

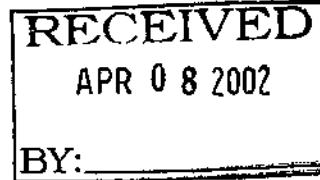
Matrix: W

**QC SUMMARY REPORT
 SURROGATE RECOVERIES**

Sample ID	CLC18N	CLC8N						
0206045-01B MS	104	103						
0206045-01B MSD	107	100						
0206066-01B	97.2	96.4						
0206066-02B	102	111						
0206066-03B	117	126						
0206066-04B	97.1	103						
0206066-05B	113	115						
0206066-06B	99.6	94.6						
0206066-07B	99.6	97.6						
0206066-08B	94.5	102						
0206066-09B	97.3	106						
0206066-10B	103	96.9						
0206086-01B MS	153 *	150 *						
0206086-01B MSD	136 *	137 *						
LCS-10796	109	107						
LCS-10827	129	123						
MB-10796	106	97.3						
MB-10827	124	119						

Acronym	Surrogate	QC Limits
CLC18N	= 1-Chlorooctadecane	70-130
CLC8N	= 1-Chlorooctane	70-130

* Surrogate recovery outside acceptance limits



April 04, 2002

Russ Ford
HBC Engineering
5307 Industrial Oaks Blvd., Suite 160
Austin, Texas 78735

TEL: (512) 442-1122
FAX (512) 442-1181

RE: Federal Express

Dear Russ Ford:

Order No.: 0203152

DHL Analytical received 10 samples on 3/28/02 for the analyses presented in the following report.

There were no problems with the analyses and all data for associated QC met EPA or laboratory specifications except where noted in the Case Narrative.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

A handwritten signature in black ink, appearing to read "John DuPont".

John DuPont
QA Manager

DHL Analytical

Date: 04-Apr-02

CLIENT: HBC Engineering
 Project Name: Federal Express
 Project No: 96007145
 Lab Order: 0203152

Client Sample ID: MW-10
 Lab ID: 0203152-01
 Collection Date: 3/27/02 9:35:00 AM
 Matrix: AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
TX1005 TPH						
		TX1005				Analyst: KMC
T/R Hydrocarbons: C6-C12	ND	1.97		mg/L	1	3/31/02 4:21:59 PM
T/R Hydrocarbons: >C12-C28	ND	1.97		mg/L	1	3/31/02 4:21:59 PM
T/R Hydrocarbons: >C28-C35	ND	1.97		mg/L	1	3/31/02 4:21:59 PM
T/R Hydrocarbons: C6-C35	ND	1.97		mg/L	1	3/31/02 4:21:59 PM
MTBE AND BTEX IN WATER						
		SW8021B				Analyst: KMC
Methyl tert-butyl ether	ND	4.00		µg/L	1	4/3/02 11:45:02 AM
Benzene	ND	2.00		µg/L	1	4/3/02 11:45:02 AM
Toluene	ND	4.00		µg/L	1	4/3/02 11:45:02 AM
Ethylbenzene	ND	4.00		µg/L	1	4/3/02 11:45:02 AM
Xylenes, Total	ND	4.00		µg/L	1	4/3/02 11:45:02 AM

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected between MDL and RL
 B - Analyte detected in the associated Method Blank

S - Spike Recovery outside control limits
 C - Sample Result or QC discussed in the Case Narrative
 E - TPH pattern not Gas or Diesel Range Pattern

DHL Analytical

Date: 04-Apr-02

CLIENT: HBC Engineering
 Project Name: Federal Express
 Project No: 96007145
 Lab Order: 0203152

Client Sample ID: MW-9
 Lab ID: 0203152-02
 Collection Date: 3/27/02 9:48:00 AM
 Matrix: AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
TX1005 TPH						Analyst: KMC
T/R Hydrocarbons: C6-C12	ND	1.98		mg/L	1	3/31/02 4:27:36 PM
T/R Hydrocarbons: >C12-C28	ND	1.98		mg/L	1	3/31/02 4:27:36 PM
T/R Hydrocarbons: >C28-C35	ND	1.98		mg/L	1	3/31/02 4:27:36 PM
T/R Hydrocarbons: C6-C35	ND	1.98		mg/L	1	3/31/02 4:27:36 PM
MTBE AND BTEX IN WATER						Analyst: KMC
Methyl tert-butyl ether	34.2	4.00		µg/L	1	4/2/02 4:44:01 PM
Benzene	ND	2.00		µg/L	1	4/2/02 4:44:01 PM
Toluene	ND	4.00		µg/L	1	4/2/02 4:44:01 PM
Ethylbenzene	ND	4.00		µg/L	1	4/2/02 4:44:01 PM
Xylenes, Total	ND	4.00		µg/L	1	4/2/02 4:44:01 PM

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected between MDL and RL
 B - Analyte detected in the associated Method Blank

S - Spike Recovery outside control limits
 C - Sample Result or QC discussed in the Case Narrative
 E - TPH pattern not Gas or Diesel Range Pattern

DHL Analytical

Date: 04-Apr-02

CLIENT: HBC Engineering
Project Name: Federal Express
Project No: 96007145
Lab Order: 0203152

Client Sample ID: MW-5
Lab ID: 0203152-04
Collection Date: 3/27/02 11:00:00 AM
Matrix: AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
TX1005 TPH						Analyst: KMC
T/R Hydrocarbons: C6-C12	10.3	1.99		mg/L	1	3/31/02 4:39:06 PM
T/R Hydrocarbons: >C12-C28	3.61	1.99		mg/L	1	3/31/02 4:39:06 PM
T/R Hydrocarbons: >C28-C35	ND	1.99		mg/L	1	3/31/02 4:39:06 PM
T/R Hydrocarbons: C6-C35	13.9	1.99		mg/L	1	3/31/02 4:39:06 PM
MTBE AND BTEX IN WATER						Analyst: KMC
						SW8021B
Methyl tert-butyl ether	2040	200		µg/L	50	4/2/02 4:08:05 PM
Benzene	2900	100		µg/L	50	4/2/02 4:08:05 PM
Toluene	2290	200		µg/L	50	4/2/02 4:08:05 PM
Ethylbenzene	395	200		µg/L	50	4/2/02 4:08:05 PM
Xylenes, Total	2360	200		µg/L	50	4/2/02 4:08:05 PM

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected between MDL and RL
B - Analyte detected in the associated Method Blank

S - Spike Recovery outside control limits
C - Sample Result or QC discussed in the Case Narrative
E - TPH pattern not Gas or Diesel Range Pattern

DHL Analytical

Date: 04-Apr-02

CLIENT: HBC Engineering
Project Name: Federal Express
Project No: 96007145
Lab Order: 0203152

Client Sample ID: MW-11
Lab ID: 0203152-03
Collection Date: 3/27/02 10:03:00 AM
Matrix: AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
TX1005 TPH						Analyst: KMC
T/R Hydrocarbons: C6-C12	16.1	1.96		mg/L	1	3/31/02 4:33:13 PM
T/R Hydrocarbons: >C12-C28	3.88	1.96		mg/L	1	3/31/02 4:33:13 PM
T/R Hydrocarbons: >C28-C35	ND	1.96		mg/L	1	3/31/02 4:33:13 PM
T/R Hydrocarbons: C6-C35	20.0	1.96		mg/L	1	3/31/02 4:33:13 PM
MTBE AND BTEX IN WATER						Analyst: KMC
Methyl tert-butyl ether	409	20.0		µg/L	5	4/2/02 3:32:59 PM
Benzene	1010	100		µg/L	50	4/2/02 2:51:29 PM
Toluene	5170	400		µg/L	100	4/2/02 3:15:22 PM
Ethylbenzene	894	200		µg/L	50	4/2/02 2:51:29 PM
Xylenes, Total	4350	200		µg/L	50	4/2/02 2:51:29 PM

Qualifiers: ND - Not Detected at the Reporting Limit
I - Analyte detected between MDL and RL
B - Analyte detected in the associated Method Blank

S - Spike Recovery outside control limits
C - Sample Result or QC discussed in the Case Narrative
E - TPH pattern not Gas or Diesel Range Pattern

DHL Analytical

Date: 04-Apr-02

CLIENT: HBC Engineering
Project Name: Federal Express
Project No: 96007145
Lab Order: 0203152

Client Sample ID: MW-7
Lab ID: 0203152-05
Collection Date: 3/27/02 12:49:00 PM
Matrix: AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
TX1005 TPH						Analyst: KMC
T/R Hydrocarbons: C6-C12	ND	1.98		mg/L	1	3/31/02 4:44:44 PM
T/R Hydrocarbons: >C12-C28	ND	1.98		mg/L	1	3/31/02 4:44:44 PM
T/R Hydrocarbons: >C28-C35	ND	1.98		mg/L	1	3/31/02 4:44:44 PM
T/R Hydrocarbons: C6-C35	ND	1.98		mg/L	1	3/31/02 4:44:44 PM
MTBE AND BTEX IN WATER						Analyst: KMC
Methyl tert-butyl ether	ND	4.00		µg/L	1	4/2/02 5:01:38 PM
Benzene	ND	2.00		µg/L	1	4/2/02 5:01:38 PM
Toluene	ND	4.00		µg/L	1	4/2/02 5:01:38 PM
Ethylbenzene	ND	4.00		µg/L	1	4/2/02 5:01:38 PM
Xylenes, Total	ND	4.00		µg/L	1	4/2/02 5:01:38 PM

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected between MDL and RL
 B - Analyte detected in the associated Method Blank

S - Spike Recovery outside control limits
 C - Sample Result or QC discussed in the Case Narrative
 E - TPH pattern not Gas or Diesel Range Pattern

DHL Analytical

Date: 04-Apr-02

CLIENT: HBC Engineering
 Project Name: Federal Express
 Project No: 96007145
 Lab Order: 0203152

Client Sample ID: MW-4
 Lab ID: 0203152-06
 Collection Date: 3/27/02 1:00:00 PM
 Matrix: AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
TX1005 TPH						Analyst: KMC
T/R Hydrocarbons: C6-C12	20.4	1.93		mg/L	1	3/31/02 4:50:20 PM
T/R Hydrocarbons: >C12-C28	4.48	1.93		mg/L	1	3/31/02 4:50:20 PM
T/R Hydrocarbons: >C28-C35	ND	1.93		mg/L	1	3/31/02 4:50:20 PM
T/R Hydrocarbons: C6-C35	24.9	1.93		mg/L	1	3/31/02 4:50:20 PM
MTBE AND BTEX IN WATER						Analyst: KMC
Methyl tert-butyl ether	420	200		µg/L	50	4/2/02 4:26:18 PM
Benzene	1270	100		µg/L	50	4/2/02 4:26:18 PM
Toluene	3510	200		µg/L	50	4/2/02 4:26:18 PM
Ethylbenzene	408	200		µg/L	50	4/2/02 4:26:18 PM
Xylenes, Total	5500	200		µg/L	50	4/2/02 4:26:18 PM

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected between MDL and RL
 B - Analyte detected in the associated Method Blank

S - Spike Recovery outside control limits
 C - Sample Result or QC discussed in the Case Narrative
 E - TPH pattern not Gas or Diesel Range Pattern

DHL Analytical

Date: 04-Apr-02

CLIENT: HBC Engineering
Project Name: Federal Express
Project No: 96007145
Lab Order: 0203152

Client Sample ID: MW-1
Lab ID: 0203152-08
Collection Date: 3/27/02 2:25:00 PM
Matrix: AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
TX1005 TPH		TX1005				Analyst: KMC
T/R Hydrocarbons: C6-C12	5.82	1.95		mg/L	1	3/31/02 5:02:18 PM
T/R Hydrocarbons: >C12-C28	2.88	1.95		mg/L	1	3/31/02 5:02:18 PM
T/R Hydrocarbons: >C28-C35	ND	1.95		mg/L	1	3/31/02 5:02:18 PM
T/R Hydrocarbons: C6-C35	8.70	1.95		mg/L	1	3/31/02 5:02:18 PM
MTBE AND BTEX IN WATER		SW8021B				Analyst: KMC
Methyl tert-butyl ether	40.2	4.00		µg/L	1	4/3/02 1:49:30 PM
Benzene	45.4	2.00		µg/L	1	4/3/02 1:49:30 PM
Toluene	107	40.0		µg/L	10	4/3/02 1:31:58 PM
Ethylbenzene	40.6	4.00		µg/L	1	4/3/02 1:49:30 PM
Xylenes, Total	952	40.0		µg/L	10	4/3/02 1:31:58 PM

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected between MDL and RL
 B - Analyte detected in the associated Method Blank

S - Spike Recovery outside control limits
 C - Sample Result or QC discussed in the Case Narrative
 E - TPH pattern not Gas or Diesel Range Pattern

DHL Analytical

Date: 04-Apr-02

CLIENT: HBC Engineering
 Project Name: Federal Express
 Project No: 96007145
 Lab Order: 0203152

Client Sample ID: MW-2
 Lab ID: 0203152-09
 Collection Date: 3/27/02 3:00:00 PM
 Matrix: AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
TX1005 TPH						
		TX1005				Analyst: KMC
T/R Hydrocarbons: C6-C12	35.6	1.94		mg/L	1	3/31/02 5:13:31 PM
T/R Hydrocarbons: >C12-C28	7.59	1.94		mg/L	1	3/31/02 5:13:31 PM
T/R Hydrocarbons: >C28-C35	ND	1.94		mg/L	1	3/31/02 5:13:31 PM
T/R Hydrocarbons: C6-C35	43.2	1.94		mg/L	1	3/31/02 5:13:31 PM
MTBE AND BTEX IN WATER						
		SW8021B				Analyst: KMC
Methyl tert-butyl ether	197	40.0		µg/L	10	4/3/02 3:12:58 PM
Benzene	31.8	20.0		µg/L	10	4/3/02 3:12:58 PM
Toluene	804	40.0		µg/L	10	4/3/02 3:12:58 PM
Ethylbenzene	1040	200		µg/L	50	4/3/02 2:24:49 PM
Xylenes, Total	8740	200		µg/L	50	4/3/02 2:24:49 PM
PAH'S (SW8270)						
		SW8270C				Analyst: MR
Acenaphthene	0.879	0.200		µg/L	1	4/3/02 5:27:00 PM
Acenaphthylene	ND	0.200		µg/L	1	4/3/02 5:27:00 PM
Anthracene	ND	0.200		µg/L	1	4/3/02 5:27:00 PM
Benzo[a]anthracene	ND	0.200		µg/L	1	4/3/02 5:27:00 PM
Benzo[a]pyrene	ND	0.200		µg/L	1	4/3/02 5:27:00 PM
Benzo[b]fluoranthene	ND	0.200		µg/L	1	4/3/02 5:27:00 PM
Benzo[g,h,i]perylene	ND	0.200		µg/L	1	4/3/02 5:27:00 PM
Benzo[k]fluoranthene	ND	0.200		µg/L	1	4/3/02 5:27:00 PM
Chrysene	ND	0.200		µg/L	1	4/3/02 5:27:00 PM
Dibenz[a,h]anthracene	ND	0.200		µg/L	1	4/3/02 5:27:00 PM
Fluoranthene	ND	0.200		µg/L	1	4/3/02 5:27:00 PM
Fluorene	1.28	0.200		µg/L	1	4/3/02 5:27:00 PM
Indeno[1,2,3-cd]pyrene	ND	0.200		µg/L	1	4/3/02 5:27:00 PM
Naphthalene	522	40.0		µg/L	200	4/4/02 3:31:00 PM
Phenanthrene	0.468	0.200		µg/L	1	4/3/02 5:27:00 PM
Pyrene	ND	0.200		µg/L	1	4/3/02 5:27:00 PM

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected between MDL and RL
 B - Analyte detected in the associated Method Blank

S - Spike Recovery outside control limits
 C - Sample Result or QC discussed in the Case Narrative
 E - TPH pattern not Gas or Diesel Range Pattern

DHL Analytical

Date: 04-Apr-02

CLIENT: HBC Engineering
Project Name: Federal Express
Project No: 96007145
Lab Order: 0203152

Client Sample ID: MW-8
Lab ID: 0203152-10
Collection Date: 3/27/02 3:30:00 PM
Matrix: AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
TX1005 TPH						
		TX1005				Analyst: KMC
T/R Hydrocarbons: C6-C12	ND	1.97		mg/L	1	3/31/02 5:19:24 PM
T/R Hydrocarbons: >C12-C28	ND	1.97		mg/L	1	3/31/02 5:19:24 PM
T/R Hydrocarbons: >C28-C35	ND	1.97		mg/L	1	3/31/02 5:19:24 PM
T/R Hydrocarbons: C6-C35	ND	1.97		mg/L	1	3/31/02 5:19:24 PM
MTBE AND BTEX IN WATER						
		SW8021B				Analyst: KMC
Methyl tert-butyl ether	11.9	4.00		µg/L	1	4/3/02 12:55:35 PM
Benzene	14.5	2.00		µg/L	1	4/3/02 12:55:35 PM
Toluene	ND	4.00		µg/L	1	4/3/02 12:55:35 PM
Ethylbenzene	ND	4.00		µg/L	1	4/3/02 12:55:35 PM
Xylenes, Total	19.8	4.00		µg/L	1	4/3/02 12:55:35 PM

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected between MDL and RL
 B - Analyte detected in the associated Method Blank

S - Spike Recovery outside control limits
 C - Sample Result or QC discussed in the Case Narrative
 E - TPH pattern not Gas or Diesel Range Pattern

CLIENT: HBC Engineering
Project: Federal Express
Lab Order: 0203152

CASE NARRATIVE

Samples were analyzed using the methods outlined in the following references:

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition and TNRCC method Tx1005.

All method blanks, laboratory spikes, and/or matrix spikes met quality assurance objectives except where noted in the following. For PAH analysis by method SW8270C the surrogate recovery for sample MW-2 was above control limits for Fluoronaphthalene. No further actions were taken and no sample result was adversely affected.

For TPH analysis the surrogate recovery for sample MW-2 and the matrix spike were above control limits for 1-Chlorooctane due to co-elution. No further actions were taken and no sample result was adversely affected.

CLIENT: HBC Engineering
Work Order: 0203152
Project: Federal Express

ANALYTICAL QC SUMMARY REPORT

BatchID: 10189

Sample ID: MB-10189	Batch ID: 10189	TestNo: TX1005	Units: mg/L
SampType: MBLK	Run ID: GC12_020331A	Analysis Date: 3/31/02 4:10:22 PM	Prep Date: 3/31/02

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C6-C12	ND	2								
T/R Hydrocarbons: >C12-C28	ND	2								
T/R Hydrocarbons: >C28-C35	ND	2								
T/R Hydrocarbons: C6-C35	ND	2								

Sample ID: LCS-10189	Batch ID: 10189	TestNo: TX1005	Units: mg/L
SampType: LCS	Run ID: GC12_020331A	Analysis Date: 3/31/02 4:15:57 PM	Prep Date: 3/31/02

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C6-C35	28.16	2	25	0	113	75	125	0		

Sample ID: 0203163-02B MS	Batch ID: 10189	TestNo: TX1005	Units: mg/L
SampType: MS	Run ID: GC12_020331A	Analysis Date: 3/31/02 5:53:47 PM	Prep Date: 3/31/02

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C6-C35	26.69	1.93	24.12	0	111	75	125	0		

Sample ID: 0203163-02B MSD	Batch ID: 10189	TestNo: TX1005	Units: mg/L
SampType: MSD	Run ID: GC12_020331A	Analysis Date: 3/31/02 5:59:52 PM	Prep Date: 3/31/02

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C6-C35	21.88	1.94	24.19	0	90.4	75	125	19.8	30	

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits
 S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits
 B - Analyte detected in the associated Method Blank

CLIENT: HBC Engineering
Work Order: 0203152
Project: Federal Express

ANALYTICAL QC SUMMARY REPORT

BatchID: 10210

Sample ID: MB-10210	Batch ID: 10210	TestNo: SW8021B	Units: µg/L
SampType: MBLK	Run ID: GC1_020402A	Analysis Date: 4/2/02 12:47:41 PM	Prep Date: 3/29/02

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether	ND	4								
Benzene	ND	2								
Toluene	ND	4								
Ethylbenzene	ND	4								
Xylenes, Total	ND	4								

Sample ID: LCS-10210	Batch ID: 10210	TestNo: SW8021B	Units: µg/L
SampType: LCS	Run ID: GC1_020402A	Analysis Date: 4/2/02 1:05:17 PM	Prep Date: 3/29/02

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether	50.8	4	50	0	102	60	124	0		
Benzene	56.28	2	50	0	113	75	125	0		
Toluene	55.57	4	50	0	111	71	129	0		
Ethylbenzene	56.83	4	50	0	114	70	125	0		
Xylenes, Total	168.3	4	150	0	112	71	133	0		

Sample ID: 0203138-01A MS	Batch ID: 10210	TestNo: SW8021B	Units: µg/L
SampType: MS	Run ID: GC1_020402A	Analysis Date: 4/2/02 1:40:23 PM	Prep Date: 3/29/02

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether	48.82	4	50	0	97.6	60	124	0		
Benzene	49.52	2	50	0	99	75	125	0		
Toluene	49.48	4	50	0	99	71	129	0		
Ethylbenzene	50.41	4	50	0	101	70	125	0		
Xylenes, Total	152.1	4	150	0	101	71	133	0		

Sample ID: 0203138-01A MSD	Batch ID: 10210	TestNo: SW8021B	Units: µg/L
SampType: MSD	Run ID: GC1_020402A	Analysis Date: 4/2/02 1:57:56 PM	Prep Date: 3/29/02

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether	49.49	4	50	0	99	60	124	1.36	20	
Benzene	49.57	2	50	0	99.1	75	125	0.101	20	
Toluene	49.31	4	50	0	98.6	71	129	0.344	20	
Ethylbenzene	50.5	4	50	0	101	70	125	0.178	20	
Xylenes, Total	151.8	4	150	0	101	71	133	0.169	20	

Qualifiers: ND - Not Detected at the Reporting Limit R - RPD outside accepted recovery limits
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank
 S - Spike Recovery outside accepted recovery limits

CLIENT: HBC Engineering
 Work Order: 0203152
 Project: Federal Express

ANALYTICAL QC SUMMARY REPORT

BatchID: 10216

Sample ID: MB-10216	Batch ID: 10216	TestNo: SW8021B	Units: µg/L
SampType: MBLK	Run ID: GC1_020403A	Analysis Date: 4/3/02 11:09:58 AM	Prep Date: 3/30/02

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether	ND	4								
Benzene	ND	2								
Toluene	ND	4								
Ethylbenzene	ND	4								
Xylenes, Total	ND	4								

Sample ID: LCS-10216	Batch ID: 10216	TestNo: SW8021B	Units: µg/L
SampType: LCS	Run ID: GC1_020403A	Analysis Date: 4/3/02 11:27:29 AM	Prep Date: 3/30/02

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether	49.65	4	50	0	99.3	60	124	0		
Benzene	51.31	2	50	0	103	75	125	0		
Toluene	51.58	4	50	0	103	71	129	0		
Ethylbenzene	52.38	4	50	0	105	70	125	0		
Xylenes, Total	157.8	4	150	0	105	71	133	0		

Sample ID: 0203152-01A MS	Batch ID: 10216	TestNo: SW8021B	Units: µg/L
SampType: MS	Run ID: GC1_020403A	Analysis Date: 4/3/02 12:02:38 PM	Prep Date: 3/30/02

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether	47.51	4	50	0	95	60	124	0		
Benzene	49.59	2	50	0	99.2	75	125	0		
Toluene	49.65	4	50	0	99.3	71	129	0		
Ethylbenzene	50.71	4	50	0	101	70	125	0		
Xylenes, Total	151.9	4	150	0	101	71	133	0		

Sample ID: 0203152-01A MSD	Batch ID: 10216	TestNo: SW8021B	Units: µg/L
SampType: MSD	Run ID: GC1_020403A	Analysis Date: 4/3/02 12:20:12 PM	Prep Date: 3/30/02

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether	47.38	4	50	0	94.8	60	124	0.274	20	
Benzene	47.98	2	50	0	96	75	125	3.30	20	
Toluene	47.95	4	50	0	95.9	71	129	3.48	20	
Ethylbenzene	49.15	4	50	0	98.3	70	125	3.12	20	
Xylenes, Total	147.5	4	150	0	98.3	71	133	2.97	20	

Qualifiers: ND - Not Detected at the Reporting Limit R - RPD outside accepted recovery limits
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank
 S - Spike Recovery outside accepted recovery limits

CLIENT: HBC Engineering
 Work Order: 0203152
 Project: Federal Express

ANALYTICAL QC SUMMARY REPORT

BatchID: 10218

Sample ID: MB-10218	Batch ID: 10218	TestNo: SW8270C	Units: µg/L
SampType: MBLK	Run ID: GCMS3_020403A	Analysis Date: 4/3/02 3:35:00 PM	Prep Date: 4/3/02

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	0.2								
Acenaphthylene	ND	0.2								
Anthracene	ND	0.2								
Benzo[a]anthracene	ND	0.2								
Benzo[a]pyrene	ND	0.2								
Benzo[b]fluoranthene	ND	0.2								
Benzo[g,h,i]perylene	ND	0.2								
Benzo[k]fluoranthene	ND	0.2								
Chrysene	ND	0.2								
Dibenz[a,h]anthracene	ND	0.2								
Fluoranthene	ND	0.2								
Fluorene	ND	0.2								
Indeno[1,2,3-cd]pyrene	ND	0.2								
Naphthalene	ND	0.2								
Phenanthrene	ND	0.2								
Pyrene	ND	0.2								

Sample ID: LCS-10218	Batch ID: 10218	TestNo: SW8270C	Units: µg/L
SampType: LCS	Run ID: GCMS3_020403A	Analysis Date: 4/3/02 4:12:00 PM	Prep Date: 4/3/02

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	3.512	0.2	4	0	87.8	40	140	0		
Acenaphthylene	3.781	0.2	4	0	94.5	40	140	0		
Anthracene	3.771	0.2	4	0	94.3	40	140	0		
Benzo[a]anthracene	3.898	0.2	4	0	97.4	40	140	0		
Benzo[a]pyrene	4.043	0.2	4	0	101	40	140	0		
Benzo[b]fluoranthene	4.136	0.2	4	0	103	40	140	0		
Benzo[g,h,i]perylene	4.271	0.2	4	0	107	40	140	0		
Benzo[k]fluoranthene	4.228	0.2	4	0	106	40	140	0		
Chrysene	3.801	0.2	4	0	95	40	140	0		
Dibenz[a,h]anthracene	4.469	0.2	4	0	112	40	140	0		
Fluoranthene	3.964	0.2	4	0	99.1	40	140	0		
Fluorene	3.811	0.2	4	0	95.3	40	140	0		
Indeno[1,2,3-cd]pyrene	4.387	0.2	4	0	110	40	140	0		
Naphthalene	3.09	0.2	4	0	77.2	40	140	0		
Phenanthrene	3.755	0.2	4	0	93.9	40	140	0		
Pyrene	4.075	0.2	4	0	102	40	140	0		

Sample ID: LCSD-10218	Batch ID: 10218	TestNo: SW8270C	Units: µg/L
SampType: LCSD	Run ID: GCMS3_020403A	Analysis Date: 4/3/02 4:50:00 PM	Prep Date: 4/3/02

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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Qualifiers: ND - Not Detected at the Reporting Limit R - RPD outside accepted recovery limits
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank
 S - Spike Recovery outside accepted recovery limits

CLIENT: HBC Engineering
 Work Order: 0203152
 Project: Federal Express

ANALYTICAL QC SUMMARY REPORT

BatchID: 10218

Sample ID: LCSD-10218	Batch ID: 10218	TestNo: SW8270C	Units: µg/L
SampType: LCSD	Run ID: GCMS3_020403A	Analysis Date: 4/3/02 4:50:00 PM	Prep Date: 4/3/02

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	3.937	0.2	4	0	98.4	40	140	11.4	30	
Acenaphthylene	4.25	0.2	4	0	106	40	140	11.7	30	
Anthracene	4.197	0.2	4	0	105	40	140	10.7	30	
Benzo[a]anthracene	4.328	0.2	4	0	108	40	140	10.5	30	
Benzo[a]pyrene	4.653	0.2	4	0	116	40	140	14.0	30	
Benzo[b]fluoranthene	4.751	0.2	4	0	119	40	140	13.8	30	
Benzo[g,h,i]perylene	4.954	0.2	4	0	124	40	140	14.8	30	
Benzo[k]fluoranthene	4.862	0.2	4	0	122	40	140	14.0	30	
Chrysene	4.202	0.2	4	0	105	40	140	10.0	30	
Dibenz[a,h]anthracene	5.139	0.2	4	0	128	40	140	13.9	30	
Fluoranthene	4.33	0.2	4	0	108	40	140	8.82	30	
Fluorene	4.25	0.2	4	0	106	40	140	10.9	30	
Indeno[1,2,3-cd]pyrene	5.072	0.2	4	0	127	40	140	14.5	30	
Naphthalene	3.417	0.2	4	0	85.4	40	140	10.0	30	
Phenanthrene	4.181	0.2	4	0	105	40	140	10.7	30	
Pyrene	4.488	0.2	4	0	112	40	140	9.64	30	

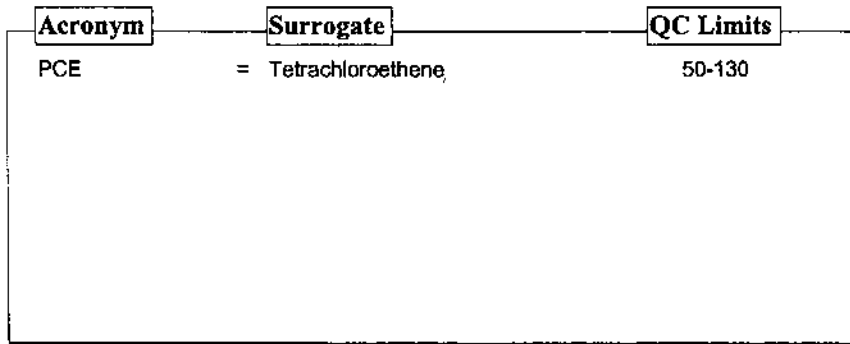
Qualifiers: ND - Not Detected at the Reporting Limit R - RPD outside accepted recovery limits
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank
 S - Spike Recovery outside accepted recovery limits

CLIENT: HBC Engineering
 Work Order: 0203152
 Project: Federal Express
 Test No: SW8021B

**QC SUMMARY REPORT
 SURROGATE RECOVERIES**

Matrix: W

Sample ID	PCE							
0203138-01A MS	93.5							
0203138-01A MSD	93.8							
0203152-01A	97.1							
0203152-01A MS	93.4							
0203152-01A MSD	92.4							
0203152-02A	98.2							
0203152-03A	97.0							
0203152-04A	90.7							
0203152-05A	94.7							
0203152-06A	96.4							
0203152-07A	93.9							
0203152-08A	92.2							
0203152-09A	92.5							
0203152-10A	98.3							
LCS-10210	100							
LCS-10216	97.6							
MB-10210	97.3							
MB-10216	96.1							



* Surrogate recovery outside acceptance limits

CLIENT: HBC Engineering
 Work Order: 0203152
 Project: Federal Express
 Test No: SW8270C

**QC SUMMARY REPORT
 SURROGATE RECOVERIES**

Matrix: W

Sample ID	NAPH1F	PHEN2F						
0203152-09C	221 *	78.7						
LCS-10218	64.3	75.3						
LCSD-10218	68.3	81.3						
MB-10218	66.9	77.5						

Acronym	Surrogate	QC Limits
NAPH1F	= Fluoronaphthalene	40-140
PHEN2F	= 2-Fluorobiphenyl	40-140

* Surrogate recovery outside acceptance limits

CLIENT: HBC Engineering
 Work Order: 0203152
 Project: Federal Express
 Test No: TX1005

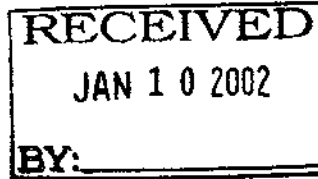
**QC SUMMARY REPORT
 SURROGATE RECOVERIES**

Matrix: W

Sample ID	CLC18N	CLC8N						
0203152-01B	87.8	85.7						
0203152-02B	92.1	92.0						
0203152-03B	97.9	104						
0203152-04B	93.3	98.7						
0203152-05B	96.3	93.2						
0203152-06B	95.7	112						
0203152-07B	89.7	97.2						
0203152-08B	93.4	115						
0203152-09B	96.8	185 *						
0203152-10B	95.7	87.0						
0203163-02B MS	115	137 *						
0203163-02B MSD	98.3	113						
LCS-10189	121	124						
MB-10189	99.9	93.4						

Acronym	Surrogate	QC Limits
CLC18N	= 1-Chlorooctadecane	70-130
CLC8N	= 1-Chlorooctane	70-130

* Surrogate recovery outside acceptance limits



January 07, 2002

Kevin Denson
HBC Engineering
5307 Industrial Oaks Blvd., Suite 160
Austin, Texas 78735

TEL: (512) 442-1122
FAX (512) 442-1181

RE: Federal Express

Dear Kevin Denson:

Order No.: 0112147

DHL Analytical received 10 samples on 12/28/01 for the analyses presented in the following report.

There were no problems with the analyses and all data for associated QC met EPA or laboratory specifications except where noted in the Case Narrative.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

A handwritten signature in black ink, appearing to read 'John DuPont'. The signature is written in a cursive, flowing style.

John DuPont
QA Manager

Client: HBC Engineering
Project Name: Federal Express
Project No: 96007145

Lab Order: 0112147
Matrix: Aqueous

The results for the test MTBE and BTEX in Water (SW8021B) are as follows:

Sample ID	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes
	µg/L	µg/L	µg/L	µg/L	µg/L
MW-8	6.35	11.2	< 4.0	< 4.0	< 4.0
MW-7	< 4.0	< 2.0	< 4.0	< 4.0	< 4.0
MW-4	216	1290	2780	596	6370
MW-9	59.7	< 2.0	< 4.0	< 4.0	< 4.0
MW-10	< 4.0	< 2.0	< 4.0	< 4.0	< 4.0
MW-11	40.2	71.4	84.6	88.0	142
MW-5	2850	3570	3980	616	6070
MW-1	54.2	129	364	105	2380
MW-2	249	35.8	2480	927	10600
MW-3	17.3	96.2	22.7	27.3	266

Comments:

DHL Analytical

Date: 08-Jan-02

CLIENT: HBC Engineering
Project Name: Federal Express
Project No: 96007145
Lab Order: 0112147

Client Sample ID: MW-8
Lab ID: 0112147-01
Collection Date: 12/27/01 9:45:00 AM
Matrix: AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
TX1005 TPH						Analyst: KMC
T/R Hydrocarbons: C6-C12	ND	4.90		mg/L	1	12/28/01 1:22:14 PM
T/R Hydrocarbons: >C12-C28	ND	4.90		mg/L	1	12/28/01 1:22:14 PM
T/R Hydrocarbons: >C28-C35	ND	4.90		mg/L	1	12/28/01 1:22:14 PM
T/R Hydrocarbons: C6-C35	ND	4.90		mg/L	1	12/28/01 1:22:14 PM
MTBE AND BTEX IN WATER						Analyst: KMC
Methyl tert-butyl ether	6.35	4.00		µg/L	1	1/2/02 10:15:11 AM
Benzene	11.2	2.00		µg/L	1	1/2/02 10:15:11 AM
Toluene	ND	4.00		µg/L	1	1/2/02 10:15:11 AM
Ethylbenzene	ND	4.00		µg/L	1	1/2/02 10:15:11 AM
Xylenes, Total	ND	4.00		µg/L	1	1/2/02 10:15:11 AM

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected between MDL and RL
 B - Analyte detected in the associated Method Blank

S - Spike Recovery outside control limits
 C - Sample Result or QC discussed in the Case Narrative
 E - TPH pattern not Gas or Diesel Range Pattern

DHL Analytical

Date: 08-Jan-02

CLIENT: HBC Engineering
Project Name: Federal Express
Project No: 96007145
Lab Order: 0112147

Client Sample ID: MW-7
Lab ID: 0112147-02
Collection Date: 12/27/01 10:05:00 AM
Matrix: AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
TX1005 TPH						Analyst: KMC
T/R Hydrocarbons: C6-C12	ND	4.84		mg/L	1	12/28/01 1:27:55 PM
T/R Hydrocarbons: >C12-C28	ND	4.84		mg/L	1	12/28/01 1:27:55 PM
T/R Hydrocarbons: >C28-C35	ND	4.84		mg/L	1	12/28/01 1:27:55 PM
T/R Hydrocarbons: C6-C35	ND	4.84		mg/L	1	12/28/01 1:27:55 PM
MTBE AND BTEX IN WATER						Analyst: KMC
Methyl tert-butyl ether	ND	4.00		µg/L	1	1/2/02 11:07:52 AM
Benzene	ND	2.00		µg/L	1	1/2/02 11:07:52 AM
Toluene	ND	4.00		µg/L	1	1/2/02 11:07:52 AM
Ethylbenzene	ND	4.00		µg/L	1	1/2/02 11:07:52 AM
Xylenes, Total	ND	4.00		µg/L	1	1/2/02 11:07:52 AM

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected between MDL and RL
 B - Analyte detected in the associated Method Blank

S - Spike Recovery outside control limits
 C - Sample Result or QC discussed in the Case Narrative
 E - TPH pattern not Gas or Diesel Range Pattern

DHL Analytical

Date: 08-Jan-02

CLIENT: HBC Engineering
Project Name: Federal Express
Project No: 96007145
Lab Order: 0112147

Client Sample ID: MW-4
Lab ID: 0112147-03
Collection Date: 12/27/01 10:24:00 AM
Matrix: AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
TX1005 TPH						Analyst: KMC
T/R Hydrocarbons: C6-C12	18.5	4.84		mg/L	1	12/28/01 1:33:48 PM
T/R Hydrocarbons: >C12-C28	5.15	4.84		mg/L	1	12/28/01 1:33:48 PM
T/R Hydrocarbons: >C28-C35	ND	4.84		mg/L	1	12/28/01 1:33:48 PM
T/R Hydrocarbons: C6-C35	23.6	4.84		mg/L	1	12/28/01 1:33:48 PM
MTBE AND BTEX IN WATER						Analyst: KMC
						SW8021B
Methyl tert-butyl ether	216	200		µg/L	50	1/2/02 11:44:13 AM
Benzene	1290	100		µg/L	50	1/2/02 11:44:13 AM
Toluene	2780	200		µg/L	50	1/2/02 11:44:13 AM
Ethylbenzene	596	200		µg/L	50	1/2/02 11:44:13 AM
Xylenes, Total	6370	200		µg/L	50	1/2/02 11:44:13 AM

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected between MDL and RL
 B - Analyte detected in the associated Method Blank

S - Spike Recovery outside control limits
 C - Sample Result or QC discussed in the Case Narrative
 E - TPH pattern not Gas or Diesel Range Pattern

DHL Analytical

Date: 08-Jan-02

CLIENT: HBC Engineering
Project Name: Federal Express
Project No: 96007145
Lab Order: 0112147

Client Sample ID: MW-9
Lab ID: 0112147-04
Collection Date: 12/27/01 11:07:00 AM
Matrix: AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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TX1005 TPH						Analyst: KMC
T/R Hydrocarbons: C6-C12	ND	4.87		mg/L	1	12/28/01 1:39:21 PM
T/R Hydrocarbons: >C12-C28	ND	4.87		mg/L	1	12/28/01 1:39:21 PM
T/R Hydrocarbons: >C28-C35	ND	4.87		mg/L	1	12/28/01 1:39:21 PM
T/R Hydrocarbons: C6-C35	ND	4.87		mg/L	1	12/28/01 1:39:21 PM
MTBE AND BTEX IN WATER						Analyst: KMC
Methyl tert-butyl ether	59.7	4.00		µg/L	1	1/2/02 12:01:45 PM
Benzene	ND	2.00		µg/L	1	1/2/02 12:01:45 PM
Toluene	ND	4.00		µg/L	1	1/2/02 12:01:45 PM
Ethylbenzene	ND	4.00		µg/L	1	1/2/02 12:01:45 PM
Xylenes, Total	ND	4.00		µg/L	1	1/2/02 12:01:45 PM

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected between MDL and RL
 B - Analyte detected in the associated Method Blank

S - Spike Recovery outside control limits
 C - Sample Result or QC discussed in the Case Narrative
 E - TPH pattern not Gas or Diesel Range Pattern

DHL Analytical

Date: 08-Jan-02

CLIENT: HBC Engineering
 Project Name: Federal Express
 Project No: 96007145
 Lab Order: 0112147

Client Sample ID: MW-10
 Lab ID: 0112147-05
 Collection Date: 12/27/01 11:31:00 AM
 Matrix: AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
TX1005 TPH						
		TX1005				Analyst: KMC
T/R Hydrocarbons: C6-C12	ND	4.81		mg/L	1	12/28/01 1:44:52 PM
T/R Hydrocarbons: >C12-C28	ND	4.81		mg/L	1	12/28/01 1:44:52 PM
T/R Hydrocarbons: >C28-C35	ND	4.81		mg/L	1	12/28/01 1:44:52 PM
T/R Hydrocarbons: C6-C35	ND	4.81		mg/L	1	12/28/01 1:44:52 PM
MTBE AND BTEX IN WATER						
		SW8021B				Analyst: KMC
Methyl tert-butyl ether	ND	4.00		µg/L	1	1/2/02 12:19:20 PM
Benzene	ND	2.00		µg/L	1	1/2/02 12:19:20 PM
Toluene	ND	4.00		µg/L	1	1/2/02 12:19:20 PM
Ethylbenzene	ND	4.00		µg/L	1	1/2/02 12:19:20 PM
Xylenes, Total	ND	4.00		µg/L	1	1/2/02 12:19:20 PM

Qualifiers:
 ND - Not Detected at the Reporting Limit
 J - Analyte detected between MDL and RL
 B - Analyte detected in the associated Method Blank

S - Spike Recovery outside control limits
 C - Sample Result or QC discussed in the Case Narrative
 E - TPH pattern not Gas or Diesel Range Pattern

DHL Analytical

Date: 08-Jan-02

CLIENT: HBC Engineering
Project Name: Federal Express
Project No: 96007145
Lab Order: 0112147

Client Sample ID: MW-11
Lab ID: 0112147-06
Collection Date: 12/27/01 11:54:00 AM
Matrix: AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
TX1005 TPH						Analyst: KMC
T/R Hydrocarbons: C6-C12	ND	4.85		mg/L	1	12/28/01 1:50:37 PM
T/R Hydrocarbons: >C12-C28	ND	4.85		mg/L	1	12/28/01 1:50:37 PM
T/R Hydrocarbons: >C28-C35	ND	4.85		mg/L	1	12/28/01 1:50:37 PM
T/R Hydrocarbons: C6-C35	ND	4.85		mg/L	1	12/28/01 1:50:37 PM
MTBE AND BTEX IN WATER						Analyst: KMC
						SW8021B
Methyl tert-butyl ether	40.2	4.00		µg/L	1	1/2/02 12:36:55 PM
Benzene	71.4	2.00		µg/L	1	1/2/02 12:36:55 PM
Toluene	84.6	4.00		µg/L	1	1/2/02 12:36:55 PM
Ethylbenzene	88.0	4.00		µg/L	1	1/2/02 12:36:55 PM
Xylenes, Total	142	4.00		µg/L	1	1/2/02 12:36:55 PM

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected between MDL and RL
B - Analyte detected in the associated Method Blank

S - Spike Recovery outside control limits
C - Sample Result or QC discussed in the Case Narrative
E - TPH pattern not Gas or Diesel Range Pattern

DHL Analytical

Date: 08-Jan-02

CLIENT: HBC Engineering
 Project Name: Federal Express
 Project No: 96007145
 Lab Order: 0112147

Client Sample ID: MW-5
 Lab ID: 0112147-07
 Collection Date: 12/27/01 12:41:00 PM
 Matrix: AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
TX1005 TPH						Analyst: KMC
T/R Hydrocarbons: C6-C12	28.6	4.81		mg/L	1	12/28/01 1:56:33 PM
T/R Hydrocarbons: >C12-C28	5.88	4.81		mg/L	1	12/28/01 1:56:33 PM
T/R Hydrocarbons: >C28-C35	ND	4.81		mg/L	1	12/28/01 1:56:33 PM
T/R Hydrocarbons: C8-C35	34.5	4.81		mg/L	1	12/28/01 1:56:33 PM
MTBE AND BTEX IN WATER						Analyst: KMC
						SW8021B
Methyl tert-butyl ether	2850	200		µg/L	50	1/2/02 2:22:58 PM
Benzene	3570	100		µg/L	50	1/2/02 2:22:58 PM
Toluene	3980	200		µg/L	50	1/2/02 2:22:58 PM
Ethylbenzene	616	200		µg/L	50	1/2/02 2:22:58 PM
Xylenes, Total	6070	200		µg/L	50	1/2/02 2:22:58 PM

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected between MDL and RL
 B - Analyte detected in the associated Method Blank

S - Spike Recovery outside control limits
 C - Sample Result or QC discussed in the Case Narrative
 E - TPH pattern not Gas or Diesel Range Pattern

DHL Analytical

Date: 08-Jan-02

CLIENT: HBC Engineering
Project Name: Federal Express
Project No: 96007145
Lab Order: 0112147

Client Sample ID: MW-1
Lab ID: 0112147-08
Collection Date: 12/27/01 1:50:00 PM
Matrix: AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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TX1005 TPH						Analyst: KMC
T/R Hydrocarbons: C6-C12	12.9	4.85		mg/L	1	12/28/01 2:02:06 PM
T/R Hydrocarbons: >C12-C28	ND	4.85		mg/L	1	12/28/01 2:02:06 PM
T/R Hydrocarbons: >C28-C35	ND	4.85		mg/L	1	12/28/01 2:02:06 PM
T/R Hydrocarbons: C6-C35	12.9	4.85		mg/L	1	12/28/01 2:02:06 PM

MTBE AND BTEX IN WATER						Analyst: KMC
Methyl tert-butyl ether	54.2	20.0		µg/L	5	1/2/02 2:40:27 PM
Benzene	129	10.0		µg/L	5	1/2/02 2:40:27 PM
Toluene	364	20.0		µg/L	5	1/2/02 2:40:27 PM
Ethylbenzene	105	20.0		µg/L	5	1/2/02 2:40:27 PM
Xylenes, Total	2380	80.0		µg/L	20	1/2/02 1:30:14 PM

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected between MDL and RL
 B - Analyte detected in the associated Method Blank

S - Spike Recovery outside control limits
 C - Sample Result or QC discussed in the Case Narrative
 E - TPH pattern not Gas or Diesel Range Pattern

DHL Analytical

Date: 08-Jan-02

CLIENT: HBC Engineering
Project Name: Federal Express
Project No: 96007145
Lab Order: 0112147

Client Sample ID: MW-2
Lab ID: 0112147-09
Collection Date: 12/27/01 2:52:00 PM
Matrix: AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
TX1005 TPH						Analyst: KMC
T/R Hydrocarbons: C6-C12	104	4.87		mg/L	1	12/28/01 2:13:33 PM
T/R Hydrocarbons: >C12-C28	24.7	4.87		mg/L	1	12/28/01 2:13:33 PM
T/R Hydrocarbons: >C28-C35	ND	4.87		mg/L	1	12/28/01 2:13:33 PM
T/R Hydrocarbons: C6-C35	129	4.87		mg/L	1	12/28/01 2:13:33 PM
MTBE AND BTEX IN WATER						Analyst: KMC
Methyl tert-butyl ether	249	40.0		µg/L	10	1/2/02 3:35:44 PM
Benzene	35.8	20.0		µg/L	10	1/2/02 3:35:44 PM
Toluene	2480	800		µg/L	200	1/2/02 1:47:49 PM
Ethylbenzene	927	40.0		µg/L	10	1/2/02 3:35:44 PM
Xylenes, Total	10600	800		µg/L	200	1/2/02 1:47:49 PM
PAH'S (SW8270)						Analyst: MR
Acenaphthene	16.9	2.00		µg/L	10	1/4/02 1:06:00 PM
Acenaphthylene	ND	2.00		µg/L	10	1/4/02 1:06:00 PM
Anthracene	ND	2.00		µg/L	10	1/4/02 1:06:00 PM
Benzo[a]anthracene	ND	2.00		µg/L	10	1/4/02 1:06:00 PM
Benzo[a]pyrene	ND	2.00		µg/L	10	1/4/02 1:06:00 PM
Benzo[b]fluoranthene	ND	2.00		µg/L	10	1/4/02 1:06:00 PM
Benzo[g,h,i]perylene	ND	2.00		µg/L	10	1/4/02 1:06:00 PM
Benzo[k]fluoranthene	ND	2.00		µg/L	10	1/4/02 1:06:00 PM
Chrysene	ND	2.00		µg/L	10	1/4/02 1:06:00 PM
Dibenz[a,h]anthracene	ND	2.00		µg/L	10	1/4/02 1:06:00 PM
Fluoranthene	2.01	2.00		µg/L	10	1/4/02 1:06:00 PM
Fluorene	29.8	2.00		µg/L	10	1/4/02 1:06:00 PM
Indeno[1,2,3-cd]pyrene	ND	2.00		µg/L	10	1/4/02 1:06:00 PM
Naphthalene	1600	20.0		µg/L	100	1/4/02 10:51:00 AM
Phenanthrene	14.4	2.00		µg/L	10	1/4/02 1:06:00 PM
Pyrene	5.58	2.00		µg/L	10	1/4/02 1:06:00 PM

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected between MDL and RL
 B - Analyte detected in the associated Method Blank

S - Spike Recovery outside control limits
 C - Sample Result or QC discussed in the Case Narrative
 E - TPH pattern not Gas or Diesel Range Pattern

DHL Analytical

Date: 08-Jan-02

CLIENT: HBC Engineering
Project Name: Federal Express
Project No: 96007145
Lab Order: 0112147

Client Sample ID: MW-3
Lab ID: 0112147-10
Collection Date: 12/27/01 3:12:00 PM
Matrix: AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
TX1005 TPH						Analyst: KMC
T/R Hydrocarbons: C6-C12	ND	4.85		mg/L	1	12/28/01 2:19:05 PM
T/R Hydrocarbons: >C12-C28	ND	4.85		mg/L	1	12/28/01 2:19:05 PM
T/R Hydrocarbons: >C28-C35	ND	4.85		mg/L	1	12/28/01 2:19:05 PM
T/R Hydrocarbons: C6-C35	ND	4.85		mg/L	1	12/28/01 2:19:05 PM
MTBE AND BTEX IN WATER						Analyst: KMC
						SW8021B
Methyl tert-butyl ether	17.3	4.00		µg/L	1	1/2/02 2:05:23 PM
Benzene	96.2	2.00		µg/L	1	1/2/02 2:05:23 PM
Toluene	22.7	4.00		µg/L	1	1/2/02 2:05:23 PM
Ethylbenzene	27.3	4.00		µg/L	1	1/2/02 2:05:23 PM
Xylenes, Total	266	4.00		µg/L	1	1/2/02 2:05:23 PM

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected between MDL and RL
 B - Analyte detected in the associated Method Blank

S - Spike Recovery outside control limits
 C - Sample Result or QC discussed in the Case Narrative
 E - TPH pattern not Gas or Diesel Range Pattern

CLIENT: HBC Engineering
Project: Federal Express
Lab Order: 0112147

CASE NARRATIVE

Samples were analyzed using the methods outlined in the following references:

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition and TNRCC method Tx1005.

All method blanks, laboratory spikes, and/or matrix spikes met quality assurance objectives except where noted in the following. For PAH analysis by method SW8270C the LCS recovery was out of control limits for Benzo[g,h,I]perylene and Dibenz[a,h]anthracene. These are flagged accordingly in the enclosed QC summary report. The "S" flag denotes spike recovery was outside control limits. Since the sample was below detection limits for these compounds, no further corrective actions were required and no sample results were adversely affected. For PAH analysis by method SW8270C the surrogate recovery for sample MW-2 for one of the two surrogates was above control limits. This was due to the sample being diluted prior to analysis and an emulsion forming. For TPH analysis by method Tx1005 the surrogate recoveries for several samples for one of the two surrogates were slightly above control limits. This was due to the surrogates co-eluting with the samples. No further actions were taken and no sample result was adversely affected.

DHL Analytical

Sample Receipt Checklist

Client Name HBC Engineering

Date Received: 12/28/01

Work Order Number 0112147

Received by JGD

Checklist completed by

[Signature]
Signature

12/28/01
Date

Reviewed by

SS
Initials

12-28-01
Date

Carrier name: APC (Austin Prof. Courier)

- Shipping container/cooler in good condition? Yes No Not Present
- Custody seals intact on shipping container/cooler? Yes No Not Present
- Custody seals intact on sample bottles? Yes No Not Present
- Chain of custody present? Yes No
- Chain of custody signed when relinquished and received? Yes No
- Chain of custody agrees with sample labels? Yes No
- Samples in proper container/bottle? Yes No
- Sample containers intact? Yes No
- Sufficient sample volume for indicated test? Yes No
- All samples received within holding time? Yes No
- Container/Temp Blank temperature in compliance? Yes No
- Water - VOA vials have zero headspace? No VOA vials submitted Yes No
- Water - pH acceptable upon receipt? Yes No NotApplicable

Adjusted? _____ Checked by _____

Any No response must be detailed in the comments section below.

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: MW-2 has 2 vials for BTEX w/ bubbles < pea size

Corrective Action Taken: None use 3rd vial first.

CLIENT: HBC Engineering
 Work Order: 0112147
 Project: Federal Express

ANALYTICAL QC SUMMARY REPORT

BatchID: 9488

Sample ID: MB-9488	Batch ID: 9488	TestNo: TX1005	Units: mg/L
SampType: MBLK	Run ID: GC12_011228B	Analysis Date: 12/28/01 1:10:56 PM	Prep Date: 12/28/01

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C6-C12	ND	5								
T/R Hydrocarbons: >C12-C28	ND	5								
T/R Hydrocarbons: >C28-C35	ND	5								
T/R Hydrocarbons: C6-C35	ND	5								

Sample ID: LCS-9488	Batch ID: 9488	TestNo: TX1005	Units: mg/L
SampType: LCS	Run ID: GC12_011228B	Analysis Date: 12/28/01 1:16:44 PM	Prep Date: 12/28/01

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C6-C35	22.28	5	25	0	89.1	75	125	0		

Sample ID: 0112147-10B MS	Batch ID: 9488	TestNo: TX1005	Units: mg/L
SampType: MS	Run ID: GC12_011228B	Analysis Date: 12/28/01 2:36:35 PM	Prep Date: 12/28/01

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C6-C35	27.32	4.93	24.67	0	111	75	125	0		

Sample ID: 0112147-10B MSD	Batch ID: 9488	TestNo: TX1005	Units: mg/L
SampType: MSD	Run ID: GC12_011228B	Analysis Date: 12/28/01 2:30:32 PM	Prep Date: 12/28/01

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C6-C35	29.18	4.95	24.75	0	118	75	125	6.58	30	

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits
 S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits
 B - Analyte detected in the associated Method Blank

CLIENT: HBC Engineering
 Work Order: 0112147
 Project: Federal Express

ANALYTICAL QC SUMMARY REPORT

BatchID: 9502

Sample ID: MB-9502	Batch ID: 9502	TestNo: SW8021B	Units: µg/L
SampType: MBLK	Run ID: GC1_020102A	Analysis Date: 1/2/02 9:40:04 AM	Prep Date: 1/2/02

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether	ND	4								
Benzene	ND	2								
Toluene	ND	4								
Ethylbenzene	ND	4								
Xylenes, Total	ND	4								

Sample ID: LCS-9502	Batch ID: 9502	TestNo: SW8021B	Units: µg/L
SampType: LCS	Run ID: GC1_020102A	Analysis Date: 1/2/02 9:57:36 AM	Prep Date: 1/2/02

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether	45.26	4	50	0	90.5	60	124	0		
Benzene	42.82	2	50	0	85.6	75	125	0		
Toluene	47.64	4	50	0	95.3	71	129	0		
Ethylbenzene	49.45	4	50	0	98.9	70	125	0		
Xylenes, Total	147.6	4	150	0	98.4	71	133	0		

Sample ID: 0112147-01A MS	Batch ID: 9502	TestNo: SW8021B	Units: µg/L
SampType: MS	Run ID: GC1_020102A	Analysis Date: 1/2/02 10:32:40 AM	Prep Date: 1/2/02

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether	47.05	4	50	6.35	81.4	60	124	0		
Benzene	52.72	2	50	11.19	83.1	75	125	0		
Toluene	46.99	4	50	0	94	71	129	0		
Ethylbenzene	50	4	50	0	100	70	125	0		
Xylenes, Total	149.3	4	150	0	99.5	71	133	0		

Sample ID: 0112147-01A MSD	Batch ID: 9502	TestNo: SW8021B	Units: µg/L
SampType: MSD	Run ID: GC1_020102A	Analysis Date: 1/2/02 10:50:16 AM	Prep Date: 1/2/02

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether	47.37	4	50	6.35	82	60	124	0.678	20	
Benzene	51.16	2	50	11.19	79.9	75	125	3.00	20	
Toluene	44.86	4	50	0	89.7	71	129	4.64	20	
Ethylbenzene	47.79	4	50	0	95.6	70	125	4.52	20	
Xylenes, Total	142.5	4	150	0	95	71	133	4.62	20	

Qualifiers: ND - Not Detected at the Reporting Limit R - RPD outside accepted recovery limits
 I - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank
 S - Spike Recovery outside accepted recovery limits

CLIENT: HBC Engineering
 Work Order: 0112147
 Project: Federal Express

ANALYTICAL QC SUMMARY REPORT

BatchID: 9510

Sample ID: MB-9510	Batch ID: 9510	TestNo: SW8270C	Units: µg/L
SampType: MBLK	Run ID: GCMS3_020103B	Analysis Date: 1/3/02 3:40:00 PM	Prep Date: 1/3/02

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	0.2								
Acenaphthylene	ND	0.2								
Anthracene	ND	0.2								
Benzo[a]anthracene	ND	0.2								
Benzo[a]pyrene	ND	0.2								
Benzo[b]fluoranthene	ND	0.2								
Benzo[g,h,i]perylene	ND	0.2								
Benzo[k]fluoranthene	ND	0.2								
Chrysene	ND	0.2								
Dibenz[a,h]anthracene	ND	0.2								
Fluoranthene	ND	0.2								
Fluorene	ND	0.2								
Indeno[1,2,3-cd]pyrene	ND	0.2								
Naphthalene	ND	0.2								
Phenanthrene	ND	0.2								
Pyrene	ND	0.2								

Sample ID: LCS-9510	Batch ID: 9510	TestNo: SW8270C	Units: µg/L
SampType: LCS	Run ID: GCMS3_020103B	Analysis Date: 1/3/02 4:53:00 PM	Prep Date: 1/3/02

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	3.322	0.2	4	0	83	40	140	9.55	0	
Acenaphthylene	3.3	0.2	4	0	82.5	40	140	10.4	0	
Anthracene	3.035	0.2	4	0	75.9	40	140	7.64	0	
Benzo[a]anthracene	4.223	0.2	4	0	106	40	140	8.09	0	
Benzo[a]pyrene	5.11	0.2	4	0	128	40	140	12.5	0	
Benzo[b]fluoranthene	5.385	0.2	4	0	135	40	140	12.2	0	
Benzo[g,h,i]perylene	6.405	0.2	4	0	160	40	140	14.2	0	S
Benzo[k]fluoranthene	5.21	0.2	4	0	130	40	140	12.9	0	
Chrysene	4.063	0.2	4	0	102	40	140	8.41	0	
Dibenz[a,h]anthracene	5.634	0.2	4	0	141	40	140	12.7	0	S
Fluoranthene	3.195	0.2	4	0	79.9	40	140	6.65	0	
Fluorene	3.491	0.2	4	0	87.3	40	140	9.03	0	
Indeno[1,2,3-cd]pyrene	5.502	0.2	4	0	138	40	140	12.7	0	
Naphthalene	3.11	0.2	4	0	77.7	40	140	13.1	0	
Phenanthrene	3.215	0.2	4	0	80.4	40	140	7.08	0	
Pyrene	4.233	0.2	4	0	106	40	140	8.14	0	

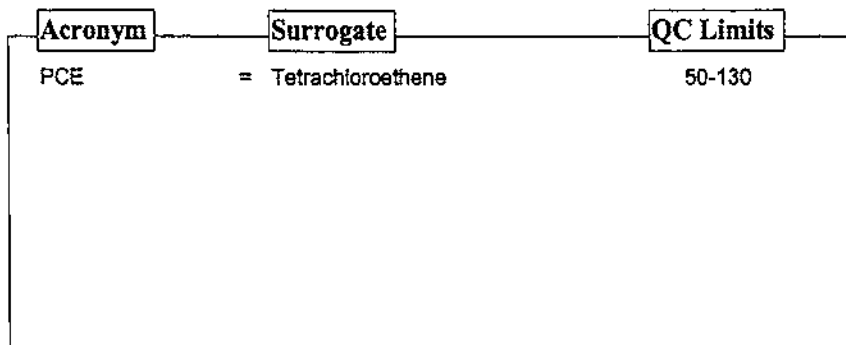
Qualifiers: ND - Not Detected at the Reporting Limit R - RPD outside accepted recovery limits
 J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank
 S - Spike Recovery outside accepted recovery limits

CLIENT: HBC Engineering
 Work Order: 0112147
 Project: Federal Express
 Test No: SW8021B

**QC SUMMARY REPORT
 SURROGATE RECOVERIES**

Matrix: W

Sample ID	PCE							
0112147-01A	97.1							
0112147-01A MS	100							
0112147-01A MSD	94.0							
0112147-02A	96.1							
0112147-03A	97.6							
0112147-04A	99.7							
0112147-05A	101							
0112147-06A	93.4							
0112147-07A	104							
0112147-08A	100							
0112147-09A	92.9							
0112147-10A	93.8							
LCS-9502	94.0							
MB-9502	95.6							



* Surrogate recovery outside acceptance limits

CLIENT: HBC Engineering

Work Order: 0112147

Project: Federal Express

Test No: SW8270C

Matrix: W

QC SUMMARY REPORT SURROGATE RECOVERIES

Sample ID	NAPH1F	PHEN2F						
0112147-09C	62700 *	112						
LCS-9510	74.2	66.9						
MB-9510	93.9	88.3						

Acronym	Surrogate	QC Limits
NAPH1F	= Fluoronaphthalene	40-140
PHEN2F	= 2-Fluorobiphenyl	40-140

* Surrogate recovery outside acceptance limits

CLIENT: HBC Engineering
 Work Order: 0112147
 Project: Federal Express
 Test No: TX1005

**QC SUMMARY REPORT
 SURROGATE RECOVERIES**

Matrix: W

Sample ID	CLC18N	CLC8N						
0112147-01B	116	116						
0112147-02B	114	113						
0112147-03B	103	144 *						
0112147-04B	114	115						
0112147-05B	111	110						
0112147-06B	103	105						
0112147-07B	113	162 *						
0112147-08B	115	151 *						
0112147-09B	103	428 *						
0112147-10B	110	127						
0112147-10B MS	109	133 *						
0112147-10B MSD	116	139 *						
LCS-9488	115	125						
MB-9488	106	101						

Acronym	Surrogate	QC Limits
CLC18N	= 1-Chlorooctadecane	70-130
CLC8N	= 1-Chlorooctane	70-130

* Surrogate recovery outside acceptance limits



OCT 03 2001

September 28, 2001

Russ Ford
HBC Engineering
5307 Industrial Oaks Blvd., Suite 160
Austin, Texas 78735
TEL: (512) 442-1122
FAX (512) 442-1181

RE: Federal Express

Order No.: 0109109

Dear Russ Ford,

DHL Analytical received 10 samples on 9/25/01 for the analyses presented in the following report.

There were no problems with the analyses and all data for associated QC met EPA or laboratory specifications.

If you have any questions regarding these tests results, please feel free to call. Thank you for using DHL Analytical.

Sincerely,

A handwritten signature in black ink, appearing to read 'John DuPont', written in a cursive style.

John DuPont

QA Manager

CC:



2300 Double Creek Drive • Round Rock, TX 78664
Phone (512) 388-8222 • FAX (512) 388-8229

No 9672

CHAIN-OF-CUSTODY

CLIENT: HBC
ADDRESS: 5307 INDUSTRIAL OAKS
PHONE: 442-1122 FAX 442-1181
DATA REPORTED TO: Russ Ford
ADDITIONAL REPORT COPIES TO: _____

DATE: 9/24/01 PAGE 1 OF 1
PO #: _____ DHL WORK ORDER #: 0109107
PROJECT LOCATION OR NAME: FEDERAL EXPRESS
CLIENT PROJECT #: 96007145 COLLECTOR: KD

Field Sample I.D.	DHL Lab #	Date	Time	Matrix	Container Type	# of Containers	PRESERVATION				ANALYSES	FIELD NOTES	
							HCl	HNO ₃	H ₂ SO ₄ / NaHSO ₄	ICE			UNPRESERVED
MW-3	01	9/24/01	1030	W	V6A	6	X	X					
MW-1	02	"	1038	W	VOA/AMBER	7	X	X	X				HOLD AMBER LITER
MW-7	03	"	1045	W	VOA	6	X	X	X				
MW-2	04	"	1120	W	VOA/AMBER	X	X	X	X				HOLD AMBER LITER
MW-4	05	"	1105	W	VOA	6	X	X					
MW-8	06	"	1245	W	V6A	6	X	X					
MW-9	07	"	1300	W	VOA	6	X	X					
MW-10	08	"	1320	W	VOA	6	X	X					
MW-11	09	"	1340	W	VOA	6	X	X					
MW-6	10	"	1350	W	VOA	6	X	X					
No further samples req													

- ANALYSES
- BTX
 - MTBEX
 - TPH 418.1
 - TPH 1000
 - TPH 1006
 - GASOLINE MOI 8015
 - DIESEL MOI 8015
 - VOC 8260
 - SVOC 8270
 - 8081 PESTICIDES
 - PAH 8070
 - 8082 PCBs
 - TCLP - METALS (PCRA)
 - 8151 HERBICIDES
 - METALS - PEST
 - LEAD - PRIORITY POLLUTANT
 - SEMI-VOC
 - TCLP - TOTAL
 - D.W. 300.8
 - TCLP
 - PHD TSS
 - EXPLOSIVES
 - HEXAVALENT CHROMIUM
 - PENTACHLORATE
 - CHLORIDE
 - AMMONIUM
 - ALKALINITY

X Russ Ford
prev 9/27/01

TOTAL		RECEIVED BY: (Signature) _____		DATE/TIME		RECEIVED BY: (Signature) _____		DATE/TIME		LABORATORY USE ONLY:	
RELINQUISHED BY: (Signature) <u>M. Devin Denson</u>		DATE/TIME <u>9/25/01 14:00</u>		RECEIVED BY: (Signature) <u>[Signature]</u>		DATE/TIME <u>9-25-1 17:00</u>		RUSH <input type="checkbox"/>		RECEIVING TEMP: <u>0.3°C</u>	
RELINQUISHED BY: (Signature) <u>ADC</u>		DATE/TIME <u>9-25-1 17:00</u>		RECEIVED BY: (Signature) <u>[Signature]</u>		DATE/TIME		24-HOUR <input type="checkbox"/>		CUSTODY SEALS - <input type="checkbox"/> BROKEN <input checked="" type="checkbox"/> INTACT <input type="checkbox"/> NOT USED	
RELINQUISHED BY: (Signature) _____		DATE/TIME _____		RECEIVED BY: (Signature) _____		DATE/TIME _____		48-HOUR <input type="checkbox"/>		CARRIER BILL # _____	
RELINQUISHED BY: (Signature) _____		DATE/TIME _____		RECEIVED BY: (Signature) _____		DATE/TIME _____		NORMAL <input checked="" type="checkbox"/>		<input type="checkbox"/> PICKED UP BY DHL ANALYTICAL STAFF	
RELINQUISHED BY: (Signature) _____		DATE/TIME _____		RECEIVED BY: (Signature) _____		DATE/TIME _____		OTHER <input type="checkbox"/>		_____	

DHL Analytical

Date: 28-Sep-01

CLIENT: HBC Engineering
Project Name: Federal Express
Project No: 96007145
Lab Order: 0109109

Client Sample ID: MW-2
Lab ID: 0109109-04
Collection Date: 9/24/01 11:00:00 AM
Matrix: AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
TX1005 TPH		TX1005		Analyst: KMC		
T/R Hydrocarbons: C6-C12	149	4.72		mg/L	1	9/26/01 12:29:22 PM
T/R Hydrocarbons: >C12-C28	40.5	4.72		mg/L	1	9/26/01 12:29:22 PM
T/R Hydrocarbons: >C28-C35	ND	4.72		mg/L	1	9/26/01 12:29:22 PM
T/R Hydrocarbons: C6-C35	189	4.72		mg/L	1	9/26/01 12:29:22 PM
MTBE AND BTEX IN WATER		SW8021B		Analyst: KMC		
Methyl tert-butyl ether	458	200		µg/L	50	9/27/01 1:58:31 PM
Benzene	265	100		µg/L	50	9/27/01 1:58:31 PM
Toluene	2180	200		µg/L	50	9/27/01 1:58:31 PM
Ethylbenzene	442	200		µg/L	50	9/27/01 1:58:31 PM
Xylenes, Total	6400	200		µg/L	50	9/27/01 1:58:31 PM
PAHS: GC/MS		SW8270C		Analyst: DL		
Acenaphthene	4.36	0.200		µg/L	1	9/27/01 7:52:00 PM
Acenaphthylene	ND	0.200		µg/L	1	9/27/01 7:52:00 PM
Anthracene	0.916	0.200		µg/L	1	9/27/01 7:52:00 PM
Benzo[a]anthracene	0.267	0.200		µg/L	1	9/27/01 7:52:00 PM
Benzo[a]pyrene	0.233	0.200		µg/L	1	9/27/01 7:52:00 PM
Benzo[b]fluoranthene	0.314	0.200		µg/L	1	9/27/01 7:52:00 PM
Benzo[g,h,i]perylene	0.283	0.200		µg/L	1	9/27/01 7:52:00 PM
Benzo[k]fluoranthene	ND	0.200		µg/L	1	9/27/01 7:52:00 PM
Chrysene	0.349	0.200		µg/L	1	9/27/01 7:52:00 PM
Dibenz[a,h]anthracene	ND	0.200		µg/L	1	9/27/01 7:52:00 PM
Fluoranthene	0.571	0.200		µg/L	1	9/27/01 7:52:00 PM
Fluorene	6.87	0.200		µg/L	1	9/27/01 7:52:00 PM
Indeno[1,2,3-cd]pyrene	ND	0.200		µg/L	1	9/27/01 7:52:00 PM
Naphthalene	619	20.0		µg/L	100	9/28/01 9:55:00 AM
Phenanthrene	3.42	0.200		µg/L	1	9/27/01 7:52:00 PM
Pyrene	1.07	0.200		µg/L	1	9/27/01 7:52:00 PM

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected between MDL and RL
 B - Analyte detected in the associated Method Blank
 * - Value exceeds Maximum Contaminant Level
 S - Spike Recovery outside control limits
 C - Sample result or QC discussed in the Case Narrative
 E - TPH pattern not Gas or Diesel

DHL Analytical

Date: 28-Sep-01

CLIENT: HBC Engineering
Project Name: Federal Express
Project No: 96007145
Lab Order: 0109109

Client Sample ID: MW-3
Lab ID: 0109109-01
Collection Date: 9/24/01 10:30:00 AM
Matrix: AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
TX1005 TPH						Analyst: KMC
T/R Hydrocarbons: C6-C12	19.7	4.75		mg/L	1	9/26/01 12:12:42 PM
T/R Hydrocarbons: >C12-C28	ND	4.75		mg/L	1	9/26/01 12:12:42 PM
T/R Hydrocarbons: >C28-C35	ND	4.75		mg/L	1	9/26/01 12:12:42 PM
T/R Hydrocarbons: C6-C35	19.7	4.75		mg/L	1	9/26/01 12:12:42 PM
MTBE AND BTEX IN WATER						Analyst: KMC
Methyl tert-butyl ether	56.3	40.0		µg/L	10	9/27/01 1:19:33 PM
Benzene	241	20.0		µg/L	10	9/27/01 1:19:33 PM
Toluene	72.4	40.0		µg/L	10	9/27/01 1:19:33 PM
Ethylbenzene	114	40.0		µg/L	10	9/27/01 1:19:33 PM
Xylenes, Total	906	40.0		µg/L	10	9/27/01 1:19:33 PM

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected between MDL and RL
 B - Analyte detected in the associated Method Blank
 * - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside control limits
 C - Sample result or QC discussed in the Case Narrative
 E - TPH pattern not Gas or Diesel

DHL Analytical

Date: 28-Sep-01

CLIENT: HBC Engineering
Project Name: Federal Express
Project No: 96007145
Lab Order: 0109109

Client Sample ID: MW-4
Lab ID: 0109109-05
Collection Date: 9/24/01 11:05:00 AM
Matrix: AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
TX1005 TPH		TX1005				Analyst: KMC
T/R Hydrocarbons: C6-C12	20.9	4.73		mg/L	1	9/26/01 12:35:16 PM
T/R Hydrocarbons: >C12-C28	ND	4.73		mg/L	1	9/26/01 12:35:16 PM
T/R Hydrocarbons: >C28-C35	ND	4.73		mg/L	1	9/26/01 12:35:16 PM
T/R Hydrocarbons: C6-C35	20.9	4.73		mg/L	1	9/26/01 12:35:16 PM
MTBE AND BTEX IN WATER		SW8021B				Analyst: KMC
Methyl tert-butyl ether	155	80.0		µg/L	20	9/27/01 2:16:02 PM
Benzene	1030	40.0		µg/L	20	9/27/01 2:16:02 PM
Toluene	1770	80.0		µg/L	20	9/27/01 2:16:02 PM
Ethylbenzene	364	80.0		µg/L	20	9/27/01 2:16:02 PM
Xylenes, Total	3460	200		µg/L	50	9/27/01 6:24:54 PM

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside control limits
 J - Analyte detected between MDL and RL C - Sample result or QC discussed in the Case Narrative
 B - Analyte detected in the associated Method Blank E - TPH pattern not Gas or Diesel
 * - Value exceeds Maximum Contaminant Level

DHL Analytical

Date: 28-Sep-01

CLIENT: HBC Engineering
Project Name: Federal Express
Project No: 96007145
Lab Order: 0109109

Client Sample ID: MW-6
Lab ID: 0109109-10
Collection Date: 9/24/01 1:50:00 PM
Matrix: AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
TX1005 TPH						
		TX1005				Analyst: KMC
T/R Hydrocarbons: C6-C12	67.1	5.00		mg/L	1	9/26/01 1:03:26 PM
T/R Hydrocarbons: >C12-C28	5.93	5.00		mg/L	1	9/26/01 1:03:26 PM
T/R Hydrocarbons: >C28-C35	ND	5.00		mg/L	1	9/26/01 1:03:26 PM
T/R Hydrocarbons: C6-C35	73.0	5.00		mg/L	1	9/26/01 1:03:26 PM
MTBE AND BTEX IN WATER						
		SW8021B				Analyst: KMC
Methyl tert-butyl ether	73.0	40.0		µg/L	10	9/27/01 5:14:33 PM
Benzene	1990	100		µg/L	50	9/27/01 2:51:16 PM
Toluene	5140	400		µg/L	100	9/27/01 5:49:57 PM
Ethylbenzene	894	200		µg/L	50	9/27/01 2:51:16 PM
Xylenes, Total	12500	400		µg/L	100	9/27/01 5:49:57 PM

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected between MDL and RL
 B - Analyte detected in the associated Method Blank
 * - Value exceeds Maximum Contaminant Level
 S - Spike Recovery outside control limits
 C - Sample result or QC discussed in the Case Narrative
 E - TPH pattern not Gas or Diesel

DHL Analytical

Date: 28-Sep-01

CLIENT: HBC Engineering
 Project Name: Federal Express
 Project No: 96007145
 Lab Order: 0109109

Client Sample ID: MW-7
 Lab ID: 0109109-03
 Collection Date: 9/24/01 10:45:00 AM
 Matrix: AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
TX1005 TPH						Analyst: KMC
T/R Hydrocarbons: C6-C12	ND	4.78		mg/L	1	9/26/01 12:23:50 PM
T/R Hydrocarbons: >C12-C28	ND	4.78		mg/L	1	9/26/01 12:23:50 PM
T/R Hydrocarbons: >C28-C35	ND	4.78		mg/L	1	9/26/01 12:23:50 PM
T/R Hydrocarbons: C6-C35	ND	4.78		mg/L	1	9/26/01 12:23:50 PM
MTBE AND BTEX IN WATER						Analyst: KMC
Methyl tert-butyl ether	ND	4.00		µg/L	1	9/27/01 11:48:53 AM
Benzene	ND	2.00		µg/L	1	9/27/01 11:48:53 AM
Toluene	ND	4.00		µg/L	1	9/27/01 11:48:53 AM
Ethylbenzene	ND	4.00		µg/L	1	9/27/01 11:48:53 AM
Xylenes, Total	ND	4.00		µg/L	1	9/27/01 11:48:53 AM

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected between MDL and RL
 B - Analyte detected in the associated Method Blank
 * - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside control limits
 C - Sample result or QC discussed in the Case Narrative
 E - TPH pattern not Gas or Diesel

DHL Analytical

Date: 28-Sep-01

CLIENT: HBC Engineering
Project Name: Federal Express
Project No: 96007145
Lab Order: 0109109

Client Sample ID: MW-8
Lab ID: 0109109-06
Collection Date: 9/24/01 12:45:00 PM
Matrix: AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
TX1005 TPH						Analyst: KMC
T/R Hydrocarbons: C6-C12	ND	4.89		mg/L	1	9/26/01 12:40:49 PM
T/R Hydrocarbons: >C12-C28	ND	4.89		mg/L	1	9/26/01 12:40:49 PM
T/R Hydrocarbons: >C28-C35	ND	4.89		mg/L	1	9/26/01 12:40:49 PM
T/R Hydrocarbons: C6-C35	ND	4.89		mg/L	1	9/26/01 12:40:49 PM
MTBE AND BTEX IN WATER						Analyst: KMC
						SW8021B
Methyl tert-butyl ether	5.65	4.00		µg/L	1	9/27/01 12:06:30 PM
Benzene	14.4	2.00		µg/L	1	9/27/01 12:06:30 PM
Toluene	10.3	4.00		µg/L	1	9/27/01 12:06:30 PM
Ethylbenzene	ND	4.00		µg/L	1	9/27/01 12:08:30 PM
Xylenes, Total	114	4.00		µg/L	1	9/27/01 12:06:30 PM

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside control limits
 J - Analyte detected between MDL and RL C - Sample result or QC discussed in the Case Narrative
 B - Analyte detected in the associated Method Blank E - TPH pattern not Gas or Diesel
 * - Value exceeds Maximum Contaminant Level

DHL Analytical

Date: 28-Sep-01

CLIENT: HBC Engineering
Project Name: Federal Express
Project No: 96007145
Lab Order: 0109109

Client Sample ID: MW-9
Lab ID: 0109109-07
Collection Date: 9/24/01 1:00:00 PM
Matrix: AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
TX1005 TPH						Analyst: KMC
T/R Hydrocarbons: C6-C12	ND	4.95		mg/L	1	9/26/01 12:46:22 PM
T/R Hydrocarbons: >C12-C28	ND	4.95		mg/L	1	9/26/01 12:46:22 PM
T/R Hydrocarbons: >C28-C35	ND	4.95		mg/L	1	9/26/01 12:46:22 PM
T/R Hydrocarbons: C6-C35	ND	4.95		mg/L	1	9/26/01 12:46:22 PM
MTBE AND BTEX IN WATER						Analyst: KMC
Methyl tert-butyl ether	129	8.00		µg/L	2	9/27/01 6:42:23 PM
Benzene	4.67	2.00		µg/L	1	9/27/01 12:24:04 PM
Toluene	ND	4.00		µg/L	1	9/27/01 12:24:04 PM
Ethylbenzene	ND	4.00		µg/L	1	9/27/01 12:24:04 PM
Xylenes, Total	ND	4.00		µg/L	1	9/27/01 12:24:04 PM

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside control limits
J - Analyte detected between MDL and RL C - Sample result or QC discussed in the Case Narrative
B - Analyte detected in the associated Method Blank E - TPH pattern not Gas or Diesel
* - Value exceeds Maximum Contaminant Level

DHL Analytical

Date: 28-Sep-01

CLIENT: HBC Engineering
Project Name: Federal Express
Project No: 96007145
Lab Order: 0109109

Client Sample ID: MW-10
Lab ID: 0109109-08
Collection Date: 9/24/01 1:20:00 PM
Matrix: AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
TX1005 TPH						Analyst: KMC
T/R Hydrocarbons: C6-C12	ND	4.84		mg/L	1	9/26/01 12:51:58 PM
T/R Hydrocarbons: >C12-C28	ND	4.84		mg/L	1	9/26/01 12:51:58 PM
T/R Hydrocarbons: >C28-C35	ND	4.84		mg/L	1	9/26/01 12:51:58 PM
T/R Hydrocarbons: C6-C35	ND	4.84		mg/L	1	9/26/01 12:51:58 PM
MTBE AND BTEX IN WATER						Analyst: KMC
						SW8021B
Methyl tert-butyl ether	ND	4.00		µg/L	1	9/27/01 12:41:36 PM
Benzene	ND	2.00		µg/L	1	9/27/01 12:41:36 PM
Toluene	ND	4.00		µg/L	1	9/27/01 12:41:36 PM
Ethylbenzene	ND	4.00		µg/L	1	9/27/01 12:41:36 PM
Xylenes, Total	ND	4.00		µg/L	1	9/27/01 12:41:36 PM

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside control limits
 J - Analyte detected between MDL and RL C - Sample result or QC discussed in the Case Narrative
 B - Analyte detected in the associated Method Blank E - TPH pattern not Gas or Diesel
 * - Value exceeds Maximum Contaminant Level

DHL Analytical

Date: 28-Sep-01

CLIENT: HBC Engineering
Project Name: Federal Express
Project No: 96007145
Lab Order: 0109109

Client Sample ID: MW-11
Lab ID: 0109109-09
Collection Date: 9/24/01 1:40:00 PM
Matrix: AQUEOUS

Analyses	Result	RL	Quai	Units	DF	Date Analyzed
TX1005 TPH						Analyst: KMC
T/R Hydrocarbons: C6-C12	9.67	4.79		mg/L	1	9/26/01 12:57:32 PM
T/R Hydrocarbons: >C12-C28	ND	4.79		mg/L	1	9/26/01 12:57:32 PM
T/R Hydrocarbons: >C28-C35	ND	4.79		mg/L	1	9/26/01 12:57:32 PM
T/R Hydrocarbons: C6-C35	9.67	4.79		mg/L	1	9/26/01 12:57:32 PM
MTBE AND BTEX IN WATER						Analyst: KMC
						SW8021B
Methyl tert-butyl ether	134	80.0		µg/L	20	9/27/01 2:33:42 PM
Benzene	1620	40.0		µg/L	20	9/27/01 2:33:42 PM
Toluene	3080	200		µg/L	50	9/27/01 6:07:26 PM
Ethylbenzene	625	80.0		µg/L	20	9/27/01 2:33:42 PM
Xylenes, Total	2480	80.0		µg/L	20	9/27/01 2:33:42 PM

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside control limits
 J - Analyte detected between MDL and RL C - Sample result or QC discussed in the Case Narrative
 B - Analyte detected in the associated Method Blank E - TPH pattern not Gas or Diesel
 * - Value exceeds Maximum Contaminant Level

CLIENT: HBC Engineering
Project: Federal Express
Lab Order: 0109109

CASE NARRATIVE

Samples were analyzed using the methods outlined in the following references:

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition and TNRCC method Tx1005.

All method blanks, laboratory spikes, and/or matrix spikes met quality assurance objectives except where noted in the following. For PAH analysis by method SW8270C the LCS and LCSD recoveries were above control limits for Dibenz[a,h]anthracene and Indeno[1,2,3-cd]pyrene. These are flagged accordingly in the enclosed QC summary report. The "S" flag denotes spike recovery was outside control limits. The sample was below detection limit for these compounds. No further corrective actions were required and no sample results were adversely affected. For sample MW-2 the surrogate recovery was above control limits for Fluoronaphthalene. This is due to the high concentration of Naphthalene in the sample. No further actions were taken and the sample result was not adversely affected.

CLIENT: HBC Engineering
 Work Order: 0109109
 Project: Federal Express

QC SUMMARY REPORT

Method Blank

Sample ID: **MB-8869** Batch ID: **8869** Test Code: **TX1005** Units: **mg/L**
 Run ID: **GC12_010926A** Analysis Date: **9/26/01 11:05:18 AM** Prep Date: **9/26/01**

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
T/R Hydrocarbons: >C12-C28	ND	5								
T/R Hydrocarbons: >C28-C35	ND	5								
T/R Hydrocarbons: C6-C12	ND	5								
T/R Hydrocarbons: C6-C35	ND	5								

Sample ID: **MB-8876** Batch ID: **8876** Test Code: **SW8021B** Units: **µg/L**
 Run ID: **GC1_010927A** Analysis Date: **9/27/01 9:46:41 AM** Prep Date: **9/27/01**

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	2								
Ethylbenzene	ND	4								
Methyl tert-butyl ether	ND	4								
Toluene	ND	4								
Xylenes, Total	ND	4								

Sample ID: **MB-8881** Batch ID: **8881** Test Code: **SW8270C** Units: **µg/L**
 Run ID: **GCMS4_010927A** Analysis Date: **9/27/01 4:17:00 PM** Prep Date: **9/27/01**

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	0.2								
Acenaphthylene	ND	0.2								
Anthracene	ND	0.2								
Benzo[a]anthracene	ND	0.2								
Benzo[a]pyrene	ND	0.2								
Benzo[b]fluoranthene	ND	0.2								
Benzo[g,h,i]perylene	ND	0.2								
Benzo[k]fluoranthene	ND	0.2								
Chrysene	ND	0.2								
Dibenz[a,h]anthracene	ND	0.2								
Fluoranthene	ND	0.2								
Fluorene	ND	0.2								
Indeno[1,2,3-cd]pyrene	ND	0.2								
Naphthalene	ND	0.2								
Phenanthrene	ND	0.2								
Pyrene	ND	0.2								

Qualifiers: ND - Not Detected at the Method Detection Limit
 J - Analyte detected between MDL and RL
 S - Spike Recovery outside control limits

R - RPD outside control limits
 B - Analyte detected in the associated Method Blank

CLIENT: HBC Engineering
 Work Order: 0109109
 Project: Federal Express

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID: 0109105-05B MS Batch ID: 8869 Test Code: TX1005 Units: mg/L
 Run ID: GC12_010926A Analysis Date: 9/26/01 1:16:15 PM Prep Date: 9/26/01

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C6-C35	27.61	4.67	23.36	0	118	75	125			

Sample ID: 0109105-05B MSD Batch ID: 8869 Test Code: TX1005 Units: mg/L
 Run ID: GC12_010926A Analysis Date: 9/26/01 11:55:46 AM Prep Date: 9/26/01

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C6-C35	26.3	4.67	23.36	0	113	75	125	4.84	30	

Sample ID: 0109109-03A MS Batch ID: 8876 Test Code: SW8021B Units: µg/L
 Run ID: GC1_010927A Analysis Date: 9/27/01 11:12:54 AM Prep Date: 9/27/01

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	42.44	2	50	0	84.9	75	125			
Ethylbenzene	46.09	4	50	0	92.2	70	125			
Methyl tert-butyl ether	42.55	4	50	0	85.1	60	124			
Toluene	44.34	4	50	0	88.7	71	129			
Xylenes, Total	137.6	4	150	0	91.7	71	133			

Sample ID: 0109109-03A MSD Batch ID: 8876 Test Code: SW8021B Units: µg/L
 Run ID: GC1_010927A Analysis Date: 9/27/01 11:30:26 AM Prep Date: 9/27/01

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	45.68	2	50	0	91.4	75	125	7.35	20	
Ethylbenzene	49.1	4	50	0	98.2	70	125	6.32	20	
Methyl tert-butyl ether	45.93	4	50	0	91.9	60	124	7.64	20	
Toluene	47.65	4	50	0	95.3	71	129	7.2	20	
Xylenes, Total	146.6	4	150	0	97.7	71	133	6.34	20	

Qualifiers: ND - Not Detected at the Method Detection Limit
 J - Analyte detected between MDL and RL
 S - Spike Recovery outside control limits

R - RPD outside control limits
 B - Analyte detected in the associated Method Blank

CLIENT: HBC Engineering
 Work Order: 0109109
 Project: Federal Express

QC SUMMARY REPORT
 Laboratory Control Spike - generic

Sample ID: **LCS-8869** Batch ID: **8869** Test Code: **TX1005** Units: **mg/L**
 Run ID: **GC12_010926A** Analysis Date: **9/26/01 11:11:16 AM** Prep Date: **9/26/01**

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C6-C35	27.88	5	25	0	112	75	125			

Sample ID: **LCS-8876** Batch ID: **8876** Test Code: **SW8021B** Units: **µg/L**
 Run ID: **GC1_010927A** Analysis Date: **9/27/01 10:04:11 AM** Prep Date: **9/27/01**

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	44.18	2	50	0	88.4	75	125			
Ethylbenzene	49.46	4	50	0	98.9	70	125			
Methyl tert-butyl ether	45.98	4	50	0	92	60	124			
Toluene	49.06	4	50	0	98.1	71	129			
Xylenes, Total	147.3	4	150	0	98.2	71	133			

Sample ID: **LCS-8881** Batch ID: **8881** Test Code: **SW8270C** Units: **µg/L**
 Run ID: **GCMS4_010927A** Analysis Date: **9/27/01 4:53:00 PM** Prep Date: **9/27/01**

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	3.762	0.2	4	0	94.1	40	140			
Acenaphthylene	3.735	0.2	4	0	93.4	40	140			
Anthracene	3.177	0.2	4	0	79.4	40	140			
Benzo[a]anthracene	4.554	0.2	4	0	114	40	140			
Benzo[a]pyrene	5.135	0.2	4	0	128	40	140			
Benzo[b]fluoranthene	5.365	0.2	4	0	134	40	140			
Benzo[g,h,i]perylene	5.474	0.2	4	0	137	40	140			
Benzo[k]fluoranthene	5.151	0.2	4	0	129	40	140			
Chrysene	4.478	0.2	4	0	112	40	140			
Dibenz[a,h]anthracene	5.979	0.2	4	0	149	40	140			S
Fluoranthene	4.313	0.2	4	0	108	40	140			
Fluorene	3.933	0.2	4	0	98.3	40	140			
Indeno[1,2,3-cd]pyrene	5.676	0.2	4	0	142	40	140			S
Naphthalene	3.696	0.2	4	0	92.4	40	140			
Phenanthrene	3.6	0.2	4	0	90	40	140			
Pyrene	4.297	0.2	4	0	107	40	140			

Qualifiers: ND - Not Detected at the Method Detection Limit R - RPD outside control limits
 J - Analyte detected between MDL and RL B - Analyte detected in the associated Method Blank
 S - Spike Recovery outside control limits

CLIENT: HBC Engineering
Work Order: 0109109
Project: Federal Express

QC SUMMARY REPORT
 Laboratory Control Spike Duplicate

Sample ID: **LCSD-8881** Batch ID: **8881** Test Code: **SW8270C** Units: **µg/L**
 Run ID: **GCMS4_010927A** Analysis Date: **9/27/01 5:29:00 PM** Prep Date: **9/27/01**

Analyte	Result	RL	SPK value	SPK Ref	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	3.689	0.2	4	0	92.2	40	140	1.96	30	
Acenaphthylene	3.638	0.2	4	0	91	40	140	2.61	30	
Anthracene	3.03	0.2	4	0	75.8	40	140	4.74	30	
Benzo[a]anthracene	4.183	0.2	4	0	105	40	140	8.5	30	
Benzo[a]pyrene	4.762	0.2	4	0	119	40	140	7.53	30	
Benzo[b]fluoranthene	4.995	0.2	4	0	125	40	140	7.14	30	
Benzo[g,h,i]perylene	5.413	0.2	4	0	135	40	140	1.12	30	
Benzo[k]fluoranthene	4.908	0.2	4	0	123	40	140	4.84	30	
Chrysene	4.137	0.2	4	0	103	40	140	7.91	30	
Dibenz[a,h]anthracene	5.803	0.2	4	0	145	40	140	2.99	30	S
Fluoranthene	3.736	0.2	4	0	93.4	40	140	14.3	30	
Fluorene	3.721	0.2	4	0	93	40	140	5.55	30	
Indeno[1,2,3-cd]pyrene	5.514	0.2	4	0	138	40	140	2.9	30	
Naphthalene	3.501	0.2	4	0	87.5	40	140	5.42	30	
Phenanthrene	3.502	0.2	4	0	87.6	40	140	2.77	30	
Pyrene	4.176	0.2	4	0	104	40	140	2.84	30	

Qualifiers: ND - Not Detected at the Method Detection Limit
 J - Analyte detected between MDL and RL
 S - Spike Recovery outside control limits

R - RPD outside control limits
 B - Analyte detected in the associated Method Blank

CLIENT: HBC Engineering
 Work Order: 0109109
 Project: Federal Express
 Test No: SW8021B

QC SUMMARY REPORT
SURROGATE RECOVERIES
MTBE and BTEX in Water

Sample ID	PCE							
0109109-01A	89.7							
0109109-02A	90.5							
0109109-03A	88.5							
0109109-03A MS	98.4							
0109109-03A MSD	100							
0109109-04A	93.1							
0109109-05A	98.7							
0109109-06A	88.3							
0109109-07A	93.2							
0109109-08A	97.5							
0109109-09A	102							
0109109-10A	98.2							
0109114-01A	91.4							
0109119-01A	101							
0109119-02A	101							
LCS-8876	102							
MB-8876	100							

Acronym	Surrogate	QC Limits
PCE	= Tetrachloroethene	50-130

* Surrogate recovery outside acceptance limits

CLIENT: HBC Engineering
 Work Order: 0109109
 Project: Federal Express
 Test No: SW8270C

**QC SUMMARY REPORT
 SURROGATE RECOVERIES**

PAHs: GC/MS

Sample ID	NAPH1F	PHEN2F						
0109100-01A	65.3	80.7						
0109109-04C	247 *	58.1						
0109114-01D	50.3	45.8						
LCS-8881	52.1	54.8						
LCSD-8881	71.2	70.6						
MB-8881	44.5	64.7						

Acronym	Surrogate	QC Limits
NAPH1F	= Fluoronaphthalene	40-140
PHEN2F	= 2-Fluorobiphenyl	40-140

* Surrogate recovery outside acceptance limits

APPENDIX B

Texas Natural Resource Conservation Commission
PETROLEUM STORAGE TANK
PRODUCT RECOVERY REPORT

Submit this form on a semi-annual basis unless an alternative schedule is directed by the TNRCC. Continue to submit this form until product is no longer observed.

Complete All Applicable Blanks.

Date: 9/20/02

GENERAL INFORMATION

LPST ID No.: 111747

Facility ID No.: 0029044

Responsible Party: Federal Express Corporation

Facility Name: Federal Express Facility

Facility Physical Address: 5811 Technicenter Drive

Facility City: Austin

County: Travis

PHASE-SEPARATED PRODUCT RECOVERY

Reporting Period: From 8/6/01 to 6/17/02

Estimated volume (gallons) remaining: Less than 50 gallons

Estimated time to recover remaining product to 0.1 foot: No wells exhibiting PSH above 0.1 foot

Volume of fluids (product & water) recovered during past reporting period: 4.5 gallons

Volume of phase-separated product recovered during past reporting period: 4.5 gallons

Total volume of fluids recovered to date: 2,467.5 gallons

Total volume of product recovered to date: 2,467.5 gallons

Method of product recovery: continuously (automated) pulsed (automated) hand bailing

sorbents other, describe: Passive product skimming vessels.

Pumping rate (for automated systems only):

Phase-separated product recovery schedule: daily bi-weekly weekly other, describe:

Maximum phase-separated product thickness remaining: 0.01

Indicate all monitoring wells and other locations impacted with phase-separated product: MW-6

Are the product thicknesses diminishing over time? YES or NO (check one) If no, is a new release suspected? YES or NO describe:

Is product currently being recovered in any monitor wells, trenches, etc. in which the thickness is less than or equal to 0.1 foot? YES or NO

WASTE DISPOSITION

Indicate the status of all wastes generated: All recovered product properly disposed offsite by US Filter.

REPORT PREPARATION

Project Manager: Russell C. Ford PM Reg. No.: 1502 Expiration Date: 5/9/03

Company: HBC Engineering City: Austin State: TX
Zip: 78735

Phone No.: (512) 442-1122 Fax No.: (512) 442-1181

Signature:  Date: 9/25/02

Corrective Action Specialist Rep: Hilary Johns CAS No.: 825 Expiration Date: 2/25/04

Company: HBC Engineering City: Austin State: TX Zip: 78735

Phone No.: (512) 442-1122 Fax No.: (512) 442-1181

Signature:  Date: 9/25/02

Name of Responsible Party contact: Mr. Jamal Mansour

Telephone No.: (901) 434-8458 Fax No.: (901) 434-9235

Signature:  Date: 9/22/02

Attachments:

- Table of cumulative recovery by month
- Graph of cumulative product recovered versus time

FEDERAL EXPRESS CORPORATION5811 Technicenter Drive, Austin, TX
LPST # 111747**NAPL RECOVERY SUMMARY**

DATE	MW -5		MW -6	
	NAPL	Recovered	NAPL	Recovered
7/25/2001*	0.88	0	0.37	0
8/6/2001	1.08	1	0.39	0.25
8/20/2001	0.85	1	0.31	0.25
9/4/2001	0.16	0.5	0.25	0.25
9/18/2001	0.05	0.25	0.2	0.25
9/24/2001	0.05	0.10	0.15	0.10
10/8/2001	0.04	0.10	0.11	0.10
10/22/2001	0.06	0.10	0.09	0.05
11/6/2001	0.00	0.00	0.00	0.00
11/21/2001	0.00	0.00	0.00	0.00
12/5/2001	0.00	0.00	0.00	0.00
12/27/2001	0.00	0.00	0.08	0.05
1/9/2002	0.00	0.00	0.04	0.05
1/21/2002	0.00	0.00	0.02	0.00
2/5/2002	0.00	0.00	0.02	0.00
2/21/2002	0.00	0.00	0.02	0.00
3/5/2002	0.00	0.00	0.01	0.00
3/27/2002	0.00	0.00	0.06	0.05
4/10/2002	0.00	0.00	0.05	0.05
4/24/2002	0.00	0.00	0.02	0.00
5/8/2002	0.00	0.00	0.03	0.00
5/23/2002	0.00	0.00	0.01	0.00
6/3/2002	0.00	0.00	0.04	0.01
6/17/2002	0.00	0.00	0.01	0.00
TOTAL		3.05		1.46

Notes:

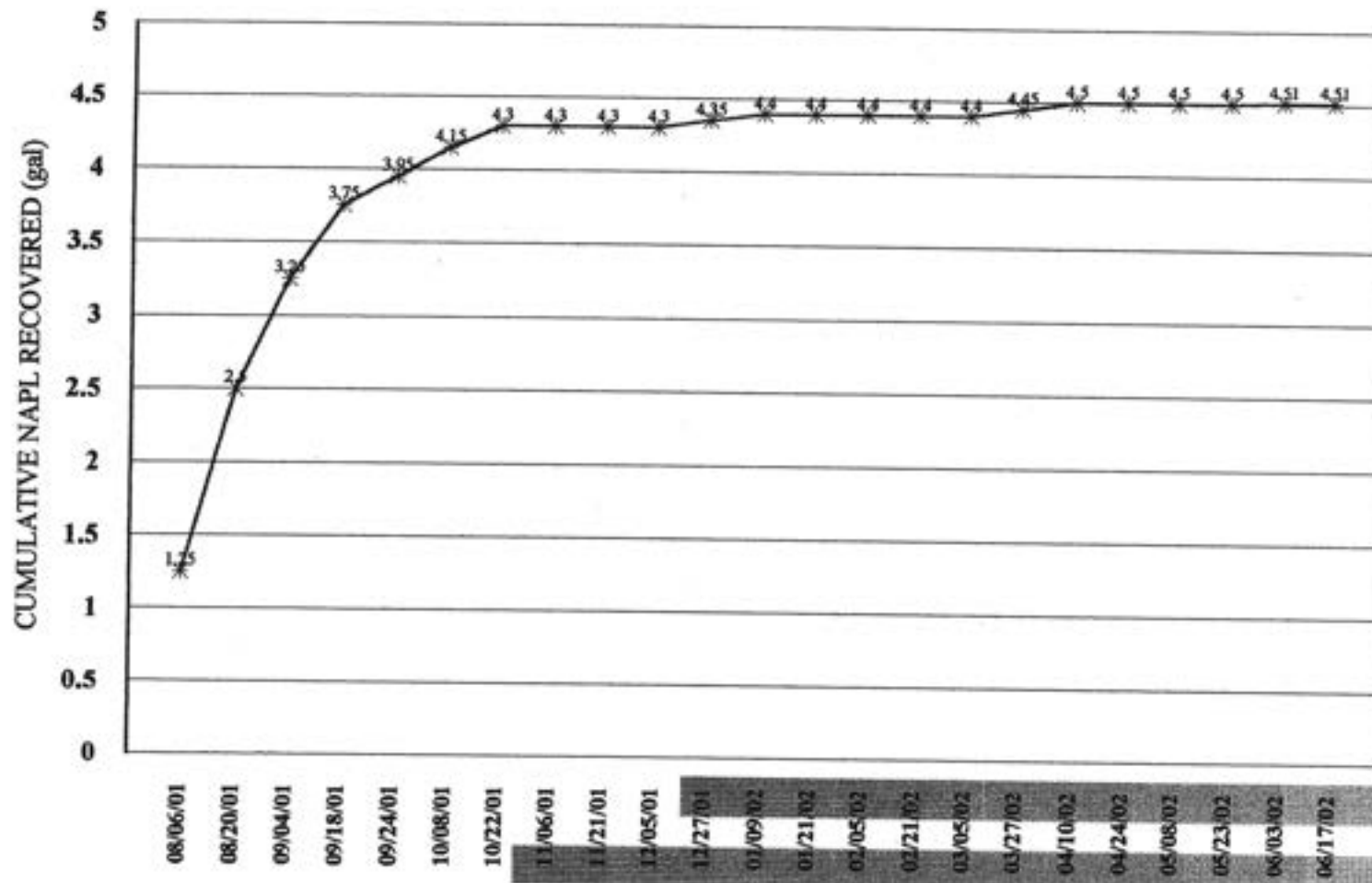
*- Product skimmers installed on 7/25/01 following measurements

NAPL-non-aqueous phase liquid thickness (feet)

Recovered-gallons of NAPL recovered

Total - Total gallons of NAPL recovered for each well

CUMULATIVE NAPL RECOVERY-MW-5 AND MW-6



Date

APPENDIX C

RECOVERY SERVICES MID-ATLANTIC INC.

Shipper U.S. EPA I.D. # (if applicable)

Document No. **513140**

SHIPPER INFORMATION

SHIPPER NAME *Federal Express*

TRUCK # *355* WCF #

ADDRESS CITY STATE ZIP

5811 Tech-Center Drive Austin Tx

PHONE # *512-442-1122* CONTACT PERSON *Saul Garza*

TRANSPORTER(S) INFORMATION

Vivendi Water Transport, Inc.
1657 Commerce Dr., Suite 10B
South Bend, IN 46628
PHONE (800) 355-2383

STATE REGISTRATIONS TX #86469 A85702

U.S. EPA I.D. # INR000022798

U.S. D.O.T. REGISTRATION # 828559

STATE REGISTRATIONS #

U.S. EPA I.D. #

U.S. D.O.T. REGISTRATION #

DESIGNATED FACILITY INFORMATION

- 2107 Quincy St. Dallas, Texas 75212 (800) 355-2380 EPA#: TXD987988359
- 14420 Union St. Little Rock, AR 72206 (800) 355-2382 EPA#: ARD983286485
- 415 Highway 182 Patterson, LA 70392 (800) 960-6377 EPA#: LA0000451062
- 2800 Wicks Street Kilgore, TX 75662 (800) 880-7769 EPA#: TXD982560005
- 320 Scoggins Road Springtown, TX 76082 (800) 252-6444 EPA#: TXD988036026
- 2200 East Pierce Luling, TX 78648 (800) 875-3260 EPA#: TXD982759748
- 2124 East Hwy 31 Corsicana, TX 75109 (903) 874-1188 EPA#: TXD988059291
- 1122 US Hwy 190 W. Port Allen, LA 70767 (800) 357-8362 EPA#: LAR000002030
- 4415 East Greenwood Baytown, TX 77520 (800) 355-2383 EPA#: TXD988089421
- 315 Pronto Street Odessa, TX (915) 550-2533 EPA#: TXR000015610
- 9617 Wallisville Road Houston, TX 77013 (713) 670-0200 EPA#: TXR000032870
- 4320 S. W. 29th Street Oklahoma City, OK 73119 (405) 681-0759 EPA#: OKR000017111

U.S. D.O.T. DESCRIPTION

CONTAINERS

TOTAL QUANTITY (GALLONS)

UNIT WT/VOL

- Non-hazardous Industrial Wastewater
- Used Filters/Absorbents, Non DOT Regulated
- Oily Water, Non-hazardous
- Recycled Fuel Oil, Non DOT Regulated
- Fuel Oil, Combustible liquid, 3, NA 1993, PGIII
- RQ, Other regulated substances, Liquid, n.o.s., 9, NA 3082, PGIII (ethylene glycol)
- Combustible Liquid, n.o.s., (petroleum oil), 3, NA 1993, PGIII
- Flammable Liquid, n.o.s., (petroleum product), 3, UN 1993, PGIII
- _____

X

350

EMERGENCY CONTACT: Chem-Trec 800-424-9300

SHIPPER'S CERTIFICATION: I hereby declare the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled, and are in all respects in proper condition for transport by highways according to applicable international and national governmental regulations. I certify that the material removed from the above premises is not hazardous waste as identified in 40 CFR Part 261, and does not contain PCB's as identified in 40 CFR Part 761.

PRINT/TYPER NAME *Saul Garza* SIGNATURE *[Signature]* DATE *9-17-02*

TRANSPORTER ACKNOWLEDGEMENT OF RECEIPT OF MATERIALS

PRINT/TYPER NAME *Saul Garza* SIGNATURE *[Signature]* DATE *9-17-02*

DESIGNATED FACILITY ACKNOWLEDGEMENT OF RECEIPT OF MATERIALS

PRINT/TYPER NAME SIGNATURE DATE

**TEXAS NATURAL RESOURCE CONSERVATION COMMISSION
PETROLEUM STORAGE TANK DIVISION
CORRESPONDENCE IDENTIFICATION SHEET**

111747

Date: May 29, 2001 LPST ID No.: 111747
 Site Name: Federal Express Corporation Facility ID No.: 0029044
 Site Address: 5811 Technicenter Drive,
Austin, Texas

This checklist **must** accompany all correspondence submitted to the RPR Section and should be affixed to the front of your submittal as a cover page. Please check the appropriate box for the type of correspondence which you have submitted to the RPR Section. Check all boxes that apply if you are submitting more than one type of correspondence. If you cannot find an appropriate category, please complete the "other" section.

PROPOSALS		
<input type="checkbox"/> Initial Abatement (1)	<input type="checkbox"/> Tank Removal (2)	<input type="checkbox"/> Excavation (3)
<input type="checkbox"/> Waste Treatment (4)	<input type="checkbox"/> Site Assessment (5)	<input type="checkbox"/> Aquifer Testing (6)
<input type="checkbox"/> VES/Sparge Testing (7)	<input type="checkbox"/> Qtrly. GW Monitoring (8)	<input type="checkbox"/> CAP Prep. (9)
<input type="checkbox"/> GW Extrac./Treatment (10)	<input type="checkbox"/> Soil Vapor Extrac. (11)	<input type="checkbox"/> Operation & Main. (12)
<input type="checkbox"/> Site Closure (13)	<input type="checkbox"/> Plan A Risk Ass. (14)	<input type="checkbox"/> Plan B Risk Ass. (15)
<input type="checkbox"/> Semi-annual GW Mon. (16)* <input checked="" type="checkbox"/>	<input type="checkbox"/> Annual GW Mon. (18)	<input checked="" type="checkbox"/> Product Recovery (19)
<input type="checkbox"/> Other proposal _____		

OMPR
Prop 8
19
✓

REPORTING FORMS	
<input type="checkbox"/> Assessment Report Form (TNRCC-0562)	<input type="checkbox"/> LPST Case Questionnaire
<input type="checkbox"/> Product Recovery Report Form (TNRCC-0016)	<input type="checkbox"/> Release Report Form (TNRCC-0621)
<input type="checkbox"/> Site Closure Request Form (TNRCC-0028)	<input type="checkbox"/> Monitoring Event Summary and Status Report (TNRCC-0013)
<input type="checkbox"/> Final Site Closure Report Form (TNRCC-0038)	<input type="checkbox"/> Priority 4 LPST Case Closure Request Form (TNRCC-0461)
<input type="checkbox"/> Other form _____	

REPORTS		
<input type="checkbox"/> Tank Closure/Removal	<input type="checkbox"/> Plan A Risk Assessment	<input type="checkbox"/> Annual Groundwater Monitoring
<input checked="" type="checkbox"/> O&M/Performance Mon.	<input type="checkbox"/> Plan B Risk Assessment	<input type="checkbox"/> CAP Installation/Modification
<input type="checkbox"/> Property Divestiture/Phase I ESA	<input type="checkbox"/> Corrective Action Plan (CAP)	<input type="checkbox"/> Aquifer/Pilot Test Results

MISCELLANEOUS		RECEIVED
<input type="checkbox"/> Off-site access assistance	<input type="checkbox"/> Deadline Extension Request	JUN 14 2001
<input type="checkbox"/> Tank tightness test results	<input type="checkbox"/> Request for State-Lead	TNRCC / PSI
<input type="checkbox"/> Request for LPST Waste Code	<input type="checkbox"/> Class V ReInjection Request	RPR
<input type="checkbox"/> Notice to Owner/Operator for CAS Services	<input type="checkbox"/> Petroleum-Substance Waste Manifest	
<input type="checkbox"/> Notice of Continuation of Groundwater Monitoring	<input type="checkbox"/> Underground Storage Tank Registration Form	
<input type="checkbox"/> Notice of Continuation of Operation and Maintenance	<input type="checkbox"/> Aboveground Storage Tank Registration Form	
<input type="checkbox"/> Other (anything that does not fit into one of the categories above) _____		

* The proposal for semi-annual monitoring and annual report (Proposal Activity 17) has been discontinued. For semi-annual monitoring, use Proposal Activity 16.

I attest that all work has been conducted in accordance with accepted industry standards/practices and adhered to TNRCC guidance and rules. I certify that I am aware that misrepresentation of any of the above claims is a violation of 30 TAC 33.4453(b)(1)(E) and that this violation may result in the disciplinary actions set forth in 30 TAC 334.453 and or 334.463 and 334.465.

If a proposal is attached for preapproval, has the proposed work, in part or in whole, already been performed or in progress? Yes No

If yes, what work? _____

HBC Engineering 00387 5/30/03
(Registered Corrective Action Specialist) (RCAS Reg. No.) (Expiration date)

Russell C. Ford 5/30/01
(Signature) (Date)

(512) 442-1122 (512) 442-1181
(Telephone #) (FAX #)

Russell C. Ford 01502 5/9/02
(Project Manager) (CAPM Reg. No.) (Expiration date)

Russell C. Ford 5/30/01
(Signature) (Date)

(512) 442-1122 (512) 442-1181
(Telephone #) (FAX #)

By signature below, I certify that documents checked above are included.

Mr. Jamal Mansour Federal Express Corporation
(Name of Responsible Party Contact) (Company)

Jamal m. mansour 5/29/01
(Signature) (Date)

(901) 434-8458 (901) 434-9235
(Telephone #) (FAX #)

RECEIVED
JUN 14 2001
TNRCC / PSI
RPR



May 28, 2001

Ms. Vicki Montgomery
 Texas Natural Resource Conservation Commission
 Petroleum Storage Tank Division
 Responsible Party Remediation Section
 P.O. Box 13087
 M.C. 137
 Austin, Texas 78711-3087

Re: Operation, Monitoring, and Performance Report Submittal
 Federal Express Facility
 5811 Technicenter Drive
 Austin, Texas
 LPST #111747

Dear Ms. Montgomery:

Please find attached the completed Operation, Monitoring, and Performance Report (OMPR) for the referenced site. The SVE system was installed during September 2000 and was activated on October 2, 2000. Following an initial seven-day start up and fine tuning period, the system generally operated as designed during the months of October, November, and December of 2000, and January of 2001. The system was inoperational from January 26 to February 26, 2001 due to a vacuum blower failure. The blower was replaced and the system was operated from February 26, 2001 until being shut down on May 9, 2001. The system was in operation a total of 188 days from October 2, 2000 through May 9, 2001.

System monitoring data indicated that the SVE system was developing a vacuum zone of influence within the subsurface, which encompassed the area of phase-separated hydrocarbons (PSH). Analytical data and field PID readings collected from the influent and effluent sample ports indicated that a hydrocarbon destruction rate of greater than 95% was being achieved. Based upon the influent data collected during the operation of the system, a total of about 413 gallons (2,580 pounds) of PSH was recovered during the period of system operation. Hydrocarbon recovery rates showed a steady decrease from the startup in October (~215 lb./day) through the November influent sampling (~47 lb./day). The hydrocarbon recovery rate began to decrease significantly beginning in December 2000 and was generally below about 5 lb./day throughout the remainder of the recovery period. The cumulative hydrocarbon recovery rate calculated for the system was 13.72 lb./day (~0.57 lb./hr).

Initial fluid level data collected in September 2000 (prior to the startup of the system) indicated measurable PSH in wells MW-1 through MW-6, with MW-6 containing the greatest thickness of 1.97 feet PSH. Subsequent fluid level data indicated a generally steady decrease in PSH thickness, with

Ms. Vicki Montgomery

May 28, 2001

Page 2

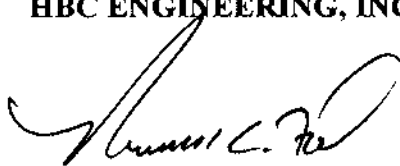
no measurable PSH found in wells MW-1, MW-2, MW-3, and MW-4 by April 2001. Due to the removal of PSH from recovery wells MW-1 and MW-2, these wells were shut down from the SVE extraction manifold. Well MW-1 was shut down in the beginning of January 2001 and MW-2 was shut down in the middle of March 2001. Following the shut downs, PSH thickness declined in both MW-6 and MW-5 and now exhibit PSH thickness of 0.14 feet and 0.39 feet, respectively. However, due to the continued decrease in the hydrocarbon recovery rates, it was determined to shut down MW-6 and terminate the SVE system operation on May 9, 2001.

Due to the presence of PSH in two of the site wells, HBC proposes to install passive PSH skimmers in these two wells to collect the residual PSH over the next year. Concurrent with this passive skimming effort, we are also proposing to conduct quarterly groundwater monitoring in order to document if dissolved hydrocarbon plume stability is occurring. Workplans and preapproval cost requests for both of these activities are included with the OMPR. If, after the one-year period of passive skimming and groundwater monitoring, the PSH thickness is reduced and plume stability is documented, a request for site closure will be submitted. If PSH thickness is not reduced or plume stability is not documented, then other remedial measures will be evaluated.

Should you have any questions or require any additional information, please do not hesitate to call me at (512) 442-1122.

Sincerely,

HBC ENGINEERING, INC.



Russell C. Ford, C.P.G.
Senior Hydrogeologist

WORKPLAN AND PREAPPROVAL REQUEST

LPST ID No.: 111747
Responsible Party: Federal Express Corporation
Property Owner: Federal Express Corporation
Facility Name: Federal Express Corporation
Facility Address: 5811 Technicenter Drive
Facility City: Austin
Facility ID No.: 0029044
TNRCC Region: 11
Case Priority: 4.1

Proposed Activity: 07-1 Quarterly Monitoring

Goal of Proposed Activity

The goal of the proposed activity is to monitor the existing groundwater monitor wells in order to evaluate plume stability at the site.

Description of Activities

Each of the existing groundwater monitor wells (MW-1 through MW-11) will be sampled and analyzed on a quarterly basis for a period of one year, beginning within the first month subsequent to TNRCC approval.

Groundwater samples will be collected from each of the existing onsite monitor wells not containing phase-separated hydrocarbons (PSH).

Sampling Procedures

The depth to phase-separated hydrocarbons and/or groundwater will be measured in each well. For each well not containing PSH, a minimum of three well volumes (or until dry) will be bailed.

One groundwater sample will be collected from each groundwater monitor well not containing PSH, upon completion of well purging. The groundwater samples will be collected and analyzed for TPH, BTEX, and MTBE, in accordance with EPA-approved methods. The sample containing the highest TPH concentration will also be analyzed for PAH.

Reporting of Activities

Upon the completion of the fourth quarterly sampling event, an Annual Groundwater Monitoring report will be completed and submitted to the TNRCC, in accordance with TNRCC guidelines.

Waste Management

Purged groundwater will be temporarily stored on-site in a DOT approved steel drum, pending the results of laboratory analysis. Subsequent to the fourth quarterly event, the purged groundwater will be properly disposed of in an authorized facility.

Preapproval Request Forms

A Groundwater Monitoring Cost Proposal form is attached for review.

Groundwater Monitoring Cost Proposal

LPST #

11747

Facility ID

29044

Responsible Party

Federal Express Corporation

Facility Name and Address

Federal Express, 5811 Leitchfield Exp, Austin, TX

Mark appropriate activity

- 07-1 Quarterly Monitoring (4 events + Annual Report)
- 07-2 Semi-Annual Monitoring (1 event w/MESSR)
- 07-3 Annual Monitoring (1 event w/Annual Report)
- 07-4 Semi-Annual Monitoring (2 events + Annual Report)

PRK

A Personnel

Task	# of Wells	Avg. Depth	Sub	Total
1st Event	11	37		\$840
2nd Event	11	37		\$820
3rd Event	11	37		\$820
4th Event	11	37		\$620
Subtotal Subcontracted Personnel				\$0
Subcontractor Markup %				\$0
Administrative Preparation				\$115
A. Total Personnel				\$3,435

D. Analytical

Type	# Samples	\$/Unit	Sub	Total
TPH/BTEX	4	\$0		\$0
TPH/BTEX/MTE	44	\$148		\$6,512
TDS	4	\$0		\$0
PAH (10)	4	\$0		\$0
PAH (270)	4	\$249		\$996
Chlorides	4	\$0		\$0
Iron	4	\$0		\$0
Nitrates	4	\$0		\$0
Phosphates	4	\$0		\$0
Sulfates	4	\$0		\$0
Shipping	4	\$5		\$20
Subtotal Subcontracted Analytical				\$3,519
Subcontractor Markup %	10%			\$352
D. Total Analytical				\$7,880

B Equipment

Units	\$/Unit	Sub	Total
Disposable Bales	44	\$8	\$352
Drummers	6	\$20	\$120
Drum	15	\$40	\$600
Subtotal Subcontracted Equipment			\$0
Subcontractor Markup %			\$0
B. Total Equipment			\$1,032

E. Travel

Type	# Samples	\$/Unit	Sub	Total
Equipment Truck	4	\$140		\$560
One way mileage to site				\$0
Mileage (2100 x 1)	4	\$0.31		\$1.24
Travel Time	4	\$40		\$160
Per Diem	4	\$0		\$0
Artisan	4	\$0		\$0
Subtotal Subcontracted Travel				\$0
Subcontractor Markup %				\$0
E. Total Travel				\$680

C Waste Management

Units	\$/Unit	Sub	Total
Residual Tank	6	\$75	\$450
15 275 L drums	825	\$0.40	\$330
Subtotal All Exp.			\$0
Subtotal Subcontracted Waste Mgmt			\$500
Subcontractor Markup %	10%		\$50
C. Total Waste Management			\$930

F. Total Groundwater Monitoring Proposed Cost A+B+C+D+E = \$13,746

Russell C. Ford (Signature) HBC Engineering, Inc. (Company) May 28, 2007 (Date)
 (512) 442-1122 (Phone #) (512) 442-1181 (FAX #) 1502 (CAPM #) May 9, 2007 (Exp. Date)
 Russell C. Ford (Signature) HBC Engineering, Inc. (Company) May 28, 2007 (Date)
 (512) 442-1122 (Phone #) (512) 442-1181 (FAX #) 387 (RCAS #) May 30, 2003 (Exp. Date)

I acknowledge that the DRCC may reimburse corrective action activity costs that are at or below the maximum reimbursable amount published in 36 TAC, Chapter 334, Subchapter M. The maximum reimbursable cost will be the amount approved for the activity unless the Executive Director determines that sound justification for a cost surplus exists. I understand that this certification is not intended to and will not constitute a guarantee, warranty, or endorsement of the accuracy or completeness of any information provided by the contractor. I further understand that the amount of the reimbursement for the above activity will be determined after all receipts are submitted and subjected to technical and reimbursable cost review. I certify that this DRCC form has not been altered.

Jamal M. Mansour (Signature) Federal Express Corporation (Company) (Name Printed) (Signature of Representative) (Name Printed) Federal Express Corporation (Company)
 (201) 434-8938 (Phone #) (201) 434-8735 (FAX #) S-29-01 (Date)

WORKPLAN AND PREAPPROVAL REQUEST

LPST ID No.: 111747
Responsible Party: Federal Express Corporation
Property Owner: Federal Express Corporation
Facility Name: Federal Express Corporation
Facility Address: 5811 Technicenter Drive
Facility City: Austin
Facility ID No.: 0029044
TNRCC Region: 11
Case Priority: 4.1

Proposed Activity: 02 Phase-Separated Hydrocarbon (PSH) Recovery

Goal of Proposed Activity

The goal of the proposed activity is to remove residual PSH observed in onsite monitoring wells MW-5 and MW-6.

Description of Activities

Passive skimmers will be properly installed in each monitoring well containing PSH. The skimmers will be removed from the wells on a bi-weekly basis in order to drain accumulated product. Removed PSH will be temporarily stored at the site in 55-gallon steel drums, pending offsite disposal in an authorized facility.

Passive skimmers will be re-installed as necessary in affected wells. Recovery will be conducted for a one-year period or until such a time that product is not observed, whichever occurs first.

Preapproval Request Forms

A PSH Recovery Preapproval Proposal form is attached for review.

Responsible Party: Federal Express Corporation Facility Name and Address: Federal Express, 8811 Techcenter Drive, Austin, TX

Mark appropriate activity: 01-1 Initial Abatement 02-1 Interim Corrective Action Plan 02-2 PSH Recovery 02-3 PSH Recovery

Print

Interim Corrective Action Plan \$0

Initial Abatement/Manual PSH Removal

A. Personnel

	Sub	Total
Report Preparation	—	—
Office Personnel	—	\$0
Field Personnel	—	\$1,690
Subtotal Subcontracted Personnel	\$0	—
Subcontractor Markup %	—	\$0
Subtotal Report Preparation	—	\$115
A. Total Personnel		\$1,805

B. Equipment

	# of Units	\$/Unit	Sub	Total
Trucks	—	\$0	—	\$0
Tractor Units	—	\$0	—	\$0
Tractors	—	\$0	—	\$0
Generator (G)	—	\$0	—	\$0
Generator (G)	2	\$950	—	\$1,900
Generators	—	\$0	—	\$0
Generators	—	\$0	—	\$0
Generators	—	\$0	—	\$0
Generators	—	\$0	—	\$0
Generators	—	\$0	—	\$0
Generators	—	\$0	—	\$0
Subtotal Subcontracted Equipment	—	\$1,700	—	—
Subcontractor Markup %	—	15%	—	\$255
B. Total Equipment				\$1,955

C. Waste Management

	# of Units	\$/Unit	Sub	Total
Water Truck	6	\$75	—	\$450
Disposal	500	\$0.40	—	\$200
Subtotal Subcontracted Waste Mgmt	—	\$470	—	—
Subcontractor Markup %	—	10%	—	\$47
C. Total Waste Management				\$667

D. Travel

	Units	\$/Unit	Sub	Total
Mileage (>100 mi)	—	\$0.31	—	\$0
One-way mileage to site	—	—	—	—
Travel Time	—	\$40	—	\$0
Per diem	—	\$0	—	\$0
Airfare	—	\$0	—	\$0
Equipment Truck	26	\$140	—	\$3,640
Subtotal Subcontracted Travel	—	\$0	—	—
Subcontractor Markup %	—	—	—	\$0
D. Total Travel				\$3,640

E. Other Expenses

	Units	\$/Unit	Sub	Total
—	—	\$0	—	\$0
—	—	\$0	—	\$0
—	—	\$0	—	\$0
Subtotal Subcontracted/Other	—	\$0	—	\$0
Subcontractor Markup %	—	—	—	\$0
E. Total Other Expenses				\$0

F. Total Initial Abatement/PSH Recovery Proposed Cost = A+B+C+D+E = \$8,087

Russell C. Ford (CAPM Name - Printed) / (Signature) HBC Engineering, Inc. (Company) May 28, 2003 (Date)
 (512) 442-1122 / (512) 442-1181 (Phone #) / (FAX #) 1502 (CAPM #) / May 9, 2002 (Exp. Date)
 Russell C. Ford (Signature of Representative) HBC Engineering, Inc. (Company) May 28, 2003 (Date)
 (512) 442-1122 / (512) 442-1181 (Phone #) / (FAX #) 381 (RCAS #) / May 30, 2003 (Exp. Date)

I hereby agree that the TNRC may reimburse corrective action costs that are at or below the maximum reimbursable amount published in 30 TAC, Chapter 334, Subchapter M. The maximum reimbursable cost will be the amount approved for the activity unless the Executive Director determines that sound substitution for a cost surplus exists. I understand that this certification is not required to and what a Registered Corrective Action Specialist, Corrective Action Project Manager, or Contractor may charge. I further understand that the amount of the reimbursement for the above activity will be determined after all receipts are submitted and subjected to technical and reimbursable cost review. I certify that this TNRC form has not been altered.

Federal Express Corporation (Name of Responsible Party) / (Signature of Representative) Jamal Nassour (Name Printed) Federal Express Corporation (Company) 5-29-01 (Date)
 (801) 434-8458 (Phone #) / (501) 434-9235 (FAX #)

**TEXAS NATURAL RESOURCE CONSERVATION COMMISSION
PRODUCT STORAGE TANK
OPERATION, MONITORING, AND PERFORMANCE REPORT (OMPR)**

GENERAL INFORMATION

LPST ID No.: 111747	Facility ID No.: 0029044	Report Date: 5/28/01
Responsible Party: Federal Express Corporation		
Facility Name: Federal Express Corporation		
Facility Address: 5811 Technicenter Drive		
Facility City: Austin		County: Travis

SECTION I: OPERATION AND MAINTENANCE DATA

Type of remediation system: (Check all that apply.)			
<input type="checkbox"/> air sparging	<input type="checkbox"/> bioventing	<input type="checkbox"/> groundwater extraction	<input checked="" type="checkbox"/> soil vapor extraction
<input type="checkbox"/> natural attenuation	<input type="checkbox"/> thermal desorption	<input type="checkbox"/> dual-phase extraction	<input type="checkbox"/> in-situ bioremediation
<input type="checkbox"/> other			
Dates this reporting period covers: from <u>October 2, 2000</u>		to <u>May 9, 2001</u>	
Total number of site visits this period (including PSH recovery):			
Date CAP was approved by TNRCC: <u>August 22, 2000</u>			
Dates initial system was installed: <u>September 28, 2000 – October 1, 2000</u>			
Date system initially activated: <u>October 2, 2000</u>			
If system has been enhanced with an additional remedial method, please explain modification and dates system modifications installed:			
Number of days system has been actively operated this period: <u>188 days</u>			
Please explain any non-operational periods greater than 24 hours: <u>System was inoperational from January 26, 2001 until February 26, 2001 due to a vacuum blower failure. Replacement blower had to be ordered and installed.</u>			
Were any major repairs performed this reporting period:		<input checked="" type="checkbox"/> yes	<input type="checkbox"/> no
If yes, please explain: <u>Vacuum blower replaced (see above).</u>			

SECTION I: OPERATION AND MAINTENANCE DATA (Cont'd)

Have the risk-based target cleanup goals been determined? <input checked="" type="checkbox"/> yes <input type="checkbox"/> no	
If no, please explain how and when they will be determined:	
If yes, please indicate the method used: <input checked="" type="checkbox"/> Plan A <input type="checkbox"/> Plan B <input type="checkbox"/> other	
Please provide the target soil concentrations (ppm) for: benzene <u>0.74</u> toluene <u>503</u> ethylbenzene <u>835</u> xylenes <u>968</u> <input type="checkbox"/> no soil contamination	
Please provide the target groundwater concentrations (ppm) for: benzene <u>0.0294</u> toluene <u>7.3</u> ethylbenzene <u>3.65</u> xylenes <u>73</u> <input type="checkbox"/> no groundwater contamination	
If any other chemicals of concern are present, please provide the chemical name and target concentration (ppm) in soil and/or groundwater as appropriate:	
Potential groundwater beneficial use category (I-IV): <u>II</u>	TDS (ppm): <u>478</u>

SECTION II: PHASE-SEPARATED HYDROCARBONS (PSH) RECOVERY DATA

Are phase-separated hydrocarbons (PSH) present: <input checked="" type="checkbox"/> yes <input type="checkbox"/> no If no, go to Section III.	
Number of wells affected by PSH: <u>2</u>	Number of wells with greater than 0.01 ft of PSH: <u>2</u>
Maximum PSH thickness (ft): <u>0.39</u>	Well with greatest PSH thickness (currently): <u>MW-5</u>
PSH recovery method(s) (excluding total fluid recovery): <input checked="" type="checkbox"/> continuous <input type="checkbox"/> manual If manual, number of site visits this reporting period:	
Total volume of PSH recovered this reporting period (gallons): <u>412.8 gallons</u>	
Total volume of PSH recovered to date (gallons): <u>2,463 gallons</u>	
Method of PSH management/disposal: <u>Thermal destruction</u>	

SECTION III: GROUNDWATER RECOVERY DATA

No Groundwater Recovery Performed-PSH Recovery Only

Are dissolved-phase hydrocarbons present: <input checked="" type="checkbox"/> yes <input type="checkbox"/> no If no, and groundwater recovery is not being performed, go to Section IV.	
Number of wells affected by dissolved-phase: <u>7</u>	Well with the max. benzene concentration: <u>MW-11</u>
Primary purpose(s) of groundwater recovery: (Check all that apply.) <input type="checkbox"/> groundwater treatment <input type="checkbox"/> plume containment <input type="checkbox"/> groundwater depression <input type="checkbox"/> other, please specify	
Method(s) of groundwater recovery: (Check all that apply.) <input type="checkbox"/> vacuum enhanced pumping <input type="checkbox"/> other, please specify <input type="checkbox"/> direct dumping	
Is groundwater recovery: <input type="checkbox"/> continuous <input type="checkbox"/> pulsed <input type="checkbox"/> other, please specify	
Number of groundwater recovery wells:	

SECTION IV: VAPOR RECOVERY DATA

Is vapor recovery/treatment being performed? <input checked="" type="checkbox"/> yes <input type="checkbox"/> no		If no, go to Section V.
Method(s) of vapor recovery: <input type="checkbox"/> soil vapor extraction <input type="checkbox"/> dual-phase vacuum extraction <input checked="" type="checkbox"/> vacuum enhanced vapor extraction <input type="checkbox"/> other, please specify		
Number of vapor recovery points: <u>3</u>		Extraction point with max. vapor concentration:
Design vapor flowrate (ft ³ /min): <u>80-100</u>		Observed vapor flowrate (ft ³ /min): <u>100</u>
If the design vapor flowrate is different from the observed flowrate, please explain:		
Is in-situ air sparging in use? <input type="checkbox"/> yes <input checked="" type="checkbox"/> no		
If yes, how many sparging points are in use?		
Design air injection flowrate (ft ³ /min):		Observed air injection flowrate (ft ³ /min):
If the designed air injection rate at any well is different from the observed injection rate, please explain:		
Design air injection pressure (psi):		Observed air injection pressure (psi):
If the design air injection rate at any well is different from the observed pressure at that well, please explain:		
Max. influent vapor concentrations this reporting period (ppm): benzene <u>15.13</u> BTEX <u>56.31</u> TPH <u>7.712</u> other(s), please specify		
Is vapor treatment required? <input checked="" type="checkbox"/> yes <input type="checkbox"/> no		If no, please go to Section V.
If yes, please check the appropriate vapor treatment equipment in use: <input type="checkbox"/> carbon system <input type="checkbox"/> catalytic oxidizer <input checked="" type="checkbox"/> thermal incinerator <input type="checkbox"/> biofilter <input type="checkbox"/> other, please explain:		
Please indicate any operating temperature and/or pressure ranges of the above equipment, if applicable:		
• Optimal operating temperature range <u>800°-1000° F</u>		Observed temperature range <u>850°-900° F</u>
• Optimal operating pressure range		Observed pressure range
If the optimal operating parameter(s) is/are different from the observed, please explain:		
Maximum effluent vapor concentrations this reporting period (ppm): benzene		BTEX
TPH <u>24</u> other(s), please specify		
Are any permits required for discharge? <input checked="" type="checkbox"/> yes <input type="checkbox"/> no		If yes, complete the following:
Type(s) of Permit(s):		Date(s) issued:
Permitting Authority(s):		
Permit(s) expiration date(s):		
Does vapor treatment need to be continued? <input type="checkbox"/> yes <input checked="" type="checkbox"/> no		
If yes, how much longer is it anticipated that vapor treatment will be necessary:		

SECTION IV: SOIL VAPOR RECOVERY DATA (Cont'd)

If the vapor treatment unit is no longer in use, has it been decommissioned?	<input checked="" type="checkbox"/> yes	<input type="checkbox"/> no
If yes, please provide: The date the unit was last used <u>5/9/01</u>		
The date the unit was decommissioned <u>5/28/01</u>		
If the vapor treatment unit is no longer in use, but has not been decommissioned, are there any plans to reactivate the unit in the near future?	<input type="checkbox"/> yes	<input type="checkbox"/> no
If yes, please explain:		

SECTION V: PERFORMANCE EVALUATION DATA

Estimated time remaining to achieve the target cleanup goals (months/years):
Total estimated mass of hydrocarbons present at time of system startup (lb) by phase ¹ : <input checked="" type="checkbox"/> PSH <u>?</u> <input type="checkbox"/> vapor-phase <input type="checkbox"/> dissolved-phase
Total estimated mass of hydrocarbons currently remaining (lb) by phase: <input checked="" type="checkbox"/> PSH <u>~6,875</u> <input type="checkbox"/> vapor-phase <input type="checkbox"/> dissolved-phase
What were the projected hydrocarbon removal rates (lb/hr) at time of system startup ¹ : <input checked="" type="checkbox"/> PSH <u>0.304</u> <input type="checkbox"/> benzene <input type="checkbox"/> BTEX <input type="checkbox"/> other(s), please specify
What are the current observed hydrocarbon removal rates (lb/hr): <input checked="" type="checkbox"/> PSH <u>0.57</u> <input type="checkbox"/> benzene <input type="checkbox"/> BTEX <input type="checkbox"/> other(s), please specify
Total mass of hydrocarbons recovered this reporting period (lb) by phase: <input checked="" type="checkbox"/> PSH <u>2,580</u> <input type="checkbox"/> vapor-phase <input type="checkbox"/> dissolved-phase
Total mass of hydrocarbons recovered to date (lb) by phase: <input checked="" type="checkbox"/> PSH <u>15,380</u> <input type="checkbox"/> vapor-phase <input type="checkbox"/> dissolved-phase
Are the projected hydrocarbon recovery rates being met? <input checked="" type="checkbox"/> yes <input type="checkbox"/> no If no, please explain why not and what will be done to correct the problem:
The average cost per pound of hydrocarbons removed by the system (\$/lb) ² : <u>~\$23/lb</u>

¹ The TNRCC is aware that this information may not be available for all existing systems. Therefore, this information should be provided if possible for existing systems but is not mandatory unless otherwise directed by this Office.

² Please note that this value should be obtained by dividing the sum of the system installation cost, and the total operation and maintenance cost since system activation by the total pounds by hydrocarbons removed to date. The graph of the average cost per unit pound of hydrocarbons removed should also be attached to this form.

Note: Wherever necessary, assume the specific gravity of gasoline to be 0.75 and the weight of 1 gallon of gasoline to be 6.25 lbs. If values other than these are used, please specify what values are being used and reference the source used.

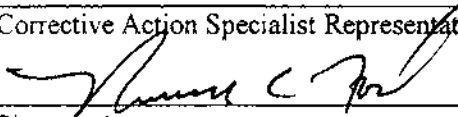
Were the plans and specifications for the remediation system for this site properly sealed by a professional Engineer licensed by the Texas State Board of Registration for Professional Engineers?	<input checked="" type="checkbox"/> yes <input type="checkbox"/> no
Was the installation and/or construction of the remediation system for this site performed under the supervision of a professional engineer licensed by the Texas State Board of Registration for Professional Engineers? <input checked="" type="checkbox"/> yes <input type="checkbox"/> no	

Based upon available site data and TNRCC rules and guidance documents, I certify that to the best of my knowledge, the information presented in this form is accurate and that the work was conducted in accordance with accepted industry standards and practices. I also certify that the remedial system is achieving its intended purpose. I certify that I am aware that misrepresentation of the above claims constitutes a violation of 30 TAC 334.453(b)(1)(E) and that this violation may result in disciplinary actions set forth in 30 TAC 334.453 and/or 334.463 and 334.465.

(Company) HBC Engineering, Inc.

00387
(RCAS #)

Russell C. Ford
(Corrective Action Specialist Representative)


(Signature)

5/30/01
(Date)

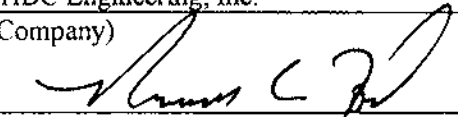
(512) 442-1122
(Telephone #)

(512) 442-1181
(Fax #)

Russell C. Ford
(Registered Corrective Action Project Manager)

01502
(CAPM #)

HBC Engineering, Inc.
(Company)


(Signature)

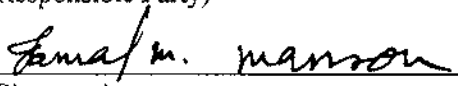
5/30/01
(Date)

(512) 442-1122
(Telephone #)

(512) 442-1181
(Fax #)

By my signature below, I certify that I have reviewed this report for completeness.

Mr. Jamal M. Mansour
(Responsible Party)


(Signature)

(901) 434-8458
(Telephone #)

Federal Express Corporation
(Company)

5-29-01
(Date)

(901) 434-9235
(Fax #)

(If the remediation system was evaluated this reporting period by a Professional Engineer, please complete the following):

(Professional Engineer, P.E.)

(Signature)

(Telephone #)

(P.E. Registration #)

(Date)

(Fax #)

ATTACHMENTS

The following information must be submitted with this document. All tables and graphs should contain up to date information:

- Site diagram with well locations, system components, and groundwater gradient ✓
- Cumulative graph of hydrocarbon removal rate (lb/hr) for PSH, vapor phase, dissolved-phase, and total ✓
- Cumulative graph of mass (lbs) of hydrocarbons recovered for PSH, vapor phase, dissolved-phase, and total ✓
- ① Cumulative graph of cost per mass of hydrocarbons removed
- ② Cumulative table of estimated mass of hydrocarbons remaining
- Cumulative table of groundwater elevations from each monitor well ✓
- Cumulative table of groundwater analytical data/PSH thickness from each monitor well ✓
- ③ Graph of system operational periods
- ④ Graph of performance target goals
- Graph of cumulative decline rate for each well ✓

The following information is technology specific and should be submitted when applicable. All tables and graphs should contain up to date information.

PSH Recovery

- * Cumulative table of recovery rate from each recovery well
- * Cumulative table of total PSH removed

Groundwater Extraction

- * Cumulative table of flow rate from each recovery well
- * Cumulative table of dissolved-phase influent concentrations from each recovery well
- * Cumulative table of dissolved-phase effluent concentrations
- * Cumulative table of total fluid recovered to date by month or recovery event
- * Site diagram with calculated area of influence
- * Cumulative table of groundwater discharged by month or discharge event
- * Table of depth to groundwater under static conditions, depth to groundwater under pumping conditions, and depth to pump intake for each recovery well

Groundwater Injection

- * Cumulative table of injection rate for each injection well
- * Cumulative table of dissolved-phase concentrations for each injection well
- * Cumulative table of total fluid injected

Soil Vapor Extraction (SVE)/Bioventing

- * Cumulative table of flow rate from each vapor extraction well - 1.1 for each well
- * Cumulative table of vapor influent concentrations from each extraction well - not for each well, only cumulative
- * Cumulative table of vapor effluent concentrations ✓
- * Site diagram with calculated area of influence ✓
- * Cumulative table of vapor discharged ✓
- * Cumulative table of vacuum pressure at each well ✓
- ⑤ Cumulative table of pore volume exchange rate (show sample calculation)

Sparging/Biosparging

- * Cumulative table of injection rate in each sparging well
- * Cumulative table of sparge pressure at each sparging well
- * Cumulative table of dissolved oxygen concentration in each sparging well
- * Site diagram with calculated area of influence

Ex-Situ Biodegradation

- * Cumulative table of sample analysis results with sample locations and dates

Please note that tables and graphs may be combined as long as the information requested above is presented in a clear and concise manner.

FEDERAL EXPRESS CORPORATION

5811 Technicenter Drive, Austin, TX
 LPST # 111747

SVE SYSTEM PERFORMANCE MONITORING

DATE	10/2/00	10/3/00	10/4/00	10/5/00	10/6/00	10/7/00	10/8/00	10/12/00	10/20/00	10/27/00	11/6/00	11/10/00
INFLUENT												
Flow Rate (cfm)	100	100	100	100	100	100	100	100	100	100	100	100
Vacuum (inches H ₂ O)	20	13	13	14	14	14	14	18	18	15	15	15
PID (ppm)	300	283	1478	1549	574	334	368	824	643	501	354	375
EFFLUENT												
PID (ppm)	20	24	23	27	8	9	7	8	7	7	7	8
VACUUM READINGS (inches H₂O)												
MW-1	20	13	13	14	14	14	14	18	18	15	15	15
MW-2	20	13	13	14	14	14	14	18	18	15	15	15
MW-3	3	2.5	2.5	2.2	2.2	2.2	2.2	2.3	2.5	2.2	1.75	1.79
MW-4	0.05	0.04	0.04	0.05	0.04	0.04	0.05	0.05	0.04	0.03	0.04	0.03
MW-5	0.25	0.21	0.2	0.15	0.18	0.17	0.17	0.26	0.25	0.23	0.22	0.23
MW-6	20	13	13	14	14	14	14	18	18	15	15	15
MW-7	0.15	0.12	0.13	0.12	0.16	0.15	0.15	0.19	0.16	0.12	0.13	0.12

FEDERAL EXPRESS CORPORATION

5811 Technicenter Drive, Austin, TX
 LPST # 111747

SVE SYSTEM PERFORMANCE MONITORING

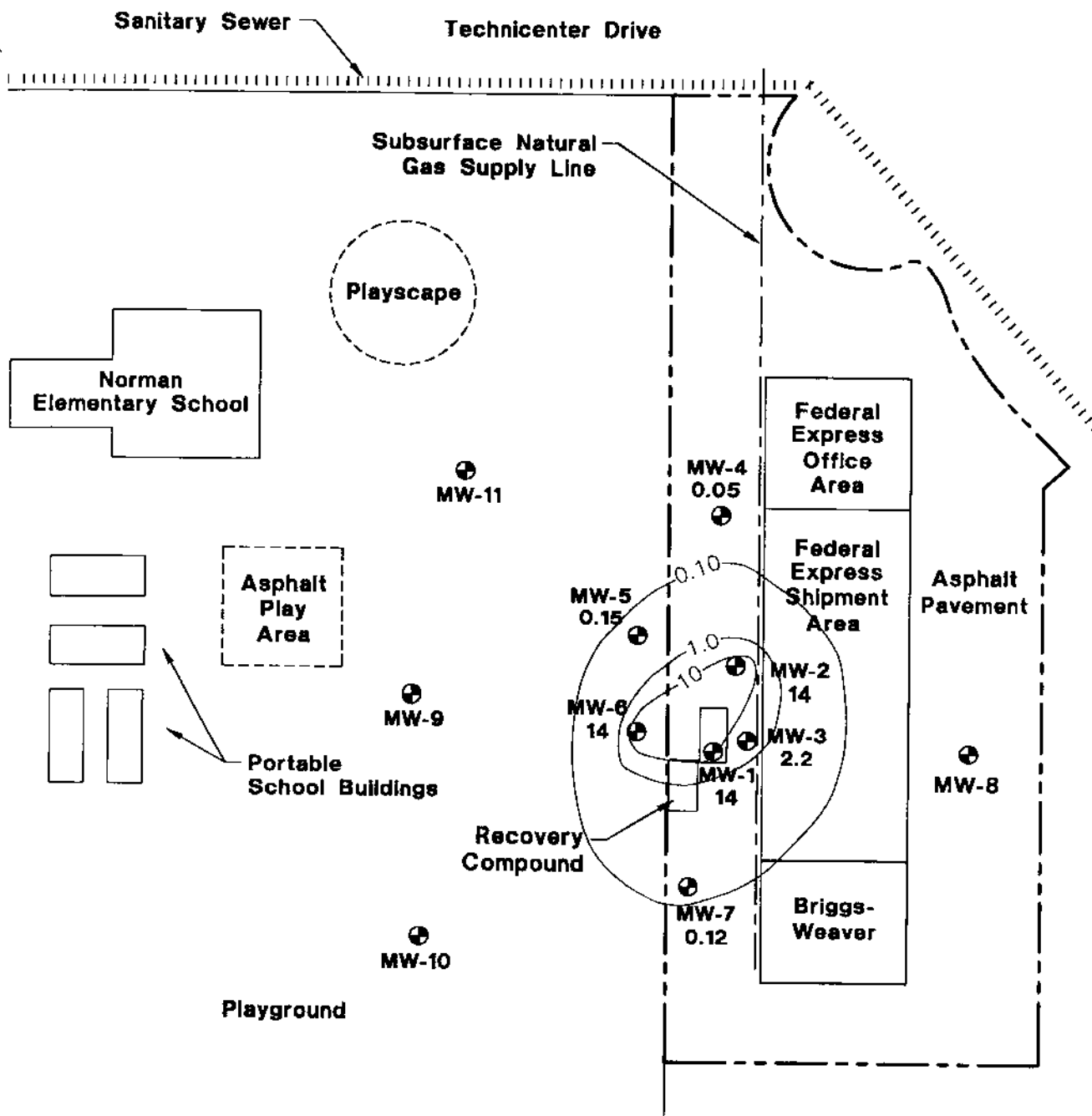
DATE	11/15/00	11/20/00	11/29/00	12/8/00	12/14/00	12/21/00	12/29/00	1/4/01	1/15/01	1/18/01	1/26/01	2/28/01
INFLUENT												
Flow Rate (cfm)	100	100	100	100	100	100	100	100	100	100	100	100
Vacuum (inches H ₂ O)	18	18	18	18	18	18	19	18	18	19	20	45
PID (ppm)	250	245	250	170	100	15	12	36	24	21	20	35
EFFLUENT												
PID (ppm)	5	4	3	4	4	2	2	2	1	1	1	1
VACUUM READINGS (inches H₂O)												
MW-1	18	18	18	18	18	18	18	0.19	0.18	0.19	0.12	0.3
MW-2	18	18	18	18	18	18	19	18	18	19	20	45
MW-3	1.74	1.73	1.79	1.8	1.75	1.75	1.75	0.15	0.13	0.1	0.1	0.15
MW-4	0.05	0.04	0.05	0.05	0.04	0.04	0.03	0.04	0.03	0.04	0.04	0.05
MW-5	0.2	0.2	0.21	0.19	0.12	0.25	0.21	0.17	0.2	0.23	0.19	0.28
MW-6	18	18	18	17	18	18	19	17	18	19	19	44
MW-7	0.11	0.1	0.11	0.11	0.12	0.11	0.09	0.09	0.08	0.11	0.11	0.12

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 LPST # 111747

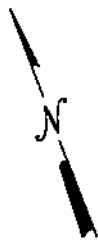
SVE SYSTEM PERFORMANCE MONITORING

DATE	3/8/01	3/19/01	3/27/01	4/4/01	4/11/01	4/18/01	4/25/01	5/2/01	5/9/01			
INFLUENT												
Flow Rate (cfm)	100	100	100	100	100	100	100	100	100			
Vacuum (in H ₂ O)	45	50	50	50	50	50	50	50	50			
PID (ppm)	40	29	50	49	21	15	5	4	5			
EFFLUENT												
PID (ppm)	1	1	0	0	0	0	0	0	0			
VACUUM READINGS (inches H₂O)												
MW-1	0.3	0.29	0.31	0.32	0.36	0.35	0.34	0.31	0.29			
MW-2	45	0.2	0.18	0.2	0.19	0.2	0.2	0.21	0.19			
MW-3	0.15	0.1	0.1	0.05	0.05	0.05	0.05	0.05	0.05			
MW-4	0.05	0.05	0.05	0.05	0.05	0.05	0.07	0.05	0.05			
MW-5	0.3	0.31	0.3	0.34	0.35	0.33	0.34	0.35	0.33			
MW-6	43	44	45	49	47	49	48	45	49			
MW-7	0.11	0.11	0.11	0.12	0.11	0.11	0.11	0.11	0.12			

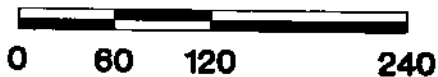


LEGEND

- ⊕ Monitoring Well Locations
- 1.9 Well Vacuum (inches of water)
- 1.0— Vacuum Contour



SCALE-FEET



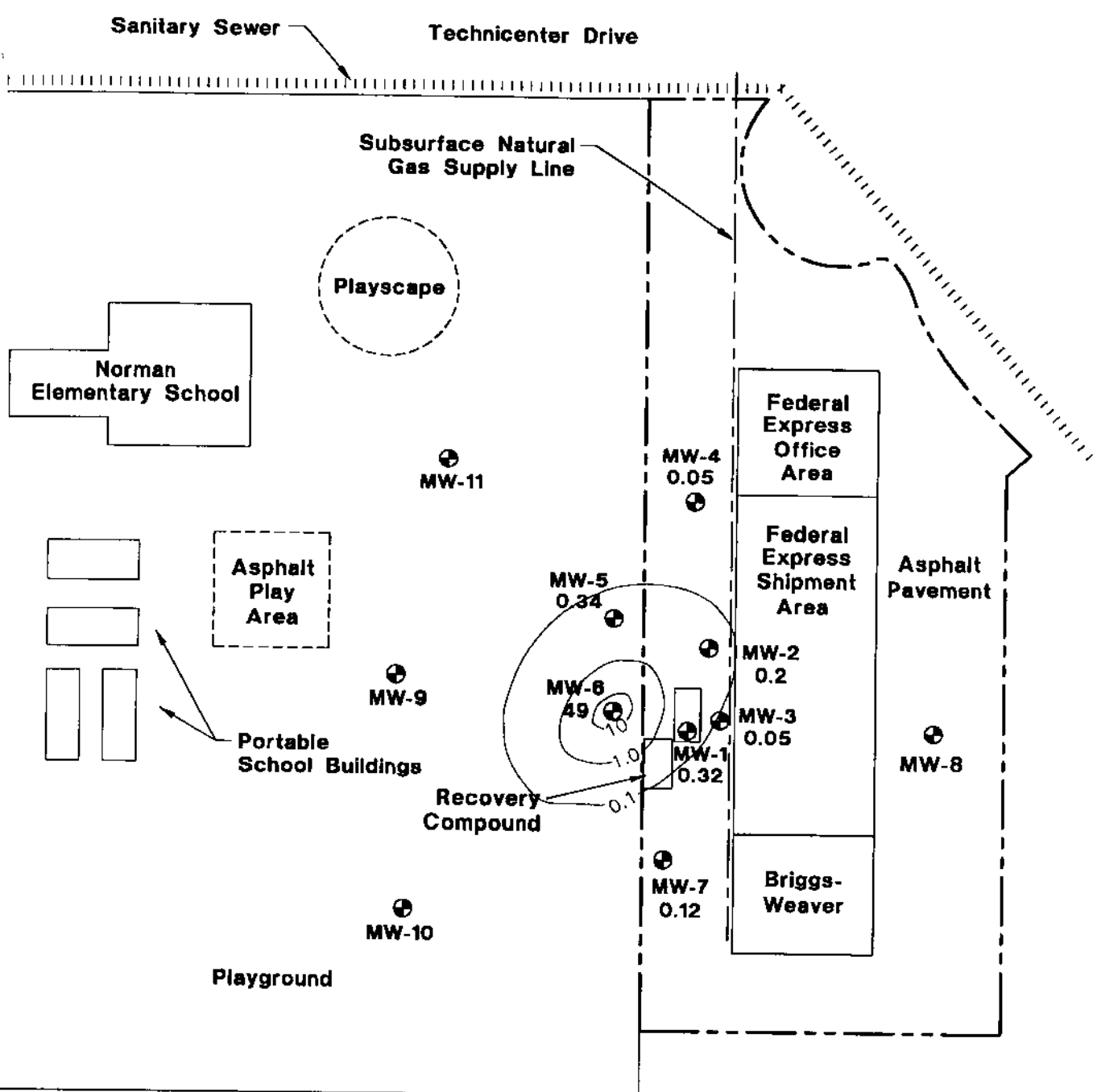
Vacuum Gradient Map

(10/5/00)



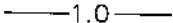
Federal Express
Austin, Texas

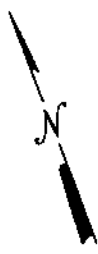
HBC Project No. 96007145

HBC ENGINEERING, INC.

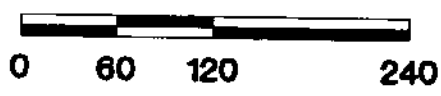


LEGEND

-  Monitoring Well Locations
-  0.32 Well Vacuum (inches of water)
-  1.0 Vacuum Contour



SCALE-FEET



Vacuum Gradient Map

(4/4/01)

Federal Express
Austin, Texas

HBC Project No. 96007145

FEDERAL EXPRESS CORPORATION5811 Techncenter Drive, Austin, TX
LPST # 111747**INFLUENT VAPOR
ANALYTICAL DATA SUMMARY**

DATE	TPH (C1-C10)	TPH (C4-C10)	Benzene	Toluene	Ethyl Benzene	Xylenes
10/2/00	7712	7712	13.55	15.45	ND	19.44
10/3/00	3743	3743	15.13	16.55	ND	16.01
10/4/00	3151	3151	13.19	14.16	ND	15.64
10/5/00	2569	2569	14.70	21.00	ND	20.61
10/6/00	2300	2300	12.49	19.83	ND	20.43
10/7/00	2010	2010	9.96	15.60	ND	15.80
10/8/00	2250	2250	10.20	18.50	ND	18.70
11/10/00	250	250	ND	ND	ND	ND
12/14/00	20	20	ND	ND	ND	ND
1/15/01	ND	ND	ND	ND	ND	ND
3/8/01	38	38	ND	ND	ND	ND
4/4/01	89	89	ND	ND	ND	ND

Note: All concentrations in parts per million by volume-ppmV

FEDERAL EXPRESS CORPORATION

5811 Technicenter Drive, Austin, TX
 LPST # 111747

HYDROCARBON RECOVERY SUMMARY

DATE	Cum. Days Recovery	TPH (ppmV)	TPH*** (mg/m ³)	Gallons*** Recovered	Pounds**** Recovered	Recovery Rate (lb/day)	Cum. Pounds Recovered	Cum. Recovery Rate (lb/day)	Cum. Recovery Rate (lb/hr)
10/2/00	0	7712	32,236.0	0.0	0.0				
10/3/00	1	3743	15,646.0	34.4	215.0	215.0	215.0	215.00	8.96
10/4/00	2	3151	13,171.0	20.7	129.4	129.4	344.4	172.19	7.17
10/5/00	3	2569	10,738.0	17.2	107.5	107.5	451.9	150.63	6.28
10/6/00	4	2300	9,614.0	14.6	91.3	91.3	543.1	135.78	5.66
10/7/00	5	2010	8,402.0	12.9	80.6	80.6	623.8	124.75	5.20
10/8/00	6	2250	9,405.0	12.8	80.0	80.0	703.8	117.29	4.89
11/10/00	39	250	1,045.0	247.5	1546.9	46.9	2250.6	57.71	2.40
12/14/00	73	20	83.6	27.5	171.9	5.1	2422.5	33.18	1.38
1/15/01	105	5*	21.0	2.4	15.0	0.5	2437.5	23.21	0.97
3/8/01	126	38	159.0	2.7	16.9	0.8	2454.4	19.48	0.81
4/4/01	153	89	372.0	10.3	64.4	2.4	2518.8	16.46	0.69
5/9/01	188	5**	21.0	9.8	61.3	1.8	2580.0	13.72	0.57

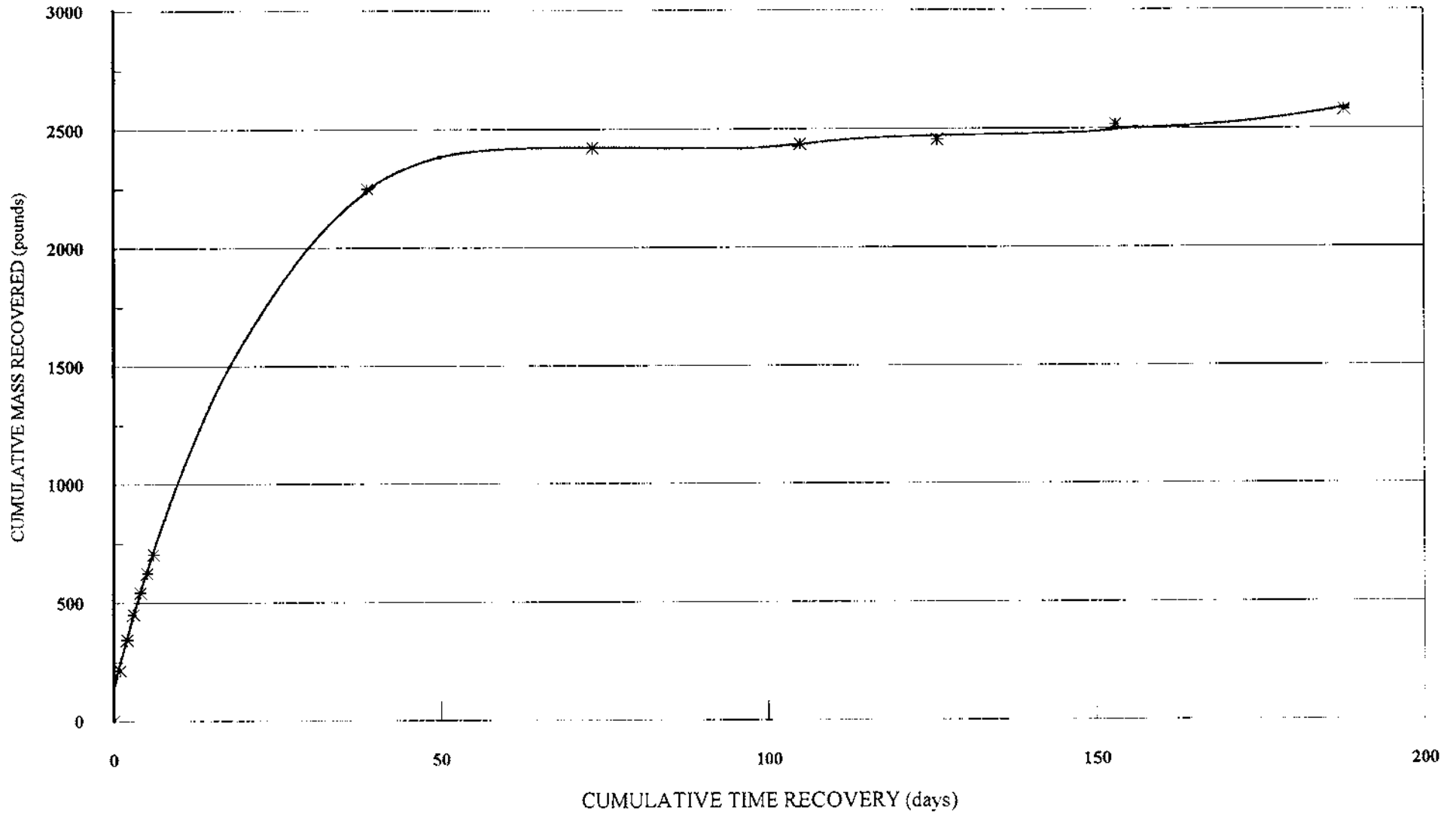
*-TPH value non detect. Assume 1/2 of the detection value of 10 ppmV

** -No analytical sample collected. Value is from field instrument (PID)

***-See attached calculation sheets

****-Assumes 1 gallon of gasoline weighs 6.25 pounds

CUMULATIVE HYDROCARBON RECOVERY-PSH



Federal Express Corporation, 5811 Technicenter Drive, Austin, TX

FEDERAL EXPRESS CORPORATION

5811 Technicenter Drive, Austin, TX
 LPST # 111747

FLUID GAUGING DATA SUMMARY

DATE	MW-1			MW-2			MW-3			MW-4		
	DTW	NAPL	GWE	DTW	NAPL	GWE	DTW	NAPL	GWE	DTW	NAPL	GWE
10/31/96	31.64	0.83	528.08	35.08	4.05	528.18	32.79	0.00	528.16	NA	NA	NA
11/1/96	32.00	1.21	528.01	35.44	4.44	528.11	NA	NA	NA	NA	NA	NA
11/15/96	31.04	0.31	528.29	34.02	2.86	528.35	32.66	0.00	528.29	NA	NA	NA
2/18/97	31.78	1.61	528.53	33.22	2.02	528.52	32.45	0.00	528.50	31.70	0.00	528.49
4/7/97	NA	NA	NA	NA	NA	NA	32.12	0.00	528.83	31.38	0.00	528.81
7/16/98	28.82	1.48	531.39	30.29	1.57	531.11	30.13	0.81	531.43	29.39	0.44	531.13
11/19/98	28.71	1.20	531.29	30.16	1.28	531.02	30.02	0.63	531.40	29.25	0.21	531.10
3/23/00	32.83	1.21	527.18	33.59	0.53	527.03	34.11	0.05	526.88	33.72	0.58	526.91
9/27/00*	32.87	1.17	527.11	33.69	0.53	526.93	34.14	0.02	526.83	34.00	0.79	526.78
10/5/00	32.28	0.59	527.26	33.41	0.27	527.01	34.11	0.02	526.86	33.97	0.81	526.83
11/29/00	28.91	0.00	530.19	31.01	0.77	529.79	31.23	0.00	529.72	30.49	0.00	529.70
12/29/00	28.30	0.00	530.80	30.25	0.70	530.50	30.56	0.00	530.39	29.83	0.00	530.36
1/29/01*	27.64	0.00	531.46	29.18	0.24	531.22	29.86	0.00	531.09	29.00	0.00	531.19
3/7/01	28.43	0.00	530.67	29.97	0.26	530.45	30.64	0.00	530.31	29.82	0.00	530.37
4/4/01	28.18	0.00	530.92	29.54	0.00	530.68	30.42	0.00	530.53	29.60	0.00	530.59
4/25/01	28.61	0.00	530.49	29.99	0.00	530.23	30.83	0.00	530.12	30.08	0.00	530.11
5/18/01*	28.86	0.00	530.24	30.28	0.00	529.94	31.09	0.00	529.86	30.39	0.00	529.80

Notes:

- 1) All measurements in feet
- 2) DTW-depth to water below top of surface casing
- 3) NAPL-non-aqueous phase liquid thickness
- 4) GWE-groundwater elevation (corrected for NAPL using 0.75 specific gravity) in feet above mean sea level
- 5) NA-no reading collected
- *-System not operating

FEDERAL EXPRESS CORPORATION

5811 Techncenter Drive, Austin, TX
 LPST # 111747

FLUID GAUGING DATA SUMMARY

DATE	MW-5			MW-6			MW-7			MW-8		
	DTW	NAPL	GWE	DTW	NAPL	GWE	DTW	NAPL	GWE	DTW	NAPL	GWE
10/31/96	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
11/1/96	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
11/15/96	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2/18/97	34.74	0.00	528.46	36.18	2.40	528.49	30.07	0.00	528.51	29.64	0.00	528.55
4/7/97	34.41	0.00	528.79	NA	NA	NA	29.76	0.00	528.82	29.30	0.00	528.89
7/16/98	32.44	0.39	531.05	35.35	4.58	530.96	27.86	0.00	530.72	27.28	0.00	530.91
11/19/98	32.31	0.18	531.03	35.22	4.32	530.89	27.75	0.00	530.83	27.15	0.00	531.04
3/23/00	36.54	0.24	526.84	37.30	1.84	526.95	31.68	0.00	526.90	31.26	0.00	526.93
9/27/00*	36.79	0.46	526.76	37.45	1.94	526.88	31.79	0.00	526.79	31.31	0.00	526.88
10/5/00	36.66	0.34	526.80	36.54	0.87	526.98	31.72	0.00	526.86	31.26	0.00	526.93
11/29/00	34.04	0.56	529.58	32.98	0.00	529.89	28.89	0.00	529.69	28.35	0.00	529.84
12/29/00	32.32	0.53	531.28	32.72	0.44	530.48	28.23	0.00	530.35	27.71	0.00	530.48
1/29/01*	32.18	0.00	531.02	31.88	0.28	531.20	27.51	0.00	531.07	27.00	0.00	531.19
3/7/01	33.61	0.85	530.23	32.59	0.27	530.48	28.27	0.00	530.31	27.82	0.00	530.37
4/4/01	32.23	0.55	531.38	32.34	0.24	530.71	28.03	0.00	530.55	27.59	0.00	530.60
4/25/01	33.61	0.45	529.93	32.72	0.20	530.30	28.45	0.00	530.13	28.03	0.00	530.16
5/18/01*	32.90	0.39	530.59	33.09	0.14	529.89	28.74	0.00	529.84	28.31	0.00	529.88

Notes:

- 1) All measurements in feet
- 2) DTW-depth to water below top of surface casing
- 3) NAPL-non-aqueous phase liquid thickness
- 4) GWE-groundwater elevation (corrected for NAPL using 0.75 specific gravity) in feet above mean sea level
- 5) NA-no reading collected
- *-System not operating

FEDERAL EXPRESS CORPORATION

5811 Technicenter Drive, Austin, TX
 LPST # 111747

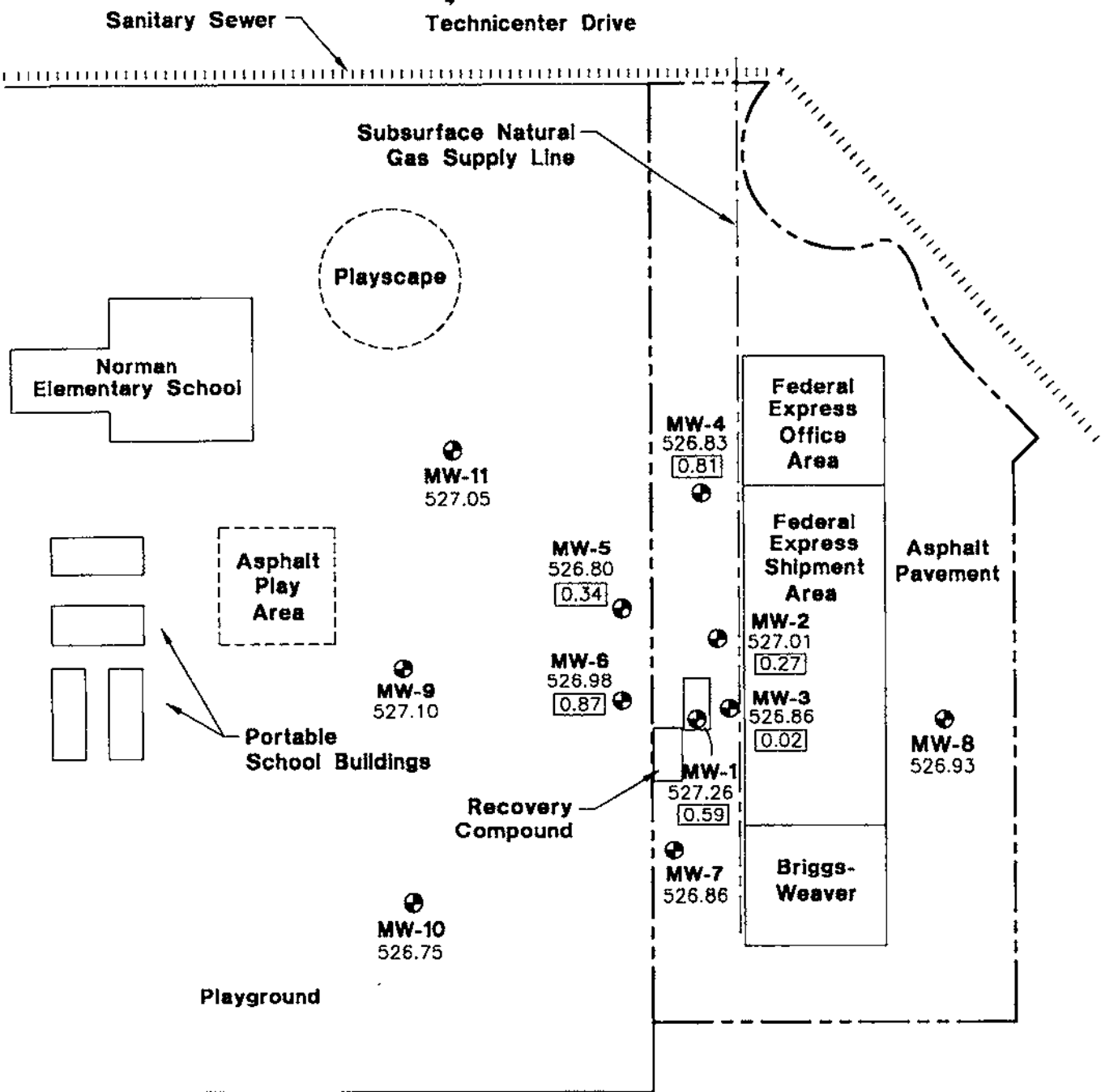
FLUID GAUGING DATA SUMMARY

DATE	MW-9			MW-10			MW-11		
	DTW	NAPL	GWE	DTW	NAPL	GWE	DTW	NAPL	GWE
10/31/96	NA	NA	NA	NA	NA	NA	NA	NA	NA
11/1/96	NA	NA	NA	NA	NA	NA	NA	NA	NA
11/15/96	NA	NA	NA	NA	NA	NA	NA	NA	NA
2/18/97	NA	NA	NA	NA	NA	NA	NA	NA	NA
4/7/97	35.15	0.00	528.76	34.25	0.00	528.74	34.89	0.00	528.74
7/16/98	33.93	0.00	529.98	32.97	0.00	530.02	33.62	0.00	530.01
11/19/98	33.82	0.00	530.09	32.87	0.00	530.12	33.53	0.00	530.10
3/23/00	36.73	0.00	527.18	36.17	0.00	526.82	36.54	0.00	527.09
9/27/00*	36.84	0.00	527.07	36.28	0.00	526.71	36.60	0.00	527.03
10/5/00	36.81	0.00	527.10	36.24	0.00	526.75	36.58	0.00	527.05
11/29/00	34.03	0.00	529.88	33.51	0.00	529.48	33.79	0.00	529.84
12/29/00	33.38	0.00	530.53	32.81	0.00	530.18	33.13	0.00	530.50
1/29/01*	32.65	0.00	531.26	32.10	0.00	530.89	32.42	0.00	531.21
3/7/01	33.39	0.00	530.52	32.80	0.00	530.19	33.15	0.00	530.48
4/4/01	33.15	0.00	530.76	32.60	0.00	530.39	32.92	0.00	530.71
4/25/01	33.56	0.00	530.35	32.97	0.00	530.02	33.33	0.00	530.30
5/18/01*	33.85	0.00	530.06	33.23	0.00	529.76	33.69	0.00	529.94

Notes:

- 1) All measurements in feet
- 2) DTW-depth to water below top of surface casing
- 3) NAPL-non-aqueous phase liquid thickness
- 4) GWE-groundwater elevation (corrected for NAPL using 0.75 specific gravity) in feet above mean sea level
- 5) NA-no reading collected

*-System not operating



LEGEND



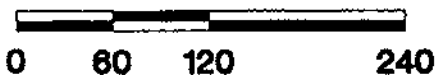
- Monitoring Well Locations
- 526.75 Groundwater Elevation (Ft. MSL)
- 0.34 NAPL Thickness (Ft.)

Groundwater Elevation Map

(10/5/00)

Federal Express
Austin, Texas

SCALE-FEET



HBC Project No. 96007145

FEDERAL EXPRESS CORPORATION

5811 Technicenter Drive, Austin, TX
 LPST # 111747

GROUNDWATER ANALYTICAL DATA SUMMARY

(all concentrations in mg/L)

MW-1								
DATE	PAH	TDS	TPH	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
11/11/96	NAPL							
7/16/98	NAPL							
10/5/00	NAPL							
4/4/01	NA	NA	57.1	0.480	1.240	0.226	6.010	0.113

MW-2								
DATE	PAH	TDS	TPH	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
11/11/96	NAPL							
7/16/98	NAPL							
10/5/00	NAPL							
4/4/01	1.877*	NA	164.0	0.045	2.330	0.175	8.610	0.313

MW-3								
DATE	PAH	TDS	TPH	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
11/11/96	NA	478	10	1.920	2.250	0.313	2.880	1.150
7/16/98	NAPL							
10/5/00	NAPL							
4/4/01	NA	NA	20.6	0.219	0.162	0.111	0.888	0.024

MW-4								
DATE	PAH	TDS	TPH	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
2/18/97	NA	NA	<0.50	0.004	<0.001	<0.001	<0.001	<0.001
7/16/98	NAPL							
10/5/00	NAPL							
4/4/01	NA	NA	57.7	0.174	0.656	0.419	2.630	0.320

* Benz[a]anthracene 0.005, Benzo[b]fluoranthene 0.007, Benzoperylene 0.006, Benzo[k]fluoranthene 0.007, Chrysene 0.009, Fluoranthene 0.002, Naphthalene 1.56, Phenanthrene 0.01, Pyrene 0.001

FEDERAL EXPRESS CORPORATION

5811 Technicenter Drive, Austin, TX
 LPST = 111747

GROUNDWATER ANALYTICAL DATA SUMMARY

(all concentrations in mg/L)

MW-5								
DATE	PAH	TDS	TPH	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
2/18/97	0.0006*	NA	3.9	0.520	0.811	0.096	1.070	0.449
7/16/98	NAPL							
10/5/00	NAPL							
4/4/01	NAPL							

MW-7								
DATE	PAH	TDS	TPH	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
2/18/97	NA	NA	<0.5	<0.001	<0.001	<0.001	<0.001	<0.01
7/16/98	NA	NA	<5.1	<0.001	<0.001	<0.001	<0.002	<0.02
11/19/98	NA	NA	<4.4	<0.005	<0.005	<0.005	<0.005	<0.005
10/5/00	NA	NA	<5	<0.005	<0.005	<0.005	<0.005	<0.005
4/4/01	NA	NA	<6.4	<0.002	<0.004	<0.004	<0.004	<0.004

MW-8								
DATE	PAH	TDS	TPH	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
2/18/97	NA	NA	<0.05	0.005	0.003	<0.001	0.004	<0.01
7/20/98	NA	NA	<4.9	0.034	0.004	0.007	0.020	<0.02
11/19/98	NA	NA	<6	<0.005	<0.005	<0.005	<0.005	<0.005
10/5/00	NA	NA	<5	0.007	<0.005	<0.005	<0.005	<0.005
4/4/01	NA	NA	<4.67	0.029	0.005	<0.004	0.011	0.004

*-Fluorene detected at 0.006 mg/L

FEDERAL EXPRESS CORPORATION

5811 Technicenter Drive, Austin, TX
 LPST # 111747

GROUNDWATER ANALYTICAL DATA SUMMARY

(all concentrations in mg/L)

MW-9								
DATE	PAH	TDS	TPH	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
3/24/97	NA	NA	1	0.106	0.120	0.008	0.135	0.038
7/16/98	NA	NA	<5.3	<0.001	<0.001	<0.001	0.002	0.035
11/19/98	NA	NA	<4.1	0.012	<0.005	<0.005	<0.005	0.178
10/5/00	0.002*	NA	<5	0.149	<0.005	<0.005	<0.005	0.225
4/4/01	NA	NA	<5.5	0.154	<0.004	<0.004	<0.004	0.454

MW-10								
DATE	PAH	TDS	TPH	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
3/24/97	NA	NA	<0.5	<0.001	<0.001	<0.001	<0.001	<0.01
7/16/98	NA	NA	<4.8	<0.001	<0.001	<0.001	0.002	<0.02
11/19/98	NA	NA	<4.7	<0.005	<0.005	<0.005	<0.005	<0.005
10/5/00	NA	NA	<5	<0.005	<0.005	<0.005	<0.005	<0.005
4/4/01	NA	NA	<4.9	<0.002	<0.004	<0.004	<0.004	<0.004

MW-11								
DATE	PAH	TDS	TPH	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
3/24/97	NA	NA	<0.50	<0.001	<0.001	<0.001	<0.001	<0.01
7/16/98	NA	NA	<5	0.053	0.009	0.003	0.012	0.026
11/19/98	NA	NA	25.3	1.850	2.200	0.036	2.210	<0.005
10/5/00	NA	NA	<5	<0.005	<0.005	<0.005	<0.005	<0.005
4/4/01	NA	NA	<5.28	1.770	3.570	0.399	2.600	0.525

*-Naphthalene detected at 0.002 mg/L

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ENGINEERING, INC.

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Hydrocarbon Removal Calculations

Mass Removal 10/2/00 - 10/3/00

① Vapor Concentration Conversion

$$\frac{\text{mg}}{\text{m}^3} = \frac{(\text{ppm})(\text{gram molecular weight})}{24.45} \quad \text{assume mw of weathered gasoline is 102.2}$$

$$C_0 = \frac{(7712 \text{ ppm})(102.2)}{24.45} = 32,236 \text{ mg/m}^3$$

$$C_1 = \frac{(3743 \text{ ppm})(102.2)}{24.45} = 15,646 \text{ mg/m}^3$$

$$\text{Average} = \frac{(32,236) + (15,646)}{2}$$

$$\boxed{23,941 \text{ mg/m}^3}$$

② Mass Removed

$$\begin{aligned} \text{Mass} &= (\text{concentration})(\text{Flow})(\text{time}) \\ &= (23,941 \text{ mg/m}^3)(4078 \text{ m}^3/\text{day})(1 \text{ day}) \\ &= 9.76 \times 10^7 \text{ mg} \end{aligned}$$

$$(9.76 \times 10^7 \text{ mg})(3.52 \times 10^{-7} \text{ gal/mg TPH}) = \boxed{34.4 \text{ gallons removed Day 1}}$$

DAY 2

$$C_1 = 15,646 \text{ mg/m}^3$$

$$C_2 = \frac{(3151 \text{ ppm})(102.2)}{24.45} = 13,171 \text{ mg/m}^3 \quad \text{Average} = \frac{(15,646) + (13,171)}{2} = 14,409$$

$$\text{Mass} = (14,409 \text{ mg/m}^3)(4078 \text{ m}^3/\text{day})(1 \text{ day})$$

$$= 5.88 \times 10^7 \text{ mg} = (5.88 \times 10^7 \text{ mg})(3.52 \times 10^{-7} \text{ gal/mg TPH}) = \boxed{20.7 \text{ gallons Day 2}}$$

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DAY 3

$$C_2 = 13,171 \text{ mg/m}^3$$

$$C_3 = \frac{(256900)(102.2)}{24.45} = 10,738 \text{ mg/m}^3 \quad \text{Average} = 11,955 \text{ mg/m}^3$$

$$\begin{aligned} \text{Mass} &= (11,955 \text{ mg/m}^3)(4078 \text{ m}^3/\text{hr})(1 \text{ day}) \\ &= 4.88 \times 10^7 \text{ mg} = (4.88 \times 10^7)(3.52 \times 10^{-7}) = \boxed{17.2 \text{ gallons Day 3}} \end{aligned}$$

DAY 4

$$C_3 = 10,738$$

$$C_4 = \frac{(2,300)(102.2)}{24.45} = 9,614 \text{ mg/m}^3 \quad \text{AVG} = 10,176 \text{ mg/m}^3$$

$$\begin{aligned} \text{Mass} &= (10,176)(4078)(1) \\ &= 4.15 \times 10^7 \text{ mg} \quad (4.15 \times 10^7)(3.52 \times 10^{-7}) = \boxed{14.6 \text{ gallons Day 4}} \end{aligned}$$

DAY 5

$$C_4 = 9,614$$

$$C_5 = \frac{(2010)(102.2)}{24.45} = 8,402 \text{ mg/m}^3 \quad \text{AVG} = 9,008 \text{ mg/m}^3$$

$$\begin{aligned} \text{Mass} &= (9,008)(4078)(1) \\ &= 3.68 \times 10^7 \quad (3.68 \times 10^7)(3.52 \times 10^{-7}) = \boxed{12.9 \text{ gallons Day 5}} \end{aligned}$$

DAY 6

$$C_5 = 8,402$$

$$C_6 = \frac{(2250)(102.2)}{24.45} = 9,405 \text{ mg/m}^3 \quad \text{AVG} = 8,904$$

$$\begin{aligned} \text{Mass} &= (8,904)(4078)(1) \\ &= 3.63 \times 10^7 \quad (3.63 \times 10^7)(3.52 \times 10^{-7}) = \boxed{12.8 \text{ gallons Day 6}} \end{aligned}$$

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11/10/00

$$C_6 = 9,405 \text{ mg/m}^3$$

$$C_{39} = \frac{(250)(102.2)}{24.45} = 1,045 \text{ mg/m}^3 \quad \text{Average} = 5,225 \text{ mg/m}^3$$

$$\text{Mass Removal} = (5,225)(4078)(33 \text{ days})$$

$$= 7.03 \times 10^8 \text{ mg} \quad (7.03 \times 10^8)(3.52 \times 10^{-7}) = \boxed{247.5 \text{ gallons removed Day 39}}$$

12/14/00

$$C_{89} = 1,045 \text{ mg/m}^3$$

$$C_{73} = \frac{(20)(102.2)}{24.45} = 83.6 \text{ mg/m}^3 \quad \text{Avg} = 564 \text{ mg/m}^3$$

$$\text{Mass} = (564)(4078)(34 \text{ days})$$

$$7.82 \times 10^7 \text{ mg} \quad (7.82 \times 10^7)(3.52 \times 10^{-7}) = \boxed{27.5 \text{ gallons removed Day 73}}$$

1/15/01

$$C_{73} = 83.6 \text{ mg/m}^3$$

$$C_{105} = \text{ND (Assume } 1/2 \text{ Detection Limit)} = \frac{(5 \text{ ppm})(102.2)}{24.45} = 21 \text{ mg/m}^3 \quad \text{Average} = 52.3 \text{ mg/m}^3$$

$$\text{Mass} = (52.3)(4078)(32 \text{ days})$$

$$6.82 \times 10^6 \text{ mg} \quad (6.82 \times 10^6)(3.52 \times 10^{-7}) = \boxed{2.4 \text{ gallons removed Day 105}}$$

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3/8/01

$C_{105} = 21 \text{ mg/m}^3$

$C_{157} = \frac{(38)(102.2)}{24.45} = 159 \text{ mg/m}^3 \text{ Average} = 90 \text{ mg/m}^3$

Mass = $(90)(4078)(21 \text{ days})$ ~~(~~38~~ note - system down 1/26 - 2/26)~~
 $= 7.71 \times 10^6 \text{ mg} \quad (7.71 \times 10^6)(3.52 \times 10^{-7})$

2.7 gallons removed
Day 157

4/4/01

$C_{157} = 159 \text{ mg/m}^3$

$C_{184} = \frac{(89)(102.2)}{24.45} = 372 \text{ mg/m}^3 \text{ Avg} = 265.5 \text{ mg/m}^3$

Mass = $(265.5)(4078)(27 \text{ days})$
 $2.92 \times 10^7 \text{ mg} \quad (2.92 \times 10^7)(3.52 \times 10^{-7})$

10.3 gallons removed
Day 184

5/9/01

184 372 mg/m^3

219 (Assume 5ppm - from PID) $\frac{(5)(102.2)}{24.45} = 21 \text{ mg/m}^3 \text{ Avg} = 196.5 \text{ mg/m}^3$

Mass = $(196.5)(4078)(35 \text{ days})$
 $= 2.8 \times 10^7 \text{ mg} \quad (2.8 \times 10^7)(3.52 \times 10^{-7}) =$

9.8 gallons removed
Day 219

Total Removed $C_0 - C_{219} = (24.4) + (20.7) + (17.2) + (14.6) + (12.9) + (12.8) + (247.5) + (27.5) + (2.4) + (2.7) + (10.3) + (9.8) =$


412.8 gallons


Texas Commission on Environmental Quality


INTEROFFICE MEMORANDUM

To: PST-RPR Project Managers
PST State Lead Project Managers
VCP Project Managers

Date: July 17, 2003

Thru:  Jacqueline S. Hardee, P.E., Director
Remediation Division

From:  Alan R. Batcheller, Manager
PST Responsible Party Remediation Section
Remediation Division

 G. Nell Tyner, Ph.D., Manager
Site Assessment and Management Section
Remediation Division

Subject: Process for Expedited Closure Evaluation for Priority 4.1 Petroleum Hydrocarbon LPST Sites

The goal of the risk-based corrective action program is to get low risk sites to closure quickly and appropriately so that limited resources can be concentrated on high risk sites. This guidance applies to sites reported prior to September 1, 2003, which are subject to 30 TAC 334 (Chapters D and G). It focuses on Priority 4.1 (groundwater is impacted) sites having a depth to water greater than 15 feet (or the depth to utilities if that is greater than 15 feet) and an affected groundwater zone that is not part of a fractured bedrock or karst environment.

Proper identification as a Priority 4.1 site is critical. An adequate receptor survey should be performed at all Priority 4.1 sites if this has not already been done. If upon evaluating the site for the criteria below, it is found to be more appropriately classified as a different priority, then it should be reclassified and this guidance may not apply. The following conditions are the criteria that define a site as a Priority 4.1:

- There are no water wells present within 0.5 mile radius of the site that are impacted or threatened by the affected groundwater zone;
- The affected groundwater zone is not considered part of a state designated major/minor aquifer;
- Future use of the affected groundwater is unlikely; and
- The affected groundwater zone does not discharge to a surface water body used for human drinking water, contact recreation or habitat to a protected or listed endangered plant and animal species located within 0.25 mile radius of the site.

If the site is verified to be properly classified as a Priority 4.1, then this IOM should be used in conjunction with the existing guidance on *Closure Evaluations (February 10, 1997 - Exit Criteria)*.

In the existing guidance, Priority 4.1 sites have already been identified as having the potential for meeting exit criteria under certain conditions. This guidance addresses several additional criteria that may also now allow a Priority 4.1 site to be closed. The two main issues that this IOM addresses in evaluating closure of Priority 4.1 sites are: (1) the presence of petroleum product in the form of a non-aqueous phase liquid (NAPL), and (2) the requirements for delineation and determining stability of groundwater plumes. These criteria are being modified to enable additional low priority, low risk sites to be closed.

Presence of NAPL

In order to evaluate the possibility of closure for sites where NAPL is still present, several lines of evidence must be evaluated to ensure that the NAPL is adequately delineated and that the potential risk associated with closing the site remains relatively low. Thus, if all other conditions in the *Closure Evaluation (February 10, 1997 - Exit Criteria)* guidance are met, the presence of NAPL will not automatically exclude a site from closure. If NAPL is present, the following criteria must be met to achieve expedited closure:

- NAPL is adequately delineated, with a minimum of at least one monitoring well downgradient of the NAPL plume that does not contain NAPL;
- the NAPL plume is stable;
- there is not an on-going release; and
- sufficient efforts to recover NAPL are documented.

These criteria will rely a great deal on professional judgement. Clearly, if a release was large and very recent, then closure should not be granted if the extent of the NAPL is not adequately delineated and the stability of the NAPL plume is not established. In addition, if NAPL is present beneath buildings or subsurface structures, then the potential risk from the vapor pathway must be evaluated. If NAPL extends off-site, then the possibility of expedited closure must be evaluated on a case by case basis. Also, the criteria for any dissolved phase groundwater plume (presented below) must also be met before closure can be approved for sites with NAPL.

Limited Groundwater Delineation and Plume Stability Evaluation

Under the current guidance for closing Priority 4.1 sites, if the groundwater concentrations for groundwater below 15 feet exceed Plan A Category III levels, the site can be closed once it has been demonstrated that dissolved phase concentrations are stable or decreasing in the groundwater. In order to expedite closure of these sites, since they are not going to be actively remediated, delineation of the extent of groundwater contamination can be more limited than in cases where receptors are an issue. The following conditions must be met in order to close these Priority 4.1 sites.

- at least 3 appropriately constructed monitoring wells must be present, with one being located in or near the source area and at least one located downgradient of the source area (or NAPL plume); and

- groundwater contamination in the dissolved-phase plume downgradient of the source area (or NAPL, if present) must be adequately shown to be stable or decreasing through a minimum of 4 quarterly (or less frequently) monitoring events.

The monitoring frequency for establishing stability in the dissolved plume can be less often than quarterly (e.g., four semi-annual events), but it cannot be more frequent than quarterly. Project managers should consider the natural variability in environmental samples and analyses when evaluating the stability of the groundwater plume. Stable or decreasing overall trends in data should be considered sufficient to support closure at these sites.

In order to be confident that highly contaminated groundwater does not actually represent the edge of a NAPL plume, if the downgradient well shows concentrations approaching the effective solubility of TPH in the C6 to C12 range or benzene, the possible presence of NAPL in this area should be investigated. If NAPL is confirmed, then an additional downgradient well will be needed to verify dissolved-phase plume stability.

If TPH analyses are only available that were performed by Method 418.1, then the total TPH value should be used for comparison. The values to be used for comparison for the effective solubility are presented in the table below.

Constituents	Effective Solubility Value
Benzene	36 mg/L or parts per million (ppm)
TPH (C6 - C12 range)	135 mg/L or ppm

As with the other criteria, this guidance is to be used in conjunction with the existing guidance to expedite closure at low priority LPST sites.

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Sanitary Sewer

Technicenter Drive

Subsurface Natural Gas Supply Line

Playscape

Norman Elementary School

B	0.112
T	1.260
E	0.737
X	3.69
M	0.635
TPH	NA

MW-11

B	0.220
T	2.0
E	0.868
X	8.81
M	0.754
TPH	98.89

B	4.81
T	3.86
E	0.43
X	5.38
M	3.19
TPH	21.0

MW-4

Federal Express Office Area

Federal Express Shipment Area

B	0.035
T	0.104
E	0.513
X	7.5
M	0.242
TPH	19.8

Asphalt Pavement

Asphalt Play Area

Portable School Buildings

MW-9

MW-5

MW-2

MW-NAP

MW-3

MW-1

B	0.120
T	0.024
E	0.049
X	0.177
M	0.047
TPH	NA

MW-8

B	0.020
T	0.0053
E	0.008
X	0.044
M	0.012
TPH	ND

Briggs-Weaver

MW-10

B	0.190
T	0.835
E	0.175
X	9.18
M	0.192
TPH	NA

MW-7

B	<0.0008
T	<0.002
E	<0.002
X	<0.003
M	<0.002
TPH	NA

Playground

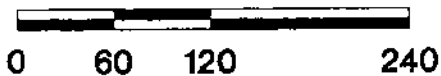
B	<0.0008
T	<0.002
E	<0.002
X	<0.003
M	<0.002
TPH	NA

LEGEND

- ⊕ Monitoring Well Locations
- B Benzene
- T Toluene
- E Ethylbenzene
- X Xylenes
- M MTBE
- TPH Total Petroleum Hydrocarbons

* All concentrations in mg/L

SCALE- FEET



Terracon

Hydrocarbon Distribution

(3/23/05)

Federal Express

Austin, Texas

Terracon Project No. 96007145

FEDERAL EXPRESS CORPORATION

5811 Technicenter Drive, Austin, TX

LPST # 111747

GROUNDWATER ANALYTICAL DATA SUMMARY

(all concentrations in mg/L)

MW-1										
DATE	PAH	TDS	TPH (C6-C12)	TPH (C12-C28)	TPH (C28-C35)	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
11/11/1996	NAPL									
7/16/1998	NAPL									
10/5/2000	NAPL									
4/4/2001	NA	NA	14.1(C6-C10)	43.0(>C10-C28)	NA	0.480	1.240	0.226	6.010	0.113
9/24/2001	NA	NA	55.40	6.67	<4.84	0.253	0.685	0.196	6.990	0.062
12/27/2001	NA	NA	12.90	<4.85	<4.85	0.129	0.364	0.105	2.380	0.054
3/27/2002	NA	NA	5.82	2.88	<1.95	0.045	0.107	0.041	0.952	0.040
6/17/2002	NA	NA	4.81	<1.94	<1.94	0.036	0.108	0.039	0.954	<0.080
10/22/2003	NA	NA	23.50	4.41	<1.98	0.025	0.109	0.066	1.790	0.067
1/28/2004	NAPL									
3/23/2005	NA	NA	NA	NA	NA	0.190	0.835	0.175	9.180	0.192

MW-2										
DATE	PAH	TDS	TPH (C6-C12)	TPH (C12-C28)	TPH (C28-C35)	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
11/11/1996	NAPL									
7/16/1998	NAPL									
10/5/2000	NAPL									
4/4/2001	1.877*	NA	55.2(C6-C10)	109(>C10-C28)	NA	0.045	2.330	0.175	8.610	0.313
9/24/2001	0.636**	NA	149.00	40.50	<4.72	0.265	2.180	0.442	6.400	0.458
12/27/2001	1.669***	NA	104.00	24.70	<4.87	0.036	2.480	0.927	10.600	0.249
3/27/2002	0.525****	NA	35.60	7.59	<1.94	0.032	0.804	1.040	8.740	0.197
6/17/2002	0.356*****	NA	24.0	4.2	<1.95	0.055	0.486	0.934	8.010	<0.020
10/22/2003	NAPL									
1/28/2004			217.0	142.0	<1.98	0.0269	0.194	0.438	5.240	0.163
3/23/2005	NA	NA	18.6	1.2 (J)	<0.67	0.0350	0.104	0.513	7.500	0.242

*-Benzo(a)anthracene-0 0005, Benzo(b)fluoranthene-0 0007, Benzoperylene-0 0006, Benzo(k)fluoranthene-0 0007, Chrysene-0.0009, Fluoranthene-0 002, Naphthalene-1.86, Phenanthrene-0 01, Pyrene-0 001

**-Acenaphthene-0 004, Anthracene-0 0009, Benzo(a)anthracene-0.0003, Benzo(b)fluoranthene-0 0003, Benzoperylene-0 0003, Benzo(g)pyrene-0 0002, Chrysene-0.0003, Fluoranthene-0 0006, Fluorene-0 007, Naphthalene-0 619, Phenanthrene-0.003, Pyrene-0 001

***-Acenaphthene-0 017, Fluoranthene-0 002, Fluorene-0 030, Naphthalene-1 60, Phenanthrene-0 014, Pyrene-0 006

****-Acenaphthene-0.0009, Fluorene-0 001, Naphthalene-0 522, Phenanthrene-0 0005

*****-Acenaphthene-0 0004, Fluorene-0 0007, Naphthalene-0 355, Phenanthrene-0.0003

FEDERAL EXPRESS CORPORATION

5811 Technicenter Drive, Austin, TX

LPST # 111747

GROUNDWATER ANALYTICAL DATA SUMMARY

(all concentrations in mg/L)

MW-3										
DATE	PAH	TDS	TPH (C6-C12)	TPH (C12-C28)	TPH (C28-C35)	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
11/11/1996	NA	478	10(Total)	NA	NA	1.920	2.250	0.313	2.880	1.150
7/16/1998	NAPL									
10/5/2000	NAPL									
4/4/2001	NA	NA	7.22(C6-C10)	13.3(>C10-C28)	NA	0.219	0.162	0.111	0.888	0.024
9/24/2001	NA	NA	19.70	<4.75	<4.75	0.241	0.072	0.114	0.906	0.056
12/27/2001	NA	NA	<4.85	<4.85	<4.85	0.096	0.023	0.027	0.266	0.017
3/27/2002	NA	NA	2.05	<1.96	<1.96	0.135	0.015	0.045	0.151	0.034
6/17/2002	NA	NA	3.48	<2.0	<2.0	0.121	0.015	0.051	0.222	0.028
10/22/2003	NA	NA	3.07	0.88	<1.97	0.220	0.053	0.099	0.381	0.097
1/28/2004	NA	NA	6.50	1.70	<2.02	0.310	0.176	0.135	0.631	0.140
3/23/2005	NA	NA	NA	NA	NA	0.120	0.024	0.049	0.177	0.047

MW-4										
DATE	PAH	TDS	TPH (C6-C12)	TPH (C12-C28)	TPH (C28-C35)	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
2/18/1997	NA	NA	<0.50(Total)	NA	NA	0.004	<0.001	<0.001	<0.001	<0.001
7/16/1998	NAPL									
10/5/2000	NAPL									
4/4/2001	NA	NA	14.6(C6-C10)	43.1(>C10-C28)	NA	0.174	0.656	0.419	2.630	0.320
9/24/2001	NA	NA	20.90	<4.73	<4.73	1.030	1.770	0.364	3.460	0.155
12/27/2001	NA	NA	18.50	5.15	<4.84	1.290	2.780	0.596	6.370	0.216
3/27/2002	NA	NA	20.40	4.48	<1.93	1.270	3.510	0.408	5.500	0.420
6/17/2002	NA	NA	11.00	2.64	<1.96	0.551	1.100	0.246	2.570	<0.020
10/22/2003	NA	NA	23.10	3.27	<1.95	0.125	0.343	0.121	1.160	0.321
1/28/2004	NA	NA	47.40	19.20	<1.99	0.577	2.940	0.735	8.050	0.574
3/22/2005	NA	NA	88.40	9.19	1.3 (J)	0.220	2.000	0.868	8.810	0.754



DATE	MW-5			MW-6			MW-7			MW-8		
	DTW	NAPL	GWE	DTW	NAPL	GWE	DTW	NAPL	GWE	DTW	NAPL	GWE
9/24/2001	34.36	0.05	528.88	33.79	0.15	529.19	29.68	0.00	528.90	29.29	0.00	528.90
12/27/2001	32.32	0.00	530.88	31.86	0.08	531.07	27.74	0.00	530.84	27.25	0.00	530.94
3/27/2002	33.88	0.00	529.32	33.39	0.06	529.53	29.15	0.00	529.43	28.72	0.00	529.47
6/17/2002	35.06	0.00	528.14	34.30	0.01	528.58	30.43	0.00	528.15	30.00	0.00	528.19
10/22/2003	35.75	0.02	527.47	35.21	0.02	527.68	31.11	0.00	527.47	30.64	0.00	527.55
1/27/2004	36.42	0.12	526.87	37.08	1.51	526.92	31.69	0.00	526.89	31.30	0.00	526.89
3/5/2004	35.93	0.00	527.27	35.44	0.09	527.50	NA	NA	NA	NA	NA	NA
5/18/2004*	32.90	0.39	530.59	33.09	0.14	529.89	27.97	0.00	530.61	27.55	0.00	530.64
5/18/2004**	35.09	0.00	528.11	35.36	0.00	527.51	NA	NA	NA	NA	NA	NA
5/28/2004	35.65	0.00	527.55	35.11	0.00	527.76	31.00	0.00	527.58	30.63	0.00	527.56
6/8/2004	35.65	0.00	527.55	35.04	0.00	527.83	31.01	0.00	527.57	30.65	0.00	527.54
6/16/2004	35.21	0.00	527.99	34.71	0.00	528.16	30.65	0.00	527.93	30.21	0.00	527.98
11/10/2004	35.95	0.00	527.25	32.50	0.00	530.37	30.35	0.00	528.23	29.90	0.00	528.29
12/2/2004	32.85	0.00	530.35	32.33	0.00	530.54	28.24	0.00	530.34	27.72	0.00	530.47
3/3/2005*	33.75	0.00	529.45	33.41	0.34	529.72	29.05	0.00	529.53	28.69	0.00	529.50
3/22/2005**	33.49	0.00	529.71	33.35	0.05	529.56	28.80	0.00	529.78	28.42	0.00	529.77
4/29/2005	33.98	0.00	529.22	33.81	0.05	529.10	29.29	0.00	529.29	28.92	0.00	529.27

must be stable for a minimum
 four quarterly monitoring events

Notes:

- 1) All measurements in feet
- 2) DTW-depth to water below top of surface casing
- 3) NAPL-non-aqueous phase liquid thickness
- 4) GWE-groundwater elevation (corrected for NAPL using 0.75 specific gravity) in feet above mean sea level
- 5) NA-No groundwater gauging data collected
- 6) * Denotes prior to MDPE event
- 7) ** Denotes immediately after MDPE event

FEDERAL EXPRESS CORPORATION

5811 Technicenter Drive, Austin, TX
 LPST # 111747

FLUID GAUGING DATA SUMMARY

DATE	MW-9			MW-10			MW-11		
	DTW	NAPL	GWE	DTW	NAPL	GWE	DTW	NAPL	GWE
9/24/2001	34.70	0.00	529.21	34.29	0.00	528.70	34.49	0.00	529.14
12/27/2001	32.80	0.00	531.11	32.22	0.00	530.77	32.55	0.00	531.08
3/27/2002	34.32	0.00	529.59	33.70	0.00	529.29	34.10	0.00	529.53
6/17/2002	35.48	0.00	528.43	34.90	0.00	528.09	35.24	0.00	528.39
10/22/2003	36.19	0.00	527.72	35.58	0.00	527.41	36.00	0.00	527.63
1/27/2004	36.78	0.00	527.13	36.23	0.00	526.76	36.62	0.00	527.01
3/5/2004	NA	NA	NA	NA	NA	NA	NA	NA	NA
5/18/2004*	32.98	0.00	530.93	32.32	0.00	530.67	32.75	0.00	530.88
5/18/2004**	NA	NA	NA	NA	NA	NA	NA	NA	NA
5/28/2004	36.02	0.00	527.89	35.51	0.00	527.48	35.80	0.00	527.83
6/8/2004	36.03	0.00	527.88	35.45	0.00	527.54	35.88	0.00	527.75
6/16/2004	35.60	0.00	528.31	35.11	0.00	527.88	35.42	0.00	528.21
11/10/2004	32.85	0.00	531.06	32.85	0.00	530.14	32.15	0.00	531.48
12/2/2004	32.30	0.00	531.61	32.64	0.00	530.35	32.70	0.00	530.93
3/3/2005*	34.14	0.00	529.77	33.59	0.00	529.40	34.95	0.00	528.68
3/22/2005**	33.95	0.00	529.96	33.37	0.00	529.62	33.70	0.00	529.93
4/29/2005	34.24	0.00	529.67	33.45	0.00	529.54	34.19	0.00	529.44

Notes:

- 1) All measurements in feet
- 2) DTW-depth to water below top of surface casing
- 3) NAPL-non-aqueous phase liquid thickness
- 4) GWE-groundwater elevation (corrected for NAPL using 0.75 specific gravity) in feet above mean sea level
- 5) NA-No groundwater gauging data collected
- 6) * Denotes prior to MDPE event
- 7) ** Denotes immediately after MDPE event

FEDERAL EXPRESS CORPORATION

5811 Technicenter Drive, Austin, TX

LPST # 111747

GROUNDWATER ANALYTICAL DATA SUMMARY

(all concentrations in mg/L)

MW-5										
DATE	PAH	TDS	TPH (C6-C12)	TPH (C12-C28)	TPH (C28-C35)	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
2/18/1997	0.0006*	NA	3.9(Total)	NA	NA	0.520	0.811	0.096	1.070	0.449
7/16/1998						NAPL				
10/5/2000						NAPL				
4/4/2001						NAPL				
9/24/2001						NAPL				
12/27/2001	NA	NA	28.60	5.88	<4.81	3.57	3.98	0.62	6.07	2.85
3/27/2002	NA	NA	10.30	3.61	<1.99	2.90	2.29	0.40	2.36	2.04
6/17/2002	NA	NA	16.50	2.47	<1.93	3.09	2.74	0.50	3.21	2.13
10/22/2003						NAPL				
1/28/2004						NAPL				
3/22/2005	NA	NA	21	<0.67	<0.67	4.81	3.86	0.43	5.38	3.19

11/10/05

MW-7										
DATE	PAH	TDS	TPH (C6-C12)	TPH (C12-C28)	TPH (C28-C35)	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
2/18/1997	NA	NA	<0.5(Total)	NA	NA	<0.001	<0.001	<0.001	<0.001	<0.01
7/16/1998	NA	NA	<5.1(C6-C10)	<5.1(>C10-C28)	NA	<0.001	<0.001	<0.001	<0.002	<0.02
11/19/1998	NA	NA	<4.4(C6-C10)	<4.4(>C10-C28)	NA	<0.005	<0.005	<0.005	<0.005	<0.005
10/5/2000	NA	NA	<5(C6-C10)	<5(>C10-C28)	NA	<0.005	<0.005	<0.005	<0.005	<0.005
4/4/2001	NA	NA	<6.44(C6-C10)	<6.44(>C10-C28)	NA	<0.002	<0.004	<0.004	<0.004	<0.004
9/24/2001	NA	NA	<4.78	<4.78	<4.78	<0.002	<0.004	<0.004	<0.004	<0.004
12/27/2001	NA	NA	<4.84	<4.84	<4.84	<0.002	<0.004	<0.004	<0.004	<0.004
3/27/2002	NA	NA	<1.98	<1.98	<1.98	<0.002	<0.004	<0.004	<0.004	<0.004
6/17/2002	NA	NA	<1.95	<1.95	<1.95	<0.002	<0.004	<0.004	<0.004	<0.004
10/22/2003	NA	NA	NA	NA	NA	<0.0008	<0.002	<0.002	<0.003	<0.002
1/28/2004	NA	NA	NA	NA	NA	<0.0008	<0.002	<0.002	<0.003	<0.002
3/22/2005	NA	NA	NA	NA	NA	<0.0008	<0.002	<0.002	<0.003	<0.002

*-Fluorene detected at 0.006 mg/L

FEDERAL EXPRESS CORPORATION

5811 Technicenter Drive, Austin, TX

LPST # 111747

GROUNDWATER ANALYTICAL DATA SUMMARY

(all concentrations in mg/L)

MW-8										
DATE	PAH	TDS	TPH (C6-C12)	TPH (C12-C28)	TPH (C28-C35)	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
2/18/1997	NA	NA	<0.05(Total)	NA	NA	0.005	0.003	<0.001	0.004	<0.01
7/20/1998	NA	NA	<4.9(C6-C10)	<4.9(>C10-C28)	NA	0.034	0.004	0.007	0.020	<0.02
11/19/1998	NA	NA	<6(C6-C10)	<6(>C10-C28)	NA	<0.005	<0.005	<0.005	<0.005	<0.005
10/5/2000	NA	NA	<5(C6-C10)	<5(>C10-C28)	NA	0.007	<0.005	<0.005	<0.005	<0.005
4/4/2001	NA	NA	<4.67(C6-C10)	<4.67(>C10-C28)	NA	0.029	0.005	<0.004	0.011	0.004
9/24/2001	NA	NA	<4.89	<4.89	<4.89	0.014	0.010	<0.004	0.114	0.006
12/27/2001	NA	NA	<4.90	<4.90	<4.90	0.011	<0.004	<0.004	<0.004	0.006
3/27/2002	NA	NA	<1.97	<1.97	<1.97	0.015	<0.004	<0.004	0.020	0.012
6/17/2002	NA	NA	<1.95	<1.95	<1.95	<0.002	<0.004	<0.004	<0.004	<0.004
10/22/2003	NA	NA	NA	NA	NA	<0.0008	<0.002	<0.002	<0.003	<0.002
1/28/2004	NA	NA	NA	NA	NA	<0.0008	<0.002	<0.002	<0.003	<0.002
3/23/2005	NA	NA	NA	NA	NA	0.020	0.0053 (J)	0.008	0.044	0.012

MW-9										
DATE	PAH	TDS	TPH (C6-C12)	TPH (C12-C28)	TPH (C28-C35)	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
3/24/1997	NA	NA	1.2(Total)	NA	NA	0.106	0.120	0.008	0.135	0.038
7/16/1998	NA	NA	<5.3(C6-C10)	<5.3(>C10-C28)	NA	<0.001	<0.001	<0.001	0.002	0.035
11/19/1998	NA	NA	<4.1(C6-C10)	<4.1(>C10-C28)	NA	0.012	<0.005	<0.005	<0.005	0.178
10/5/2000	0.002*	NA	<5(C6-C10)	<5(>C10-C28)	NA	0.149	<0.005	<0.005	<0.005	0.225
4/4/2001	NA	NA	<5.5(C6-C10)	<5.5(>C10-C28)	NA	0.154	<0.004	<0.004	<0.004	0.454
9/24/2001	NA	NA	<4.95	<4.95	<4.95	0.005	<0.004	<0.004	<0.004	0.129
12/27/2001	NA	NA	<4.87	<4.87	<4.87	<0.002	<0.004	<0.004	<0.004	0.060
3/27/2002	NA	NA	<1.98	<1.98	<1.98	<0.002	<0.004	<0.004	<0.004	0.034
6/17/2002	NA	NA	<1.95	<1.95	<1.95	<0.002	<0.004	<0.004	<0.004	0.074
10/22/2003	NA	NA	NA	NA	NA	<0.0008	<0.002	<0.002	<0.003	<0.002
1/28/2004	NA	NA	NA	NA	NA	<0.0008	<0.002	<0.002	<0.003	0.128
3/22/2005	NA	NA	NA	NA	NA	<0.0008	<0.002	<0.002	<0.003	0.012

*-Naphthalene detected at 0.002 mg/L

MW-10										
DATE	PAH	TDS	TPH (C6-C12)	TPH (C12-C28)	TPH (C28-C35)	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
3/24/1997	NA	NA	<0.5(Total)	NA	NA	<0.001	<0.001	<0.001	<0.001	<0.01
7/16/1998	NA	NA	<4.8(C6-C10)	<4.8(>C10-C28)	NA	<0.001	<0.001	<0.001	0.002	<0.02
11/19/1998	NA	NA	<4.7(C6-C10)	<4.7(>C10-C28)	NA	<0.005	<0.005	<0.005	<0.005	<0.005
10/5/2000	NA	NA	<5(C6-C10)	<5(>C10-C28)	NA	<0.005	<0.005	<0.005	<0.005	<0.005
4/4/2001	NA	NA	<4.89(C6-C10)	<4.89(>C10-C28)	NA	<0.002	<0.004	<0.004	<0.004	<0.004
9/24/2001	NA	NA	<4.84	<4.84	<4.84	<0.002	<0.004	<0.004	<0.004	<0.004
12/27/2001	NA	NA	<4.81	<4.81	<4.81	<0.002	<0.004	<0.004	<0.004	<0.004
3/27/2002	NA	NA	<1.97	<1.97	<1.97	<0.002	<0.004	<0.004	<0.004	<0.004
6/17/2002	NA	NA	<1.95	<1.95	<1.95	<0.002	<0.004	<0.004	<0.003	0.116
10/22/2003	NA	NA	NA	NA	NA	<0.0008	<0.002	<0.002	<0.003	<0.002
1/28/2004	NA	NA	NA	NA	NA	<0.0008	<0.002	<0.002	<0.003	<0.002
3/22/2005	NA	NA	NA	NA	NA	<0.0008	<0.002	<0.002	<0.003	<0.002

MW-11										
DATE	PAH	TDS	TPH (C6-C12)	TPH (C12-C28)	TPH (C28-C35)	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
3/24/1997	NA	NA	<0.50(Total)	NA	NA	<0.001	<0.001	<0.001	<0.001	<0.01
7/16/1998	NA	NA	<5(C6-C10)	<5(>C10-C28)	NA	0.053	0.009	0.003	0.012	0.026
11/19/1998	NA	NA	25.3(C6-C10)	<4.4(>C10-C28)	NA	1.850	2.200	0.036	2.210	<0.005
10/5/2000	NA	NA	<5(C6-C10)	<5(>C10-C28)	NA	<0.005	<0.005	<0.005	<0.005	<0.005
4/4/2001	NA	NA	<5.28(C6-C10)	<5.28(>C10-C28)	NA	1.770	3.570	0.399	2.600	0.525
9/24/2001	NA	NA	9.67	<4.79	<4.79	1.620	3.080	0.625	2.480	0.134
12/27/2001	NA	NA	<4.85	<4.85	<4.85	0.071	0.085	0.088	0.142	0.040
3/27/2002	NA	NA	16.10	3.88	<1.96	1.010	5.170	0.894	4.350	0.409
6/17/2002	NA	NA	11.00	2.09	<1.96	0.952	3.550	0.523	2.390	<0.020
10/22/2003	NA	NA	4.78	<1.95	<1.95	0.049	0.616	0.209	0.774	0.239
1/28/2004	NA	NA	3.51	<2.0	<2.0	0.0416	0.336	0.116	0.475	0.145
3/22/2005	NA	NA	NA	NA	NA	0.1120	1.260	0.737	3.690	0.635

Texas Commission on Environmental Quality
INTEROFFICE MEMORANDUM

TO: FILE **DATE:** August 22, 2006
Updated October 3, 2006

THRU: Prasanthi Bollineni or Susan Longbine, TCEQ On Site Supervisor
David Bratberg, Senior Project Manager, Darcy Environmental Group

FROM: Trudy Hasan, Case Coordinator, Darcy Environmental Group

RE: File Review of Subsurface Release of Hydrocarbons for the Federal Express Facility,
5811 Technicenter Drive, Austin (Travis County), Texas
LPST ID No. 111747; Facility ID No. 0029044; Priority 4.1; R-11

A SIGNIFICANT PORTION OF THIS FILE IS MISSING.

Release Determination

- On October 7, 1996, a confirmed release of approximately 6,797 gallons of gasoline was documented. In October 1996, one 10,000 gallon gasoline tank was removed after the release was discovered. It appears that "sticking" the tank for fuel measurement created a hole in the tank.
- Maximum soil concentrations (ppm):
 - benzene *45.3 ppm (Bottom #2, 14')
 - BTEX 741 ppm (Bottom #2, 14')
 - TPH 1,480 ppm (Bottom #2, 14').
- *B1/MW1 was installed two weeks later at the "Bottom #2" location and serves as a confirmation boring:
 - benzene <0.5 ppm (B-1, 14'-15')
 - BTEX 20.09 ppm (B-1, 14'-15')
 - TPH 180 ppm (B-1, 14'-15').

Exposure Pathways Open:

- GW Ingestion (onsite - current)
- GW Ingestion (offsite - current)
- GW Ingestion (onsite - future)
- GW Ingestion (offsite - future)
- GW for Construction Worker
- Plume stability monitoring
- Soils- Exp. Vapor
- Soils - Health/CW
- NAPL, DTW <15'
- NAPL, DTW >15' (removed to maximum extent practicable)
- GW to surface water
- Other

Site Characteristics

- Former UST facility; commercial/industrial use
- Future use expected to remain commercial/industrial.
- Surrounding land use is unknown except that there is an elementary school located immediately west (w/in 500') of the site.

Soil Assessment

- Plan A Assessments were conducted in October 1996 and February-March 1997.
- 11 soil borings/ all completed as MWs.
- Maximum soil concentrations (ppm):
 - benzene 11.4 ppm (MW-6, 36.5'-37.5', 2/5/97)
 - BTEX 255 ppm (MW-6, 36.5'-37.5', 2/5/97)
 - TPH 4,000 ppm (MW-6, 37', 2/5/97)
- PAH analysis conducted on B-1 @ 31 feet. Naphthalene was 8.6 ppm.
- It appears that, of the 11 soil borings installed, only one soil sample was collected from the 0-15'

interval (MW-1, 14'-15'). Based on this limited information, soil contaminants remaining in the 0-15' interval are below health-based target levels.

- During the initial RBA, a thorough vapor survey was conducted, with no indication of explosive vapors.

Groundwater Assessment

- 11 MWs.
- DTW ranges from about 27' to 37' btoc.
- GW gradient appears to be relative flat; generally to the east and southeast.
- TDS is 478 ppm (MW-3).
- 13 GWM events were conducted between November 1996 and April 2006. NAPL was historically observed in MW-1, MW-2, MW-3, MW-4, MW-5, and MW-6. Note that MW-6 has never been sampled due to presence of NAPL.

- Maximum dissolved groundwater concentrations:

	<u>Historical</u>	<u>Current (last 2 events)</u>
benzene	3.57 ppm (MW-5, 12/27/01)	2.09 ppm (MW-5, 4/21/06)
BTEX	14.24 ppm (MW-5, 12/27/01)	6.54 ppm (MW-5, 4/21/06)
MTBE	2.85 ppm (MW-5, 12/27/01)	0.92 ppm (MW-5, 4/21/06)
TPH	360 ppm (MW-2, 01/28/04)	12.36 ppm (MW-4, 4/21/06)
PAHs	1.86 ppm naphthalene (MW-2, 4/4/01)	<Plan A (MW-4, 4/21/06)

- MW-2 has been tested five times for PAHs. The maximum reported C₁₀-C₂₈ concentration is 142 ppm (MW-2, 1/28/04). Although this sample was not analyzed for PAHs, a sample containing 109 ppm C₁₀-C₂₈ (MW-2, 4/4/01) was tested for PAHs. MW-4 was recently tested for PAHs, with results <Plan A. No additional TPH or PAH analysis is needed.
- The NAPL plume extends about 200' north of the former tankhold and about 75-100' offsite to the west. The NAPL plume was never delineated north of MW-4. However, based on the most recent sampling data from MW-4, delineation to the north does not appear warranted.
- The groundwater plume shows decreasing groundwater concentrations from source area. Dissolved-phase concentrations appear relatively stable.
- Fluid wastes have been properly disposed.

NAPL and Corrective Action

- NAPL historically observed in MW-1, MW-2, MW-3, MW-4, and offsite MW-5 and MW-6.
- Maximum NAPL thicknesses: 1.61' in MW-1, 4.44' in MW-2, 0.81' in MW-3, 0.81' in MW-4, 0.85' in MW-5, and 4.58' in MW-6.
- NAPL recovery history:
 - ▶ 6 months of NAPL recovery from MW1, MW2 and MW6 initiated in January 1997. SVE pilot test conducted June 1997. See SVE system map dated 10/97. CAP for SVE approved in February 1998.
 - ▶ NAPL removed via a SVE system utilizing MWs 1,2,& 6 from May 1998 to January 1999. Significant O&M problems reported.
 - ▶ NAPL removed via new SVE system from September 2000 to May 2001 utilizing MWs 1,2,& 6. MDPE also used during this time.
 - ▶ Passive skimmers were then used to recover product from MW-5 and MW-6 for one year (26 visits) in late 2001-2002.
 - ▶ One 8-hour MDPE event attempted utilizing MW5, 6, & 9 in October 2003, but only ran

- for four hours; unsuccessful (<1 gallon removed)
- ▶ One 24-hour MDPE event attempted on MWs 1, 5, & 6, but only ran eight hours due to diminishing rate of recovery. Approx. 8 gallons of vapors recovered. Deemed unsuccessful by our letter dated 09/01/04.
- ▶ Another 24-hour MDPE event attempted on MWs 1, 5 & 6, but terminated after 12 hours due to low vapor recovery. 26 gallons (162 lbs) of product were reportedly recovered during this 12-hour event, but our calculations show only 3.8 gallons recovered (see 8/18/05 letter). The volume of total fluids recovered (9,600 gallons) also made the event less cost effective.
- Between May 2004 and January 2006, NAPL was absent except in MW-6. On 4/29/05, 0.05' of product remained in MW-6 after the last MDPE event. Sorbents were approved for use in MW-6.
- **In January 2006, significant product re-appeared in MW-1, MW-2, MW-4, MW-5, and MW-6 at thicknesses ranging from 0.15' in MW-2 to 2.12' in MW-6. The water table had dropped to historic lows for the site.** Product was handbailed and sorbents were installed in MW-1, 2, 4, and 5. A passive skimmer was installed in MW-6. One month later, there was still significant product in MW-6. A CARF issued on 3/8/06 approved a 24-hour MDPE event using a drop-tube only. The event, conducted on 3/20/06, was terminated after 10 hours due to diminishing recovery rates. Approximately 28.7 gallons of product as vapors and 2 gallons of liquid product were recovered (~186 lbs). Over 2,500 gallons of fluids were generated during this event. Overall, MDPE is not cost effective at this site.
- Since the March 2006 MDPE event, only MW-6 has contained product. As of 7/17/06, 0.06' of NAPL remained in MW-6. We conclude that product has been removed to the maximum extent practicable at this site. The most recent PRR indicates that over 2,500 gallons of product have been recovered to date.

Receptors and Site Priority/Category

- Site is not located over a major/minor aquifer.
- A natural gas line is located within 30' east of the NAPL impacted wells; however, the DTW at this site is >15' bgs, so these utilities are not likely to be affected by the release.
- Norman Elementary School is immediately west of the site.
- City of Austin supplies water to the site and surrounding area.
- Site priority is 4.1; BGUC is Category II.

Conclusions/Recommendations

This site has met the 9/1/02 deadline and the CAP deadline.

This site remains eligible for reimbursement (MM-EXT 10/14/05).

A copy of the 1996 RBA has been requested but not yet been received.

Removal of NAPL to the maximum extent practicable is the cleanup goal.

- HVME (with a two pump system) was conducted and the results were low vapor recovery, high water recovery (9,600 gallons) but very low draw down. And, because they were recovering >13 gpm, it appears that they hit a high yield aquifer and recovery of the submerged NAPL may not be possible.
- The source (UST system) has been removed.

- NAPL recovery has been ongoing since 1997 via SVE, passive skimming and MDPE.
- Because **NAPL is OFFSITE**, the 07/17/03 memo can NOT be used.
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Current Submittals: PA13 (rec'd 9/11/06)

- *A final letter was issued on 8/24/06.*
- *Approve costs to plug 11 wells and remove the remediation system. Note that additional footage over 25' will have to be documented since we don't have well depth information in the case file.*
- *Issue CARF.*

Exposure Pathway Evaluation:

- soils: maximum soil concentrations < health-based and cw target; closed.
- soils: SCR indicates a lack of vapor impacts to buildings, subsurface utilities, etc.; closed.
- current on-site groundwater ingestion: no on-site supply well; closed.
- current off-site groundwater ingestion: closed.
- future on-site groundwater ingestion: no comm. use within 0.5-mile, municipal supply; qualitatively closed.
- future off-site groundwater ingestion: closed.
- construction worker: DTW > 15 feet; closed.
- groundwater to surface water: closed.
- NAPL removed to maximum extent practicable: yes based on current data; closed.
- plume stability: plume appears stable or decreasing; closed.

TCEQ FAX TRANSMITTAL

DATE: 10/24/06

No. of Pages (including this sheet) 5

TO: Name MR JAMAL MANSOUR / Russell Ford
Organization FEDERAL EXPRESS / ~~HSE~~ Terracon
Fax Number (901) 434-9235 / 512-442-1181

FROM: TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
Name Trudy Hasan
Project Manager, Darcy Environmental Group
Telephone 512/342-8585 x24
Fax Number 512/342-8989
Mail MC-137, PO BOX 13087, Austin, TX 78711-3087

NOTES: Response to Corrective Action Proposal(s) for
LPST-ID: 111747 Facility ID: 0029044 PRIORITY: 4.1
If you have problems receiving this fax, please call 512/342-8585.

As of September 1, 2006, the TCEQ will no longer issue, amend, or renew permits, registrations, certifications, or licenses to an entity or person who has delinquent fees or penalties. Specific areas affected in the Remediation Division are as follows:

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- Innocent Owner/Operator Certificates
- Petroleum Storage Tank Reimbursement Requests
- Dry Cleaner Remediation Program Requests
- Closure letters

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www.tceq.state.tx.us/goto/delin-protocol

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY LPST CORRECTIVE ACTION RESPONSE FORM

LPST-ID: 111747

GENERAL INFORMATION

LPST-ID:	111747	Priority:	4.1
Responsible Party:	FEDERAL EXPRESS	TEL:	901/395-4064
Facility #:	0029044		
Facility Name:	FEDERAL EXPRESS		
Facility Address :	5811 TECHNI CENTER	County:	TRAVIS
Facility City:	AUSTIN		
CAPM & Name:	CAPM01502	FORD PG, RUSSELL C	
CAS ID & Name:	RCAS00825	HBC TERRACON	

TCEQ TECHNICAL RESPONSE

8/31/2006 Proposal For LPST: 111747 - SITE CLOSURE

Proposed activity is approved with the following modifications:

On August 24, 2006, this Office issued a final closure letter.

The approved activity is proper plugging of 11 monitoring wells, removal of the remediation system, and submittal of a Final Site Closure Report. Although we have preapproved the requested additional footage, please note that the depth of each plugged well must be documented for reimbursement purposes. Since it appears that the proposed work will be conducted by a local driller, no per diem costs are approved.

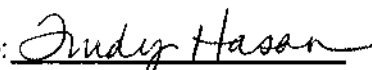
The approved activity must be completed and reported prior to September 1, 2007, in order for costs to be eligible for reimbursement.

ACTIVITY COST SUMMARY

Proposed Cost: \$10,589.00

Maximum Pre-Approved: \$9,528.00

Signature:



Trudy Hasan

Project Manager, Darcy Environmental Group

Date: ^{10/24/06} ~~11/10/2006~~



TELEPHONE: 512/342-8585

Approved:



David Bratberg

Senior Project Manager, Darcy Environmental Group

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY LPST CORRECTIVE ACTION RESPONSE FORM

LPST-ID: 111747



Prasanthi
Bollineni or
Susan
Longbine
TCEQ On-site Representative
Remediation Division

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY LPST CORRECTIVE ACTION RESPONSE FORM

LPST-ID: 111747

8/31/2006 Proposal For : SITE CLOSURE

Pursuant to 30 TAC Section 334.82 (a), you are required to notify all parties affected by the contamination. If you determine that contamination from the release has migrated off-site, or if you are required by the TCEQ to conduct further assessment or other corrective actions off-site, then you must notify the affected landowner(s) within 30 days of documenting any impact. Please note that landowners may include state and local owners of rights-of-way. For the purpose of this requirement, notice shall be through any means described in 30 TAC Section 334.82 (a). Please provide documentation to the TCEQ within 30 days that the affected landowner(s) has/have been properly notified. Be aware that failure to notify affected parties is grounds for formal enforcement proceedings.

Please note that preapproval of corrective action activities DOES NOT guarantee reimbursement. Eligibility is determined at the time of reimbursement application review. If the release is eligible, the preapproved amount is the maximum allowed for the proposed activities. The actual amount of reimbursement will be determined after the activities are completed and the reimbursement application and all related receipts and invoices have been submitted to and reviewed by TCEQ according to the applicable technical and reimbursable cost guidelines. In all instances, the completed work must be technically justifiable and should serve to advance the site toward regulatory closure in the corrective action process. The amount of preapproved work performed should be based on completion of the activity's objectives. Additionally, please also note that preapproved amounts include eligible markup.

Unless approved in advance by the PST Reimbursement Section, reimbursement claims for remediation system operation and maintenance and/or quarterly groundwater monitoring should only be submitted after the completion of an annual cycle. The Reimbursement Section can be reached at 512/239-5370.

Please notify the applicable TCEQ regional office at least 10 days before conducting any field activities at this site.

cc: Barry Kalda, TCEQ Region 11 Field Office
1921 Cedar Bend, Suite 150, Austin, Texas 78758-5336
Phone: 512/339-2929 Fax: 512/339-3795

Activity 11: Site Closure Preapproval Worksheet

TNRCC #: 0
LPST #: 111747
Facility #: 29044
Facility Name: Federal Express Facility
Facility address: 5811 TechniCenter Drive, Austin

Number of wells: 11
Total Well Depth: 40
Date: 03-Oct-06
Prepared by: th2

A. Personnel

	# of Units	\$/Unit	Total
Office Costs			
Site Closure Request	1	550 =	\$550
Project Manager (PM)	4	80 =	\$320
Final Closure Report	1	230 =	\$230
Field Costs			
P&A first well	1 x	135	\$135
P&A add. wells < 100' deep	10	90	\$900
P&A add. wells > 100' deep	0	135	\$0
Remove remediation System	1	750	\$750
Subtotal Subcontracted Personnel		\$750	
Subcontractor Markup %		10% =	\$75
Cost Proposal Preparation		=	\$195
A. Total Personnel			\$3,155

B. Well Plugging and Abandonment Costs

	# of Units	\$/Unit	Total
Mobilization (less than 50 miles)	1 x	\$300 =	\$300
Mileage (over 50 r.t, max 200)	0 x	\$2.5 =	\$0
P&A wells (first 25')	11 x	\$300 =	\$3,300
P&A Wells (add. footage, 26' - 100')	190 x	\$8 =	\$1,520
P&A Wells (add. footage, >100')	0 x	\$10 =	\$0
Drill Crew Per Diem	0 x	\$240 =	\$0
Subtotal Subcontracted Equipment =		\$5,120	
Subcontractor Markup %		15% =	\$768
B. Total Well P&A			\$5,888

C. Other Costs

	# of Units	\$/Unit	Total
Disposal of Wastes	3 x	\$250+\$10.50/cy =	\$283
Small Items	4 x	\$20 =	\$80
Subtotal Subcontracted Waste Mgmt.		=	\$363
Subcontractor Markup %		15% =	\$54
C. Total Other			\$417

D. Travel

	Units	\$/Unit	Total
Mileage (>100 r.t)	50 x	\$0.445 =	\$22
One way mileage to site		25	
Travel Time	1 x	\$45 =	\$45
Per diem	0 x	\$90 =	\$0
Airfare	0 x	\$0 =	\$0
Equipment Truck	0 x	\$140 =	\$0
Subtotal Subcontracted Travel		=	\$0
Subcontractor Markup %		15% =	\$0
D. Total Travel			\$67

Total Site Closure Activity Costs (A+B+C+D) = \$9,528

Item	Proposed		Approved		App.- Prop. Difference
	Amt. Sub'd	Total	Subcontracted	Total	
Personnel	\$750	\$3,193	\$750	\$3,155	-\$38
Well P&A	\$5,360	\$6,164	\$5,120	\$5,888	-\$276
Other Costs	\$750	\$863	\$363	\$417	-\$446
Travel	\$0	\$370	\$0	\$67	-\$303
Total	\$6,860	\$10,590	\$6,233	\$9,528	-\$1,062

 *** MULTI TX/RX REPORT ***

TX/RX NO 3294
 PGS. 5
 TX/RX INCOMPLETE

 TRANSACTION OK
 [11]3393795
 (1) 19014349235
 (2) 4421181
 ERROR INFORMATION

TCEQ FAX TRANSMITTAL

DATE: 10/24/06 No. of Pages (including this sheet) 5

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 Name Trudy Hasan
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Texas Commission on Environmental Quality
INTEROFFICE MEMORANDUM

TO: FILE **DATE:** August 22, 2006
Updated October 3, 2006

THRU: Prasanthi Bollineni or Susan Longbine, TCEQ On Site Supervisor
David Bratberg, Senior Project Manager, Darcy Environmental Group

FROM: Trudy Hasan, Case Coordinator, Darcy Environmental Group

RE: File Review of Subsurface Release of Hydrocarbons for the Federal Express Facility,
5811 Technicenter Drive, Austin (Travis County), Texas
LPST ID No. 111747; Facility ID No. 0029044; Priority 4.1; R-11

A SIGNIFICANT PORTION OF THIS FILE IS MISSING.

Release Determination

- On October 7, 1996, a confirmed release of approximately 6,797 gallons of gasoline was documented. In October 1996, one 10,000 gallon gasoline tank was removed after the release was discovered. It appears that "sticking" the tank for fuel measurement created a hole in the tank.
- Maximum soil concentrations (ppm):
 - benzene *45.3 ppm (Bottom #2, 14')
 - BTEX 741 ppm (Bottom #2, 14')
 - TPH 1,480 ppm (Bottom #2, 14').
- *B1/MW1 was installed two weeks later at the "Bottom #2" location and serves as a confirmation boring:
 - benzene <0.5 ppm (B-1, 14'-15')
 - BTEX 20.09 ppm (B-1, 14'-15')
 - TPH 180 ppm (B-1, 14'-15').

Exposure Pathways Open:

- GW Ingestion (onsite - current)
- GW Ingestion (offsite - current)
- GW Ingestion (onsite - future)
- GW Ingestion (offsite - future)
- GW for Construction Worker
- Plume stability monitoring
- Soils- Exp. Vapor
- Soils - Health/CW
- NAPL, DTW <15'
- NAPL, DTW >15' (removed to maximum extent practicable)
- GW to surface water
- Other

Site Characteristics

- Former UST facility; commercial/industrial use
- Future use expected to remain commercial/industrial.
- Surrounding land use is unknown except that there is an elementary school located immediately west (w/in 500') of the site.

Soil Assessment

- Plan A Assessments were conducted in October 1996 and February-March 1997.
- 11 soil borings/ all completed as MWs.
- Maximum soil concentrations (ppm):
 - benzene 11.4 ppm (MW-6, 36.5'-37.5', 2/5/97)
 - BTEX 255 ppm (MW-6, 36.5'-37.5', 2/5/97)
 - TPH 4,000 ppm (MW-6, 37', 2/5/97)
- PAH analysis conducted on B-1 @ 31 feet. Naphthalene was 8.6 ppm.
- It appears that, of the 11 soil borings installed, only one soil sample was collected from the 0-15'

interval (MW-1, 14'-15'). Based on this limited information, soil contaminants remaining in the 0-15' interval are below health-based target levels.

- During the initial RBA, a thorough vapor survey was conducted, with no indication of explosive vapors.

Groundwater Assessment

- 11 MWs.
- DTW ranges from about 27' to 37' btoc.
- GW gradient appears to be relative flat; generally to the east and southeast.
- TDS is 478 ppm (MW-3).
- 13 GWM events were conducted between November 1996 and April 2006. NAPL was historically observed in MW-1, MW-2, MW-3, MW-4, MW-5, and MW-6. Note that MW-6 has never been sampled due to presence of NAPL.

- Maximum dissolved groundwater concentrations:

	<u>Historical</u>	<u>Current (last 2 events)</u>
benzene	3.57 ppm (MW-5, 12/27/01)	2.09 ppm (MW-5, 4/21/06)
BTEX	14.24 ppm (MW-5, 12/27/01)	6.54 ppm (MW-5, 4/21/06)
MTBE	2.85 ppm (MW-5, 12/27/01)	0.92 ppm (MW-5, 4/21/06)
TPH	360 ppm (MW-2, 01/28/04)	12.36 ppm (MW-4, 4/21/06)
PAHs	1.86 ppm naphthalene (MW-2, 4/4/01)	<Plan A (MW-4, 4/21/06)

- MW-2 has been tested five times for PAHs. The maximum reported C₁₀-C₂₈ concentration is 142 ppm (MW-2, 1/28/04). Although this sample was not analyzed for PAHs, a sample containing 109 ppm C₁₀-C₂₈ (MW-2, 4/4/01) was tested for PAHs. MW-4 was recently tested for PAHs, with results <Plan A. No additional TPH or PAH analysis is needed.
- The NAPL plume extends about 200' north of the former tankhold and about 75-100' offsite to the west. The NAPL plume was never delineated north of MW-4. However, based on the most recent sampling data from MW-4, delineation to the north does not appear warranted.
- The groundwater plume shows decreasing groundwater concentrations from source area. Dissolved-phase concentrations appear relatively stable.
- Fluid wastes have been properly disposed.

NAPL and Corrective Action

- NAPL historically observed in MW-1, MW-2, MW-3, MW-4, and offsite MW-5 and MW-6.
- Maximum NAPL thicknesses: 1.61' in MW-1, 4.44' in MW-2, 0.81' in MW-3, 0.81' in MW-4, 0.85' in MW-5, and 4.58' in MW-6.
- NAPL recovery history:
 - ▶ 6 months of NAPL recovery from MW1, MW2 and MW6 initiated in January 1997. SVE pilot test conducted June 1997. See SVE system map dated 10/97. CAP for SVE approved in February 1998.
 - ▶ NAPL removed via a SVE system utilizing MWs 1,2,& 6 from May 1998 to January 1999. Significant O&M problems reported.
 - ▶ NAPL removed via new SVE system from September 2000 to May 2001 utilizing MWs 1,2,& 6. MDPE also used during this time.
 - ▶ Passive skimmers were then used to recover product from MW-5 and MW-6 for one year (26 visits) in late 2001-2002.
 - ▶ One 8-hour MDPE event attempted utilizing MW5, 6, & 9 in October 2003, but only ran

- for four hours; unsuccessful (<1 gallon removed)
- ▶ One 24-hour MDPE event attempted on MWs 1, 5, & 6, but only ran eight hours due to diminishing rate of recovery. Approx. 8 gallons of vapors recovered. Deemed unsuccessful by our letter dated 09/01/04.
- ▶ Another 24-hour MDPE event attempted on MWs 1, 5 & 6, but terminated after 12 hours due to low vapor recovery. 26 gallons (162 lbs) of product were reportedly recovered during this 12-hour event, but our calculations show only 3.8 gallons recovered (see 8/18/05 letter). The volume of total fluids recovered (9,600 gallons) also made the event less cost effective.
- Between May 2004 and January 2006, NAPL was absent except in MW-6. On 4/29/05, 0.05' of product remained in MW-6 after the last MDPE event. Sorbents were approved for use in MW-6.
- **In January 2006, significant product re-appeared in MW-1, MW-2, MW-4, MW-5, and MW-6 at thicknesses ranging from 0.15' in MW-2 to 2.12' in MW-6. The water table had dropped to historic lows for the site.** Product was handbailed and sorbents were installed in MW-1, 2, 4, and 5. A passive skimmer was installed in MW-6. One month later, there was still significant product in MW-6. A CARF issued on 3/8/06 approved a 24-hour MDPE event using a drop-tube only. The event, conducted on 3/20/06, was terminated after 10 hours due to diminishing recovery rates. Approximately 28.7 gallons of product as vapors and 2 gallons of liquid product were recovered (~186 lbs). Over 2,500 gallons of fluids were generated during this event. Overall, MDPE is not cost effective at this site.
- Since the March 2006 MDPE event, only MW-6 has contained product. As of 7/17/06, 0.06' of NAPL remained in MW-6. We conclude that product has been removed to the maximum extent practicable at this site. The most recent PRR indicates that over 2,500 gallons of product have been recovered to date.

Receptors and Site Priority/Category

- Site is not located over a major/minor aquifer.
- A natural gas line is located within 30' east of the NAPL impacted wells; however, the DTW at this site is >15' bgs, so these utilities are not likely to be affected by the release.
- Norman Elementary School is immediately west of the site.
- City of Austin supplies water to the site and surrounding area.
- Site priority is 4.1; BGUC is Category II.

Conclusions/Recommendations

This site has met the 9/1/02 deadline and the CAP deadline.

This site remains eligible for reimbursement (MM-EXT 10/14/05).

A copy of the 1996 RBA has been requested but not yet been received.

Removal of NAPL to the maximum extent practicable is the cleanup goal.

- HVME (with a two pump system) was conducted and the results were low vapor recovery, high water recovery (9,600 gallons) but very low draw down. And, because they were recovering >13 gpm, it appears that they hit a high yield aquifer and recovery of the submerged NAPL may not be possible.
- The source (UST system) has been removed.

October 3, 2006

- NAPL recovery has been ongoing since 1997 via SVE, passive skimming and MDPE.
- Because **NAPL is OFFSITE**, the 07/17/03 memo can NOT be used.
- Additional NAPL recovery is necessary followed by four quarters of monitoring. Additional MDPE was conducted in March 2006. It appears that NAPL has been removed to the maximum extent practicable.
- A NAPL delineation well north of MW-4 was requested in a fax issued on 7/11/06, in addition to a well between MW-6 and MW-9 to better define the NAPL plume. However, based on the most current data, these delineation wells no longer appear necessary. No sensitive receptors are noted within 500' north of MW-4.

Current Submittals: PA13 (rec'd 9/11/06)

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- *Issue CARF.*

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- soils: maximum soil concentrations < health-based and cw target; closed.
- soils: SCR indicates a lack of vapor impacts to buildings, subsurface utilities, etc.; closed.
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- future on-site groundwater ingestion: no comm. use within 0.5-mile, municipal supply; qualitatively closed.
- future off-site groundwater ingestion: closed.
- construction worker: DTW > 15 feet; closed.
- groundwater to surface water: closed.
- NAPL removed to maximum extent practicable: yes based on current data; closed.
- plume stability: plume appears stable or decreasing; closed.

LPST 111747-CO

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION
PETROLEUM STORAGE TANK
CORRESPONDENCE IDENTIFICATION SHEET

Date: August 28, 2006 LPST ID No 111747
Site Name: Federal Express Corporation Facility ID No 0029044
Site Address: 5811 Technicenter Drive, Austin, TX

APC
TH2
Prop 13

This checklist **must** accompany all correspondence submitted to the RPR Section and should be affixed to the front of your submittal as a cover page. Please check the appropriate box for the type of correspondence which you have submitted to the RPR Section. Check all boxes that apply if you are submitting more than one type of correspondence. If you cannot find an appropriate category, please complete the "other" section.

PROPOSALS		
<input type="checkbox"/> Initial Abatement (1)	<input type="checkbox"/> Tank Removal (2)	<input type="checkbox"/> Excavation (3)
<input type="checkbox"/> Waste Treatment (4)	<input type="checkbox"/> Site Assessment (5)	<input type="checkbox"/> Aquifer Testing (6)
<input type="checkbox"/> VES/Sparge Testing (7)	<input type="checkbox"/> Qtrly GW Monitoring (8)	<input type="checkbox"/> CAP Prep. (9)
<input type="checkbox"/> GW Extrac /Treatment (10)	<input type="checkbox"/> Soil Vapor Extrac. (11)	<input type="checkbox"/> Operation & Man (12)
<input checked="" type="checkbox"/> Site Closure (13)	<input type="checkbox"/> Plan A Risk Ass. (14)	<input type="checkbox"/> Plan B Risk Ass (15)
<input type="checkbox"/> Semi-annual GW Mon. (16)*	<input type="checkbox"/> Annual GW Mon (18)	<input type="checkbox"/> Product Recovery (19)
<input type="checkbox"/> Other proposal _____		

REPORTING FORMS	
<input type="checkbox"/> Assessment Report Form (TNRCC-0562)	<input type="checkbox"/> Release Report Form (TNRCC-0621)
<input type="checkbox"/> Product Recovery Report Form (TNRCC-0016)	<input type="checkbox"/> Monitoring Event Summary and Status Report (TNRCC-0013)
<input type="checkbox"/> Site Closure Request Form (TNRCC-0028)	<input type="checkbox"/> Final Site Closure Report Form (TNRCC-0038)
<input type="checkbox"/> Other form _____	

REPORTS		
<input type="checkbox"/> Tank Closure/Removal	<input type="checkbox"/> Plan A Risk Assessment	<input type="checkbox"/> Annual Groundwater Monitoring
<input type="checkbox"/> O&M/Performance Mon	<input type="checkbox"/> Plan B Risk Assessment	<input type="checkbox"/> CAP Installation/Modification
<input type="checkbox"/> Property Divestiture/Phase I ESA	<input type="checkbox"/> Corrective Action Plan (CAP)	<input type="checkbox"/> Aquifer/Pilot Test Results

MISCELLANEOUS		Received
<input type="checkbox"/> Off-site access assistance	<input type="checkbox"/> Deadline Extension Request	SEP 11 2006
<input type="checkbox"/> Tank tightness test results	<input type="checkbox"/> Request for State-Lead	TCEQ/PST-RPR
<input type="checkbox"/> Request for LPST Waste Code	<input type="checkbox"/> Class V Reinjection Request	
<input type="checkbox"/> Notice to Owner/Operator for CAS Services	<input type="checkbox"/> Petroleum-Substance Waste Manifest	
<input type="checkbox"/> Underground Storage Tank Registration Form	<input type="checkbox"/> Aboveground Storage Tank Registration Form	
<input type="checkbox"/> Other (anything that does not fit into one of the categories above) _____		

* The proposal for semi-annual monitoring and annual report (Proposal Activity 17) has been discontinued. For semi-annual monitoring, use Proposal Activity 16.

DARCY ENVIRONMENTAL GROUP

I attest that all work has been conducted in accordance with accepted industry standards/practices and adhered to TNRCC guidance and rules. I certify that I am aware that misrepresentation of any of the above claims is a violation of 30 TAC 334.453(b)(1)(E) and that this violation may result in the disciplinary actions set forth in 30 TAC 334.453 and or 334.463 and 334.465.

If a proposal is attached for preapproval, has the proposed work, in part or in whole, already been performed or in progress?

If yes, what work? _____

Terracon _____ 825 _____ 2/25/07 _____
(Registered Corrective Action Specialist) (RCAS Reg. No.) (Expiration date)



(Signature) (Date)

(512) 442-1122 _____ (512) 442-1181 _____
(Telephone #) (FAX #)

Russell C. Ford _____ 1502 _____ 7/31/07 _____
(Project Manager) (CAPM Reg. No.) (Expiration date)

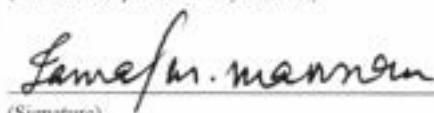


(Signature) (Date)

(512) 442-1122 _____ (512) 442-1181 _____
(Telephone #) (FAX #)

By signature below, I certify that documents checked above are included.

Mr. Jamal Mansour _____ Federal Express Corporation _____
(Name of Responsible Party Contact) (Company)



(Signature) (Date)

(901) 434-8458 _____ (901) 434-9235 _____
(Telephone #) (FAX #)

Received
SEP 11 2005
TCEQ/PST-RPR

DARCY ENVIRONMENTAL GROUP

WORKPLAN AND PREAPPROVAL REQUEST

LPST ID No.: 111747
Responsible Party: Federal Express Corporation
Property Owner: Federal Express Corporation
Facility Name: Federal Express Corporation
Facility Address: 5811 Technicenter Drive
Facility City: Austin
Facility ID No.: 0029044
TNRCC Region: 11
Case Priority: 4.1

Proposed Activity: 11-1 Final Site Closure

Goal of Proposed Activity

The goal of the proposed activity is to properly plug and abandon the existing monitoring wells and remove the existing remediation compound for final site closure.

Description of Activities

Each of the existing groundwater monitor wells (MW-1 through MW-11) will be properly plugged and abandoned by a licensed well driller. The existing remediation fenced compound will be removed and the remediation suction header pipes will be cut down below grade and plugged.

Reporting of Activities

A final site closure report form (TCEQ-0038) will be completed and submitted to document the removal of the remediation compound and plugging of the monitoring wells.

Preapproval Request Forms

A Site Closure Cost Proposal form is attached for review.

Plan B, CAP, and Site Closure Cost Proposal

LPST # 111747

Facility ID 29044

Responsible Party Federal Express Corporation Facility Name and Address Federal Express, 5811 Teleshopper Drive, Austin, TX

Mark Appropriate Activity 05-2 Plan B Assessment 06-1 Corrective Action Plan Preparation **Free**
 11-1 Site Closure

Plan B Assessment or Corrective Action Plan

	Sub	Total		Sub	Total
Plan B Assessment			Plan B Assessment (continued)		
Basic Report Only	---	0	Soil Ingestion	---	0
Groundwater Ingestion			Subtotal Subcontracted Personnel *	0	0
a) On-Site (Vert. F&T Modeling only)	---	0	Subcontractor Markup %	---	0
b) Off-Site (Vert. + Lat. F&T Modeling to POE)	---	0	Total		0
Construction Worker					
a) Off-Site (Vert. + Lat. F&T Modeling to POE)	---	0			
Indoor Air			Corrective Action Plan		
a) Soil to Air	---	0	CAP Preparation - No Remediation System	---	0
b) Groundwater to Air	---	0	CAP Preparation - With Remediation System	---	0
Outdoor Air			Subtotal Subcontracted Personnel *	0	0
a) Soil to Air	---	0	Subcontractor Markup %	---	0
b) Groundwater to Air	---	0	Total		0

Site Closure

A. Personnel

	Units	\$/Unit	Sub	Total
Office Costs				
Site Closure Request	1	\$100		\$100
Project Manager	1	\$200		\$200
Final Closure Report	1	\$210		\$210
Field Costs				
P&A First well	1	\$150		\$150
P&A add. wells <100' deep	10	\$100		\$1000
P&A add. wells >100' deep		0		0
Remove Remediation System	1	\$700		\$700
Subtotal Subcontracted Personnel *		\$700		\$700
Subcontractor Markup %		15%		\$105
Cost Proposal Preparation				\$105
A. Total Personnel				\$3,193

C. Other Costs

	Units	\$/Unit	Sub	Total
Disposal of Wastes	1	\$700		\$700
Rec'd. Items		0		0
		0		0
		0		0
		0		0
		0		0
Subtotal Subcontracted Other *		\$700		\$700
Subcontractor Markup %		15%		\$105
C. Total Other				\$805

B. Rig Costs

local driller? no per diem

	Units	\$/Unit	Sub	Total
Mobilization (<100 mi. r.t.)	1	\$100		\$100
Mileage (>100 mi. r.t.)	0	0		0
P&A Wells (first 25')	11	\$100		\$1,100
P&A Wells (add. footage 26'-100')	100	0		\$1,100
P&A Wells (add. footage >100')		0		0
Rec'd. Other Rec. Items	1	\$100		\$100
Subtotal Subcontracted Rig Costs *		\$2,300		\$2,300
Subcontractor Markup %		15%		\$345
B. Total Rig Costs				\$2,645

D. Travel

	Units	\$/Unit	Sub	Amount
Equipment Truck	1	\$100		\$100
One way mileage to site		0		0
Mileage (>100 r.t.)		\$7.00		0
Travel Time	1	\$100		\$100
Per Diem		0		0
Airfare		0		0
Subtotal Subcontracted/Travel *		0		0
Subcontractor Markup %				0
D. Total Travel				\$370

E. Total Site Closure Proposed Cost

A + B + C + D = \$10,589

Cannot Verify

Russell C. Ford / Signature: *[Signature]* / Terreon / August 28, 2008
 (CAPM Name, Printed) / (Signature) / (Company) / (Date)
 (512) 442-1122 / (512) 442-1181 / 1502 / 1/18/2007
 (Phone #) / (Fax #) / (CAPM #) / (Exp. Date)
 Russell C. Ford / Signature of Representative: *[Signature]* / Terreon / August 28, 2008
 (RCAS Rep. Name, Printed) / (Signature of Representative) / (Company) / (Date)
 (512) 442-1122 / (512) 442-1181 / 367 / 2/26/2007
 (Phone #) / (Fax #) / (RCAS #) / (Exp. Date)

I acknowledge that the TNRCC may reimburse corrective action costs that are at or below the maximum reimbursable amount published in 30 TAC, Chapter 334, Subchapter M. The maximum reimbursable cost will be the amount approved for the activity unless the Executive Director determines that sound justification for a cost surplus exists. I understand that this certification is not intended to limit what a Registered Corrective Action Specialist, Corrective Action Project Manager, or Contractor may charge. I further understand that the amount of the reimbursement for the above activity will be determined after all receipts are submitted and subjected to technical and reimbursable cost review. I certify that this TNRCC form has not been altered.

Federal Express Corporation / Signature: *[Signature]* / Jamal Mansour / August 28, 2008
 (Name of Responsible Party) / (Signature of Representative) / (Name Printed) / (Company)
 (901) 434-8458 / (901) 434-9235 / 8-31-06 /
 (Phone #) / (Fax #) / (Date)

CPST# 111747
50186120
CO

RECEIVED

SEP 07 2006

TCEQ
CENTRAL FILE ROOM

SENDER: COMPLETE THIS SECTION		COMPLETE THIS SECTION ON DELIVERY	
<ul style="list-style-type: none">Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.Print your name and address on the reverse so that we can return the card to you.Attach this card to the back of the mailpiece, or on the front if space permits.		A. Signature <input checked="" type="checkbox"/> Agent <input type="checkbox"/> Addressee	
1. Article Addressed to: TH2/DLH		B. Received by (Printed Name) S. H. [Signature]	C. Date of Delivery 8-28-06
MR JAMAL MANSOUR FEDERAL EXPRESS 3620 HACK CROSS RD BLDG B MEMPHIS TN 38125 (LPST#111747.FNN)		D. Is delivery address different from item 1? If so, complete delivery address below: Received AUG 30 2006 TCEQ/PST-RPR	
2. Article Number (Transfer from service label)		3. Service Type <input type="checkbox"/> Certified Mail <input type="checkbox"/> Express Mail <input type="checkbox"/> Registered <input type="checkbox"/> Return Receipt for Merchandise <input type="checkbox"/> Insured Mail <input type="checkbox"/> C.O.D.	
7004 1160 0002 0733 0774		4. Restricted Delivery? (Extra Fee) <input type="checkbox"/> Yes	
PS Form 3811, February 2004		Domestic Return Receipt	
		102595-02-M-1540	

Mr. Terry Dempsey

Page 2

LPST ID No. 116935

Please note that all correspondence must include the LPST and Facility ID Numbers and should be submitted to the Central Office in Austin. The information in the TCEQ reference line above should be included in your response. Should you have any questions, please contact Reagan Dowd of Darcy Environmental (PST Privatization Contractor) at 512/342-8585 ext. 35, and reference the assigned LPST ID number. We appreciate your cooperation.

Sincerely,

Prasanthi Bollineni or Susan Longbine
PST Privatization Contract Manager
Environmental Cleanup Section I
Remediation Division
Texas Commission on Environmental Quality

PVB/SNL/db2

LPST ID No. 116935.ladscreen.wpd
15376.ladscreen.wpd

Enclosures: List of Comments
TRRP-Related Guidance Documents and Forms for PST Sites

CPST# 111747

7004 1160 0002 0733 0774

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Total Postage & Fees	\$	

Send to
JAMAL MANSOUR
Street, Apt. No.,
or **Box** **Hack Cross Rd Pldg. B**
City, State, ZIP+4
Memphis TN 38125

- Surfa
- Delin

Receptor

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Pathway

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- March 6,
- June 200
- July 31, 2

113138.w

4/9

4/1

Darcy Tracking Sheet

Level 1 Level 2

Assigned documents/deliverables:

Assignment date: 4/9/05

Coordinator: DB2 ES2 TH2 MWB

To PM: 6/26/06

To OSS: 6/26/06

Ret to Coord: 7/12/06 Final

To PM: _____

To OSS: _____

Ret to Coord: _____ Final

LPST RDR# 113138

Letter/Fax date

RDR/SMAPS UPDATE

Assign. ID# 11920-21

Requires Modifications

Call consultant for any recent sampling/gauging data.

Requires Modifications

No Pst close monitor, no data for redrawing samples

RR- CAR

RR- TECH

ADD RR of data it goes out

MW-02 - 0,02'

MW-01 0,10'

site; closed



Handwritten notes: ADD RR of data it goes out, MW-02 - 0,02', MW-01 0,10'

s;
to be

Recommend
W-9
clude
MDPE with

Kathleen Hartnett White, *Chairman*
R. B. "Ralph" Marquez, *Commissioner*
Larry R. Soward, *Commissioner*
Glenn Shankle, *Executive Director*



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

August 24, 2006

Mr. Jamal Mansour
Federal Express
3620 Hacks Cross Road, Bldg. B
Memphis, TN 38125

CERTIFIED MAIL
#7004 1160 0002 0733 0774
RETURN RECEIPT REQUESTED

Re: Leaking Petroleum Storage Tank (LPST) Case Closure of Subsurface Release of Hydrocarbons at the Federal Express Facility, 5811 Technicenter Drive, Austin (Travis County), Texas
LPST ID No. 111747; Facility ID No. 0029044; Priority 4.1; R-11

Dear Mr. Mansour:

This letter confirms the completion of corrective action requirements for the release incident at the above-referenced facility. Based upon the submitted information and with the provision that the documentation provided to this agency was accurate and representative of site conditions, we concur with your conclusions and recommendations that the site has met the closure requirements. Therefore, no further corrective action is necessary. The justification for final closure includes, but is not limited to, the following criteria:

- The maximum remaining soil contaminant concentrations in the 0 to 15 foot interval were below health-based target levels.
- There appears to be no threat of explosive vapors at this site.
- There is no documented use of the affected zone within 0.5-mile of the site, and future use is not considered likely.
- Phase-separated hydrocarbons have been removed to the maximum extent practicable.
- Dissolved-phase concentrations decreased with distance from the source, and the contaminant plume appears stable or decreasing over time.
- Other identified potential receptors do not appear threatened by this release.

Please note that financial assurance must be maintained for all operational storage tanks at this site. Please be aware that case closure is based on identified exposure pathways and that any remaining contaminant levels and potential exposure pathways should be evaluated when conducting any future soil excavation or construction activities at this site. Please ensure that any wastes generated from these activities are handled in compliance with all applicable regulations.

Please be advised that all monitor wells which are not now in use and/or will not be used in the next 180 days must be properly plugged and abandoned pursuant to Chapter 32.017 of the Texas Water Code and in accordance with Title 16, Texas Administrative Code (TAC), Section 76.1004. A State of Texas Plugging Report (Form No. TCEQ-0055) is required to be submitted to the Water Well Drillers Section of the Texas Department of Licensing and Regulation, P.O. Box 12157, Capitol Station, Austin, Texas 78711, within thirty (30) days of plugging completion. If you have any questions regarding the future use of an existing monitor well, please contact the Texas Department of Licensing and Regulation at 512/463-7880 or 800/803-9202.

Mr. Jamal Mansour
August 24, 2006
Page 2
LPST ID No. 111747

If any monitor well plugging or other necessary site restoration activities will be performed to complete site closure, complete a *Final Site Closure Report* and submit the report to the Central Office in Austin to document actual site closure. For sites eligible for reimbursement through the Petroleum Storage Tank Remediation Fund, written preapproval should be obtained prior to initiation of site closure activities. Reimbursement claims for activities that are not preapproved will not be paid until all claims for preapproved work are processed and paid.

Please note that the *Final Site Closure Report*, if necessary, will be the last submittal associated with this case. This letter signifies the completion of corrective action associated with the release. No subsequent TCEQ correspondence will be issued in response to the *Final Site Closure Report*.

Should you have any questions, please contact Ms. Trudy Hasan of Darcy Environmental Group (TCEQ Privatization Contractor) at 512/342-8585, extension 24. **Please reference the LPST ID Number when making inquiries.** Your cooperation in this matter has been appreciated.

Sincerely,



Prasanthi Bollineni or Susan Longbine
PST Privatization Contract Manager
Environmental Cleanup Section I
Remediation Division
Texas Commission on Environmental Quality

PVB/SNL/th2
111747.fnn.wpd

Texas Commission on Environmental Quality
INTEROFFICE MEMORANDUM

TO: FILE **DATE:** August 22, 2006
(see file for previous CFMs)

THRU: Prasanthi Bollineni or Susan Longbine, TCEQ On Site Supervisor
David Bratberg, Senior Project Manager, Darcy Environmental Group

FROM: *DA* Trudy Hasan, Case Coordinator, Darcy Environmental Group

RE: File Review of Subsurface Release of Hydrocarbons for the Federal Express Facility,
5811 Technicenter Drive, Austin (Travis County), Texas
LPST ID No. 111747; Facility ID No. 0029044; Priority 4.1; R-11

A SIGNIFICANT PORTION OF THIS FILE IS MISSING.

Release Determination

- On October 7, 1996, a confirmed release of approximately 6,797 gallons of gasoline was documented. In October 1996, one 10,000 gallon gasoline tank was removed after the release was discovered. It appears that "sticking" the tank for fuel measurement created a hole in the tank.
- Maximum soil concentrations (ppm):
 - benzene *45.3 ppm (Bottom #2, 14')
 - BTEX 741 ppm (Bottom #2, 14')
 - TPH 1,480 ppm (Bottom #2, 14').
- *B1/MW1 was installed two weeks later at the "Bottom #2" location and serves as a confirmation boring:
 - benzene <0.5 ppm (B-1, 14'-15')
 - BTEX 20.09 ppm (B-1, 14'-15')
 - TPH 180 ppm (B-1, 14'-15').

Exposure Pathways Open:

- GW Ingestion (onsite - current)
- GW Ingestion (offsite - current)
- GW Ingestion (onsite - future)
- GW Ingestion (offsite - future)
- GW for Construction Worker
- Plume stability monitoring
- Soils- Exp. Vapor
- Soils - Health/CW
- NAPL, DTW <15'
- NAPL, DTW >15'
- GW to surface water
- Other

Site Characteristics

- Former UST facility; commercial/industrial use
- Future use expected to remain commercial/industrial.
- Surrounding land use is unknown except that there is an elementary school located immediately west (w/in 500') of the site.

Soil Assessment

- Plan A Assessments were conducted in October 1996 and February-March 1997.
- 11 soil borings/ all completed as MWs.
- Maximum soil concentrations (ppm):
 - benzene 11.4 ppm (MW-6, 36.5'-37.5', 2/5/97)
 - BTEX 255 ppm (MW-6, 36.5'-37.5', 2/5/97)
 - TPH 4,000 ppm (MW-6, 37', 2/5/97)
- PAH analysis conducted on B-1 @ 31 feet. Naphthalene was 8.6 ppm.
- It appears that, of the 11 soil borings installed, only one soil sample was collected from the 0-15'

interval (MW-1, 14'-15'). Based on this limited information, soil contaminants remaining in the 0-15' interval are below health-based target levels.

- During the initial RBA, a thorough vapor survey was conducted, with no indication of explosive vapors.

Groundwater Assessment

- 11 MWs.
- DTW ranges from about 27' to 37' btoc.
- GW gradient appears to be relative flat; generally to the east and southeast.
- TDS is 478 ppm (MW-3).
- 13 GWM events were conducted between November 1996 and April 2006. NAPL was historically observed in MW-1, MW-2, MW-3, MW-4, MW-5, and MW-6. Note that MW-6 has never been sampled due to presence of NAPL.
- Maximum dissolved groundwater concentrations:

	<u>Historical</u>	<u>Current (last 2 events)</u>
benzene	3.57 ppm (MW-5, 12/27/01)	2.09 ppm (MW-5, 4/21/06)
BTEX	14.24 ppm (MW-5, 12/27/01)	6.54 ppm (MW-5, 4/21/06)
MTBE	2.85 ppm (MW-5, 12/27/01)	0.92 ppm (MW-5, 4/21/06)
TPH	360 ppm (MW-2, 01/28/04)	12.36 ppm (MW-4, 4/21/06)
PAHs	1.86 ppm naphthalene (MW-2, 4/4/01)	<Plan A (MW-4, 4/21/06)
- MW-2 has been tested five times for PAHs. The maximum reported C₁₀-C₂₈ concentration is 142 ppm (MW-2, 1/28/04). Although this sample was not analyzed for PAHs, a sample containing 109 ppm C₁₀-C₂₈ (MW-2, 4/4/01) was tested for PAHs. *MW-4 was recently tested for PAHs, with results <Plan A. No additional TPH or PAH analysis is needed.*
- The NAPL plume extends about 200' north of the former tankhold and about 75-100' offsite to the west. *The NAPL plume was never delineated north of MW-4. However, based on the most recent sampling data from MW-4, delineation to the north does not appear warranted.*
- The groundwater plume shows decreasing groundwater concentrations from source area. Dissolved-phase concentrations appear relatively stable.
- Fluid wastes have been properly disposed.

NAPL and Corrective Action

- NAPL historically observed in MW-1, MW-2, MW-3, MW-4, and offsite MW-5 and MW-6.
- Maximum NAPL thicknesses: 1.61' in MW-1, 4.44' in MW-2, 0.81' in MW-3, 0.81' in MW-4, 0.85' in MW-5, and 4.58' in MW-6.
- NAPL recovery history:
 - ▶ 6 months of NAPL recovery from MW1, MW2 and MW6 initiated in January 1997. SVE pilot test conducted June 1997. See SVE system map dated 10/97. CAP for SVE approved in February 1998.
 - ▶ NAPL removed via a SVE system utilizing MWs 1,2,& 6 from May 1998 to January 1999. Significant O&M problems reported.
 - ▶ NAPL removed via new SVE system from September 2000 to May 2001 utilizing MWs 1,2,& 6. MDPE also used during this time.
 - ▶ Passive skimmers were then used to recover product from MW-5 and MW-6 for one year (26 visits) in late 2001-2002.
 - ▶ One 8-hour MDPE event attempted utilizing MW5, 6, & 9 in October 2003, but only ran

- for four hours; unsuccessful (<1 gallon removed)
- ▶ One 24-hour MDPE event attempted on MWs 1, 5, & 6, but only ran eight hours due to diminishing rate of recovery. Approx. 8 gallons of vapors recovered. Deemed unsuccessful by our letter dated 09/01/04.
- ▶ Another 24-hour MDPE event attempted on MWs 1, 5 & 6, but terminated after 12 hours due to low vapor recovery. 26 gallons (162 lbs) of product were reportedly recovered during this 12-hour event, but our calculations show only 3.8 gallons recovered (see 8/18/05 letter). The volume of total fluids recovered (9,600 gallons) also made the event less cost effective.
- Between May 2004 and January 2006, NAPL was absent except in MW-6. On 4/29/05, 0.05' of product remained in MW-6 after the last MDPE event. Sorbents were approved for use in MW-6.
- **In January 2006, significant product re-appeared in MW-1, MW-2, MW-4, MW-5, and MW-6 at thicknesses ranging from 0.15' in MW-2 to 2.12' in MW-6. The water table had dropped to historic lows for the site.** Product was handbailed and sorbents were installed in MW-1, 2, 4, and 5. A passive skimmer was installed in MW-6. One month later, there was still significant product in MW-6. A CARF issued on 3/8/06 approved a 24-hour MDPE event using a drop-tube only. *The event, conducted on 3/20/06, was terminated after 10 hours due to diminishing recovery rates. Approximately 28.7 gallons of product as vapors and 2 gallons of liquid product were recovered (~186 lbs). Over 2,500 gallons of fluids were generated during this event. Overall, MDPE is not cost effective at this site.*
- *Since the March 2006 MDPE event, only MW-6 has contained product. As of 7/17/06, 0.06' of NAPL remained in MW-6. We conclude that product has been removed to the maximum extent practicable at this site. The most recent PRR indicates that over 2,500 gallons of product have been recovered to date.*

Receptors and Site Priority/Category

- Site is not located over a major/minor aquifer.
- A natural gas line is located within 30' east of the NAPL impacted wells; however, the DTW at this site is >15' bgs, so these utilities are not likely to be affected by the release.
- Norman Elementary School is immediately west of the site.
- City of Austin supplies water to the site and surrounding area.
- Site priority is 4.1; BGUC is Category II.

Conclusions/Recommendations

This site has met the 9/1/02 deadline and the CAP deadline.

This site remains eligible for reimbursement (MM-EXT 10/14/05).

A copy of the 1996 RBA has been requested but not yet been received.

Removal of NAPL to the maximum extent practicable is the cleanup goal.

- HVME (with a two pump system) was conducted and the results were low vapor recovery, high water recovery (9,600 gallons) but very low draw down. And, because they were recovering >13 gpm, it appears that they hit a high yield aquifer and recovery of the submerged NAPL may not be possible.
- The source (UST system) has been removed.

- NAPL recovery has been ongoing since 1997 via SVE, passive skimming and MDPE.
- Because **NAPL is OFFSITE**, the 07/17/03 memo can NOT be used.
- Additional NAPL recovery is necessary followed by four quarters of monitoring. *Additional MDPE was conducted in March 2006. It appears that NAPL has been removed to the maximum extent practicable.*
- *A NAPL delineation well north of MW-4 was requested in a fax issued on 7/11/06, in addition to a well between MW-6 and MW-9 to better define the NAPL plume. However, based on the most current data, these delineation wells no longer appear necessary. No sensitive receptors are noted within 500' north of MW-4.*

Current Submittals: AGMR, PRR, SCR (rec'd 8/9/06)

- *The AGMR documents two additional quarters of monitoring. Note that MW-1, 2, and 6 were not sampled during these monitoring events.*
- *The PRR documents the completion of one 10-hour MDPE event. A 24-hour event was preapproved, but the event was terminated at 10 hours based on diminishing rates of recovery.*
- *Site closure is requested since it appears that NAPL has been removed to the maximum extent practicable and any remaining NAPL poses no threat.*
- *Water levels in 2006 have been at record lows for this site, and it appears that NAPL has been removed to the maximum extent practicable, based on the minimal amount of NAPL recharge in the impacted wells.*
- *Based on the available data, site closure is appropriate for this 4.1 site.*
- *Issue final letter and request proposal to plug existing wells.*

Exposure Pathway Evaluation:

- soils: maximum soil concentrations < health-based and cw target; closed.
- soils: SCR indicates a lack of vapor impacts to buildings, subsurface utilities, etc.; closed.
- current on-site groundwater ingestion: no on-site supply well; closed.
- current off-site groundwater ingestion: closed.
- future on-site groundwater ingestion: no comm. use within 0.5-mile, municipal supply; qualitatively closed.
- future off-site groundwater ingestion: closed.
- construction worker: DTW > 15 feet; closed.
- groundwater to surface water: closed.
- NAPL removed to maximum extent practicable: *yes based on current data; closed.*
- plume stability: *plume appears stable or decreasing; closed.*



Protecting Texas
by Reducing and
Preventing Pollution

FAX TRANSMITTAL

DATE: 8/24/06 NUMBER OF PAGES (including this cover sheet): 1

TO: Name Mr. Jamal Mansour / Mr. Russell Ford
Organization Federal Express / HBC Terracon
FAX Number 901-434-9235 / 512-442-1181

FROM: TEXAS COMMISSION on ENVIRONMENTAL QUALITY
Name Trudy S. Hasan, Case Coordinator
Darcy Environmental Group (PST Privatization Contractor)
Division/Section Remediation / Environmental Cleanup Section I & II (EC)
Telephone Number 512-342-8585 ext. 24
FAX Number 512-239-2216
E-Mail Address thasan@tceq.state.tx.us
TCEQ RPR -Web Page http://www.tceq.state.tx.us/remediation/pst_rp/index.html

Re: **Subsurface Release of Hydrocarbons at the Federal Express Facility, 5811 Technicenter Drive, Austin (Travis County), Texas**
LPST ID No. 111747; Facility ID No. 0029044; Priority 4.1; R-11

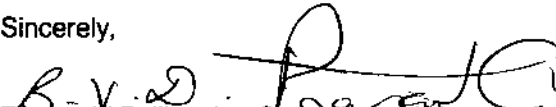
Dear Mr. Mansour and Mr. Ford,

We have completed our review of the Annual Groundwater Monitoring Report (AGMR), Product Recovery Report, and Site Closure Request dated August 2, 2006. Two additional quarters of monitoring were conducted in 2006, and a 24-hour MDPE event was attempted in March 2006. Due to a diminishing rate of hydrocarbon recovery, the MDPE event was terminated after 10 hours. These reports are complete and accepted as submitted.

Based on the gauging data collected after the last MDPE event, we conclude that phase-separated hydrocarbons have been removed to the maximum extent practicable. In addition, groundwater analytical data from MW-4 and lack of sensitive receptors within 500 feet of the source area indicate that additional delineation to the north of MW-4 (as previously requested by this Office) is not technically warranted. We therefore conclude that this site meets all criteria for closure. A final letter of concurrence will be issued under separate cover to the Responsible Party.

Please submit a work plan and cost proposal to plug the existing monitoring wells and prepare a Final Site Closure Report. If you have any questions, please contact Trudy Hasan of Darcy Environmental Group (PST Privatization Contractor) at 512-342-8585, extension 24.

Sincerely,


Prasanthi Bollineni or Susan Longbine
PST Privatization Contract Manager
Environmental Cleanup Section I
Remediation Division

PVB/SNL/th2
111747.scr.fax.wpd

 *** MULTI TX/RX REPORT ***

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 PGS. 1
 TX/RX INCOMPLETE -----
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 (2) 4421181
 ERROR INFORMATION -----



FAX TRANSMITTAL

DATE: 8/24/06 NUMBER OF PAGES (including this cover sheet):

TO: Name Mr. Jamal Mansour / Mr. Russell Ford
 Organization Federal Express / HBC Terracon
 FAX Number 901-434-9235 / 512-442-1181

FROM: TEXAS COMMISSION on ENVIRONMENTAL QUALITY
 Name Trudy S. Hasan, Case Coordinator
Darcy Environmental Group (PST Privatization Contractor)
 Division/Section Remediation / Environmental Cleanup Section I & II (EC)
 Telephone Number 512-342-8585 ext. 24
 FAX Number 512-239-2216
 E-Mail Address thasan@tceq.state.tx.us
 TCEQ RPR -Web Page http://www.tceq.state.tx.us/remediation/pst_rp/index.html

Re: Subsurface Release of Hydrocarbons at the Federal Express Facility, 5811 Technicenter Drive, Austin (Travis County), Texas
LPST ID No. 111747; Facility ID No. 0029044; Priority 4.1; R-11

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Protecting Texas
by Reducing and
Preventing Pollution

FAX TRANSMITTAL

DATE: 7/11/06 NUMBER OF PAGES (including this cover sheet): 1

TO:	Name	<u>Mr. Jamal Mansour / Mr. Russell Ford</u>
	Organization	<u>Federal Express / HBC Terracon</u>
	FAX Number	<u>901-434-9235 / 512-442-1181</u>

FROM: TEXAS COMMISSION on ENVIRONMENTAL QUALITY

Name	<u>Trudy S. Hasan, Case Coordinator Darcy Environmental Group (PST Privatization Contractor)</u>
Division/Section	<u>Remediation / Environmental Cleanup Section I & II (EC)</u>
Telephone Number	<u>512-342-8585 ext. 24</u>
FAX Number	<u>512-239-2216</u>
E-Mail Address	<u>thasan@tceq.state.tx.us</u>
TCEQ RPR -Web Page	<u>http://www.tceq.state.tx.us/remediation/pst_rp/index.html</u>

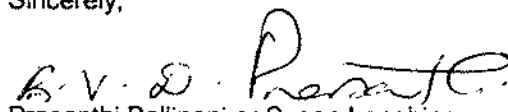
Re: Subsurface Release of Hydrocarbons at the Federal Express Facility, 5811 Technicenter Drive, Austin (Travis County), Texas
(LPST ID No. 111747 - Priority 4.1 - Facility ID No. 0029044) R-11

Dear Mr. Mansour and Mr. Ford,

Based on a recent case file review, it is apparent that a NAPL delineation well is needed to the north of MW-4. Within 30 days, please submit a work plan and cost proposal for the installation of the delineation well. Given that MW-9 is located approximately 175 feet from MW-6, please also consider the installation of a NAPL delineation well (temporary or permanent) between MW-6 and MW-9 to better define the extent of NAPL northwest of MW-6.

Please submit the results of the 24-hour MDPE event that was preapproved on March 8, 2006. If you have any questions, please contact Trudy Hasan of Darcy Environmental Group (PST Privatization Contractor) at 512-342-8585, extension 24.

Sincerely,


 Prasanthi Bollineni or Susan Longbine
 PST Privatization Contract Manager
 Environmental Cleanup Section I
 Remediation Division

PVB/SNL/th2
111747.rev.fax.wpd

 *** MULTI TX/RX REPORT ***

TX/RX NO 2388
 PGS. 1
 TX/RX INCOMPLETE -----
 TRANSACTION OK
 (1) 19014349235
 (2) 4421181
 ERROR INFORMATION -----



Protecting Texas
 by Reducing and
 Preventing Pollution

FAX TRANSMITTAL

DATE: 7/11/06 NUMBER OF PAGES (including this cover sheet):

TO: Name Mr. Jamal Mansour / Mr. Russell Ford
 Organization Federal Express / HBC Terracon
 FAX Number 901-434-9235 / 512-442-1181

FROM: TEXAS COMMISSION on ENVIRONMENTAL QUALITY
 Name Trudy S. Hasan, Case Coordinator
Darcy Environmental Group (PST Privatization Contractor)
 Division/Section Remediation / Environmental Cleanup Section I & II (EC)
 Telephone Number 512-342-8585 ext. 24
 FAX Number 512-239-2216
 E-Mail Address thasan@tceq.state.tx.us
 TCEQ RPR -Web Page http://www.tceq.state.tx.us/remediation/pst_rp/index.html

Re: Subsurface Release of Hydrocarbons at the Federal Express Facility, 5811 Technicenter Drive, Austin (Travis County), Texas (LPST ID No. 111747 - Priority 4.1 - Facility ID No. 0029044) R-11

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Sincerely,

Texas Commission on Environmental Quality
INTEROFFICE MEMORANDUM

TO: FILE **DATE:** October 22, 2004
Updated November 15, 2005
Updated February 21, 2006
Updated June 26, 2006

THRU: Prasanthi Bollineni or Susan Longbine, TCEQ On Site Supervisor
David Bratberg, Senior Project Manager, Darcy Environmental Group
Wade Stone, Team Leader, Environmental Cleanup Section I

FROM: Trudy Hasan, Case Coordinator, Darcy Environmental Group
Scott Lawless, Project Manager, Environmental Cleanup I Section

RE: File Review of Subsurface Release of Hydrocarbons for the Federal Express Facility,
5811 Technicenter Drive, Austin (Travis County), Texas
LPST ID No. 111747 - Priority 4.1 - Facility ID No. 0029044; R-11

A SIGNIFICANT PORTION OF THIS FILE IS MISSING.

Release Determination

- On October 7, 1996, a confirmed release of approximately 6,797 gallons of gasoline was documented. In October 1996, one 10,000 gallon gasoline tank was removed after the release was discovered. It appears that "sticking" the tank for fuel measurement created a hole in the tank.
- Maximum soil concentrations (ppm):
 - benzene ***45.3 ppm** (Bottom #2, 14')
 - BTEX 741 ppm (Bottom #2, 14')
 - TPH 1,480 ppm (Bottom #2, 14').
- *B1/MW1 was installed two weeks later at the "Bottom #2" location and serves as a confirmation boring:
 - benzene <0.5 ppm (B-1, 14'-15')
 - BTEX 20.09 ppm (B-1, 14'-15')
 - TPH 180 ppm (B-1, 14'-15').

Exposure Pathways Open:

- GW Ingestion (onsite - current)
- GW Ingestion (offsite - current)
- GW Ingestion (onsite - future)
- GW Ingestion (offsite - future)
- GW for Construction Worker
- Plume stability monitoring
- Soils- Exp. Vapor
- Soils - Health/CW
- NAPL, DTW <15'
- NAPL, DTW >15'
- GW to surface water
- Other

Site Characteristics

- Former UST facility; commercial/industrial use
- Future use expected to remain commercial/industrial.
- Surrounding land use is unknown except that there is an elementary school located immediately west (w/in 500') of the site.

Soil Assessment

- Plan A Assessments were conducted in October 1996 and February-March 1997.
- 11 soil borings/ all completed as MWs.
- Maximum soil concentrations (ppm):

benzene 11.4 ppm (MW-6, 36.5'-37.5', 2/5/97)
 BTEX 255 ppm (MW-6, 36.5'-37.5', 2/5/97)
 TPH 4,000 ppm (MW-6, 37', 2/5/97)

- PAH analysis conducted on B-1 @ 31 feet. Napthalene was 8.6 ppm.
- It appears that, of the 11 soil borings installed, only one soil sample was collected from the 0-15' interval (MW-1, 14'-15'). Based on this limited information, soil contaminants remaining in the 0-15' interval are below health-based target levels.
- During the initial RBA, a thorough vapor survey was conducted, with no indication of explosive vapors.

Groundwater Assessment

- 11 MWs.
- DTW ranges from about 27' to 37' btoc.
- GW gradient appears to be relative flat; generally to the east and southeast.
- TDS is 478 ppm (MW-3).
- 11 GWM events were conducted between November 1996 and March 2005. NAPL historically observed in MW-1, MW-2, MW-3, MW-4, MW-5, and MW-6. Note that MW-6 has never been sampled due to presence of NAPL.
- Maximum dissolved groundwater concentrations:

	<u>Historical</u>	<u>Current (03/23/05)</u>
benzene	3.57 ppm (MW-5, 12/27/01)	4.81 ppm (MW-5)
BTEX	14.24 ppm (MW-5, 12/27/01)	14.48 ppm (MW-5)
MTBE	2.85 ppm (MW-5, 12/27/01)	3.19 ppm (MW-4)
TPH	360 ppm (MW-2, 01/28/04)	98.89 ppm (MW-4)
PAHs	1.86 ppm naphthalene (MW-2, 4/4/01)	NA
- MW-2 has been tested five times for PAHs. The maximum reported C₁₀-C₂₈ concentration is 142 ppm (MW-2, 1/28/04). Although this sample was not analyzed for PAHs, a sample containing 109 ppm C₁₀-C₂₈ (MW-2, 4/4/01) was tested for PAHs.
- The NAPL plume extends about 200' north of the former tankhold and about 75-100' offsite to the west. The NAPL plume is not delineated north of MW-4. Also, note that MW-9 is 175' northwest of MW-6 (i.e., not very good control).
- The groundwater plume shows a decreasing groundwater concentrations from source area. Dissolved-phase concentrations appear relatively stable.
- Fluid wastes have been properly disposed.

NAPL and Corrective Action

- NAPL historically observed in MW-1, MW-2, MW-3, MW-4, and offsite MW-5 and MW-6.
- Maximum NAPL thicknesses: 1.61' in MW-1, 4.44' in MW-2, 0.81' in MW-3, 0.81' in MW-4, 0.85' in MW-5, and 4.58' in MW-6.
- NAPL recovery history:
 - ▶ 6 months of NAPL recovery from MW1, MW2 and MW6 initiated in January 1997. SVE pilot test conducted June 1997. See SVE system map dated 10/97. CAP for SVE approved in February 1998.
 - ▶ NAPL removed via a SVE system utilizing MWs 1,2,& 6 from May 1998 to January 1999. Significant O&M problems reported.
 - ▶ NAPL removed via new SVE system from September 2000 to May 2001 utilizing MWs

- 1,2,& 6. MDPE also used during this time.
- ▶ Passive skimmers were then used to recover product from MW-5 and MW-6 for one year (26 visits) in late 2001-2002.
- ▶ One 8-hour MDPE event attempted utilizing MW5, 6, & 9 in October 2003, but only ran for four hours; unsuccessful (<1 gallon removed)
- ▶ One 24-hour MDPE event attempted on MWs 1, 5, & 6, but only ran eight hours due to diminishing rate of recovery. Approx. 8 gallons of vapors recovered. Deemed unsuccessful by our letter dated 09/01/04.
- ▶ Another 24-hour MDPE event attempted on MWs 1, 5 & 6, but terminated after 12 hours due to low vapor recovery. 26 gallons (162 lbs) of product were reportedly recovered during this 12-hour event, but our calculations show only 3.8 gallons recovered (see 8/18/05 letter). The volume of total fluids recovered (9,600 gallons) also made the event less cost effective.
- Between May 2004 and January 2006, NAPL was absent except in MW-6. On 4/29/05, 0.05' of product remained in MW-6 after the last MDPE event. Sorbents were approved for use in MW-6.
- **In January 2006, significant product re-appeared in MW-1, MW-2, MW-4, MW-5, and MW-6 at thicknesses ranging from 0.15' in MW-2 to 2.12' in MW-6. The water table had dropped to historic lows for the site.** Product was handbailed and sorbents were installed in MW-1, 2, 4, and 5. A passive skimmer was installed in MW-6. One month later, there was still significant product in MW-6. *A CARF issued on 3/8/06 approved a 24-hour MDPE event using a drop-tube only.*

Receptors and Site Priority/Category

- Site is not located over a major/minor aquifer.
- A natural gas line is located within 30' east of the NAPL impacted wells; however, the DTW at this site is >15' bgs, so these utilities are not likely to be affected by the release.
- Norman Elementary School immediately west of the site.
- City of Austin supplies water to the site and surrounding area.
- Site priority is 4.1; BGUC is Category II.

Conclusions/Recommendations

This site has met the 9/1/02 deadline and the CAP deadline.

This site remains eligible for reimbursement (MM-EXT 10/14/05).

A copy of the 1996 RBA has been requested but not yet received.

Removal of NAPL to the maximum extent practicable is the cleanup goal, however:

- HVME (with a two pump system) was conducted and the results were low vapor recovery, high water recovery (9,600 gallons) but very low draw down. And, because they were recovering >13 gpm, it appears that they hit a high yield aquifer and recovery of the submerged NAPL may not be possible.
- The source (UST system) has been removed.
- NAPL recovery has been ongoing since 1997 via SVE, passive skimming and MDPE.
- Because **NAPL is OFFSITE**, the 07/17/03 memo can NOT be used.

- Additional NAPL recovery is necessary followed by four quarters of monitoring. *Additional MDPE has been preapproved.*
- *Note that based on recent re-occurrence of product in MW-4, the NAPL plume is not delineated to the north. Recommend NAPL delineation well.*

Current Submittals: *none (4.1 status)*

- *Site closure is not recommended as it appears that significant NAPL remains in the subsurface. Need current MDPE data to determine if product has been removed to the maximum extent practicable.*
- *The NAPL plume is not delineated north of MW-4. Request installation of well.*
- *Issue fax.*
- *Quarterly monitoring was preapproved 11/17/05.*

Exposure Pathway Evaluation:

- soils: maximum soil concentrations < health-based and cw target; closed.
- soils: SCR indicates a lack of vapor impacts to buildings, subsurface utilities, etc.; closed.
- current on-site groundwater ingestion: no on-site supply well; closed.
- current off-site groundwater ingestion: closed.
- future on-site groundwater ingestion: no comm. use within 0.5-mile, municipal supply; qualitatively closed.
- future off-site groundwater ingestion: closed.
- construction worker: DTW > 15 feet; closed.
- groundwater to surface water: closed.
- NAPL removed to maximum extent practicable: *recent increase in NAPL thickness, additional MDPE has been approved; open.*
- plume stability: *additional NAPL delineation needed, monitoring in progress; open.*

Texas Commission on Environmental Quality
INTEROFFICE MEMORANDUM

TO: FILE

DATE: October 22, 2004

Updated November 15, 2005

Updated February 21, 2006

THRU: *Prasanthi Bollineni or Susan Longbine, TCEQ On Site Supervisor*
David Bratberg, Senior Project Manager, Darcy Environmental Group
Wade Stone, Team Leader, Environmental Cleanup Section I

FROM: *Trudy Hasan, Case Coordinator, Darcy Environmental Group*
Scott Lawless, Project Manager, Environmental Cleanup I Section

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- Future use expected to remain commercial/industrial.
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- City of Austin supplies water to the site and surrounding area.
- A natural gas line is located within 30' east of the NAPL impacted wells; however, the DTW at this site is >15' bgs, so these utilities are not likely to be affected by the release.
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-

Conclusions/Recommendations

This site has met the 9/1/02 deadline and the CAP deadline.

This site remains eligible for reimbursement (MM-EXT 10/14/05).

Removal of NAPL to the maximum extent practicable is the cleanup goal, however:

- HVME (with a two pump system) was conducted and the results were low vapor recovery, high water recovery (9,600 gallons) but very low draw down. And, because they were recovering >13 gpm, it appears that they hit a high yield aquifer and recovery of the submerged NAPL may not be possible.
- The NAPL plume is delineated, *not delineated north of MW-4* with at least one downgradient well without NAPL.
- The NAPL plume is stable.
- The source has been removed.
- NAPL recovery has been ongoing since 1997 via SVE, passive skimming and MDPE.
- Because NAPL is OFFSITE, the 07/17/03 memo can NOT be used.

- Additional NAPL recovery is necessary followed by four quarters of monitoring. *Currently, sorbents are being used to recover NAPL.*

Current Submittals: PA19 (rec'd 2/9/06)

- *NAPL detected in several wells during January 2006 gauging event, due to historically low water table. Gauging table not included - requested fax.*
- *One 12-hour MDPE event using a drop tube only is proposed. Previous MDPE efforts at this site have not been successful. However, given the amount of NAPL in the wells, the event will be preapproved to recover product only and not total fluids. Approve for 24 hours.*
- *Issue CARF. Request copy of 1996 RBA for our files.*

Exposure Pathway Evaluation:

- soils: maximum soil concentrations < health-based and cw target; closed.
- soils: SCR indicates a lack of vapor impacts to buildings, subsurface utilities, etc.; closed.
- current on-site groundwater ingestion: no on-site supply well; closed.
- current off-site groundwater ingestion: closed.
- future on-site groundwater ingestion: no comm. use within 0.5-mile, municipal supply; qualitatively closed.
- future off-site groundwater ingestion: closed.
- construction worker: Depth to gw greater than 15 feet; closed.
- groundwater to surface water: closed.
- PSH removed to maximum extent practicable: **NEEDS TO MEET CRITERIA OF JULY 17, 2003 TCEQ GUIDANCE MEMO; open.**

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY LPST CORRECTIVE ACTION RESPONSE FORM

LPST-ID: 111747

GENERAL INFORMATION

LPST-ID:	111747	Priority: 4.1
Responsible Party:	FEDERAL EXPRESS	TEL: 901/395-4064
Facility #:	0029044	
Facility Name:	FEDERAL EXPRESS	
Facility Address :	5811 TECHNI CENTER	County: TRAVIS
Facility City:	AUSTIN	
CAPM & Name:	CAPM01502	FORD PG, RUSSELL C
CAS ID & Name:	RCAS00397	GEO MARINE INC

TCEQ TECHNICAL RESPONSE

2/8/2006 Proposal For LPST: 111747 - PSH REMOVAL

Proposed activity is approved with the following modifications:

The approved activity is a 24-hour MDPE event, using a drop tube only, to recover NAPL from MW-1, MW-2, MW-4, MW-5, and MW-6. The goal of this activity is to maximize the volume of product recovered while keeping the total fluids recovered to a minimum. Although your proposal was for a 12-hour event, we have approved costs for 24-hours in order for all of the NAPL-impacted wells to be treated with MDPE. This event should be conducted when water levels are naturally low. Therefore, we have also included costs for a gauging event to verify the presence of NAPL in the wells prior to mobilizing MDPE equipment.

Please submit the Product Recovery Report within 90 days. We also request a copy of the December 1996 Assessment Report Form, which is missing from our files.

ACTIVITY COST SUMMARY

Proposed Cost: \$5,440.00	Maximum Pre-Approved: \$8,893.00
---------------------------	----------------------------------

Signature: *Trudy Hasan*
 Trudy Hasan
 Project Manager, Darcy Environmental Group

Date: ⁸3/10/2006
BIA

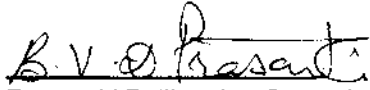
Telephone: 512 / 239-2200

Approved: *David Bratberg*
 David Bratberg

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY LPST CORRECTIVE ACTION RESPONSE FORM

LPST-ID: 111747

Senior Project Manager, Darcy Environmental Group

A handwritten signature in black ink, appearing to read "B. V. Prasad". The signature is written in a cursive style with a horizontal line underneath.

Prasanthi Bollineni or Susan Longbine
TCEQ On-site Representative
Remediation Division

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY LPST CORRECTIVE ACTION RESPONSE FORM

LPST-ID: 111747

2/8/2006 Proposal For : PSH REMOVAL

Pursuant to 30 TAC Section 334.82 (a), you are required to notify all parties affected by the contamination. If you determine that contamination from the release has migrated off-site, or if you are required by the TCEQ to conduct further assessment or other corrective actions off-site, then you must notify the affected landowner(s) within 30 days of documenting any impact. Please note that landowners may include state and local owners of rights-of-way. For the purpose of this requirement, notice shall be through any means described in 30 TAC Section 334.82 (a). Please provide documentation to the TCEQ within 30 days that the affected landowner(s) has/have been properly notified. Be aware that failure to notify affected parties is grounds for formal enforcement proceedings.

Please note that preapproval of corrective action activities DOES NOT guarantee reimbursement. Eligibility is determined at the time of reimbursement application review. If the release is eligible, the preapproved amount is the maximum allowed for the proposed activities. The actual amount of reimbursement will be determined after the activities are completed and the reimbursement application and all related receipts and invoices have been submitted to and reviewed by TCEQ according to the applicable technical and reimbursable cost guidelines. In all instances, the completed work must be technically justifiable and should serve to advance the site toward regulatory closure in the corrective action process. The amount of preapproved work performed should be based on completion of the activity's objectives. Additionally, please also note that preapproved amounts include eligible markup.

Unless approved in advance by the PST Reimbursement Section, reimbursement claims for remediation system operation and maintenance and/or quarterly groundwater monitoring should only be submitted after the completion of an annual cycle. The Reimbursement Section can be reached at 512/239-2001.

Please notify the applicable TCEQ regional office at least 10 days before conducting any field activities at this site.

cc: Barry Kalda, TCEQ Region 11 Field Office
1921 Cedar Bend, Suite 150, Austin, Texas 78758-5336
Phone: 512/339-2929 Fax: 512/339-3795

NAPL Removal - h : Preapproval Worksheet

LPST # 111747
 Facility # 28044
 Facility Name Federal Express
 Facility Address 5811 TechniCenter, Austin
 RPR Project Manager th2
 Date 21-Feb-06

No. of Events 1
 Event Duration 24 hrs



Please see the notes below.

A. Personnel:

		Total
Office/Field Personnel	=	\$0
Report Preparation	=	\$330
Field Personnel	=	\$3,300
PI-7 Exemption	=	\$0
Subtotal Subcont. Personnel	\$3,100	
Subcontractor Markup %	10%	\$310
Cost Proposal Preparation	=	\$185
A. Total Personnel		\$4,135

C. Analytical:

	Units	\$/Unit	Total
TPH - TX 1005 s/w	0 x	\$55	\$0
TPH - TX 1005 a	0 x	\$60	\$0
BTEX /MTBE	0 x	\$55	\$0
BTEX - 8021b a	0 x	\$60	\$0
PAH (610)	0 x	\$158	\$0
Total Lead	0 x	\$31	\$0
(Other)	0 x	\$0	\$0
(Other)	0 x	\$0	\$0
Tedlar Bags	0 x	\$9	\$0
Shipping	1 x	\$40	\$40
Subtotal Subcontracted Analytical		\$0	
Subcontractor Markup %		10%	\$0
C. Total Analytical			\$40

B. MDPE Equipment

	Units	\$/Unit	Total
DPE Equipment (Includes Holding Tank)			\$3,100
Bailers	0 x	\$35	\$0
Drums	0 x	\$40	\$0
Construction costs	0 x	\$0	\$0
Additional holding tank	0 x	\$0	\$0
(Other)	0 x	\$0	\$0
(Other)	0 x	\$0	\$0
(Other)	0 x	\$0	\$0
Subtotal Subcontracted Equipment =		\$3,100	
Subcontractor Markup %		15%	\$465
B. Total Equipment			\$3,565

E. Travel:

	Units	\$/Unit	Total
RCAS/CAPM Travel			
Mileage	0 x	\$0.405	\$0
Travel Time	0 x	\$70.00	\$0
Per Diem	0 x	\$90.00	\$0
Airfare	0 x	\$0.00	\$0
Travel (Gauging/bailing)	0 x	\$0.00	\$0
Mileage	0 x	\$0.405	\$0
Equipment Truck, days	1 x	\$140.00	\$140
Travel Time	1 x	\$45.00	\$45
Per Diem	0 x	\$90.00	\$0
Airfare	0 x	\$0.00	\$0
Subtotal Subcontracted Travel		\$0	
Subcontractor Markup %		15%	\$0
C. Total Travel			\$185

D. Waste Management*

	Units	\$/Unit	Total
Vacuum Truck/Sub H	4 x	\$70	\$280
Fluids Disposal	1,500 x	\$0.40	\$600
Discharge Permit	0 x	\$0	\$0
Subtotal Subcontracted Waste Mgmt.		\$880	
Subcontractor Markup %		10%	\$88
E. Total Waste Management			\$968

*Free product disposal will be reimbursed at cost plus allowable markup.

F. Other:

	Units	\$/Unit	Total
(Other)	0 x	\$0.00	\$0
(Other)	0 x	\$0.00	\$0
(Other)	0 x	\$0.00	\$0
Subtotal Subcontracted Travel		\$0	
Subcontractor Markup %		15%	\$0
C. Total Travel			\$0

Item	Proposed		Approved		App. - Prop. Difference
	Subcont.	Total	Subcont.	Total	
Personnel	\$0	\$865	\$3,100	\$4,135	\$3,270
Equipment	\$3,250	\$3,738	\$3,100	\$3,565	-\$173
Analytical	\$0	\$0	\$0	\$40	\$40
Waste Management	\$470	\$697	\$880	\$968	\$271
Travel	\$0	\$140	\$0	\$185	\$45
Other	\$0	\$0	\$0	\$0	\$0
Total	\$3,720	\$5,440	\$7,080	\$8,893	\$3,453

Total MDPE Reimbursable Cost (A+B+C+D+E) = \$8,893

- Notes:
- Waste management is calculated at 500 gallons/8 hours for the 8, 24, and 72 hour events with 4 hours/event for a vac truck. The seven day equipment rental includes waste management costs and no additional amount is included
 - Travel time for the MDPE equipment operators is included in the equipment rental, as is mobilization. A one time field trip is allowed for the CAS/CAPM only if no previous MDPE events have been performed and the work is to be subcontracted.
 - Gauging/bailing are only allowable if there is a need for them to be performed at times other than during a MDPE event, otherwise they are included as part of the MDPE event and no additional time or travel is allowed.

NAPL Removal - MDF Approval Worksheet

LPST # 111747 No. of Events 1
 Facility # 20044 Event Duration 24 hrs
 Facility Name Federal Express
 Facility Address 5811 TechniCenter, Austin
 RPR Project Manager th2 Date 21-Feb-06

A1: RCAS Personnel		Activity	Hours/Units	Rate	Total
Office Costs		All necessary management/regulatory interaction/permit act			
PI-7 Exemption			0	\$195	\$0
Office/Field Time - E/G/H		One time 8 hours only if first time MOPE event.	0	\$70	\$0
Report Preparation/PM					
8-hour event			0	\$280	\$0
24-hr event		1 report(s) and 0 hour(s) PM	1	\$330	\$330
72-hr event			0	\$395	\$0
7-day event			0	\$535	\$0
Cost Proposal Preparation			1	\$195	\$195
A2: MOPE/Field Personnel		Activity	Hours/Units	Rate	Total
Field Costs		All necessary management/regulatory interaction activities			
8-hour event			0	\$1,150	\$0
24-hr event			1	\$3,100	\$3,100
72-hr event			0	\$2,650	\$0
7-day event			0	\$3,800	\$0
Technician 1 for gauging/handballing			5	\$40	\$200
Security Personnel					
72-hr event			0	\$30.00	\$0
7-day event			0	\$30.00	\$0
		% subtotal subject to markup	0.00%	SubTotal	\$3,825
		Total amount subcontracted	\$3,100.00	Markup(10%)	\$310
				Total	\$4,135

B. MOPE Equipment		Activity	Hours/Units	Rate	Total
MOPE Equipment		All equipment including holding tank			
8-hour event		Equipment Rental + Fuel + Misc./small items + Mob/Demob	0	\$2,050	\$0
24-hr event		Equipment Rental + Fuel + Misc./small items + Mob/Demob	1	\$3,100	\$3,100
72-hr event			0	\$6,100	\$0
7-day event			0	\$11,750	\$0
Dedicated trailers			0	\$35	\$0
Drums			0	\$40	\$0
Construction costs			0	\$0	\$0
Additional holding tank			0	\$0	\$0
(Other)			0	\$0	\$0
(Other)			0	\$0	\$0
(Other)			0	\$0	\$0
		% subtotal subject to markup	99.98%	SubTotal	\$3,100
		Total amount subcontracted	\$3,100	Markup(15%)	\$465
				Total	\$3,565

C: Analytical		Activity	Hours/Units	Rate	Total
TPH - TX 1005 s/w			0	\$55	\$0
TPH - TX 1005 a			0	\$60	\$0
BTEX /MTBE			0	\$55	\$0
BTEX - 8021b a			0	\$60	\$0
PAH (610)			0	\$158	\$0
Total Lead			0	\$31	\$0
(Other)			0	\$0	\$0
(Other)			0	\$0	\$0
Tedlar Bags			0	\$9	\$0
Shipping			1	\$40	\$40
		% subtotal subject to markup	0.00%	SubTotal	\$40
		Total amount subcontracted	\$0	Markup(10%)	\$0
				Total	\$40

D. Waste Management		Activity	Hours/Units	Rate	Total
Vacuum Truck/Sub H discharge		V	4	\$70	\$280
Fluids Disposal		500 gallons/8 hours except for 7 day which is treated/disp	1500	\$0.40	\$600
Other (Discharge Permit Costs)		As needed	0	\$0	\$0
		% subtotal subject to markup	100.00%	SubTotal	\$880
		Total amount subcontracted	\$880	Markup(10%)	\$968
				Total	\$968

E. Travel		Activity	Hours/Units	Rate	Total
RCAS/CAPM Travel (one-time eve					
Mileage			0	\$0.405	\$0
Travel Time			0	\$70	\$0
Per Diem			0	\$90	\$0
Airfare			0	\$0	\$0
Travel (Gauging/balling visits)					
Mileage			0	\$0.405	\$0
Equipment Truck, days			1	\$140	\$140
Travel Time			1	\$45	\$45
Per Diem			0	\$90	\$0
Airfare			0	\$0	\$0
		% subtotal subject to markup	0.00%	SubTotal	\$185
		Total amount subcontracted	\$0	Markup(15%)	\$0
				Total	\$185

F. Other		Activity	Hours/Units	Rate	Total
(Other)			0	\$0	\$0
(Other)			0	\$0	\$0
(Other)			0	\$0	\$0
		% subtotal subject to markup	0.00%	SubTotal	\$0
		Total amount subcontracted	\$0	Markup(15%)	\$0
				Total	\$0

Item	Proposed		Approved	
	Subtotal	Total	Subcont.	Total
Personnel	\$0	\$865	\$3,100	\$4,135
Equipment	\$3,250	\$3,738	\$3,100	\$3,565
Analytical	\$0	\$0	\$0	\$40
Waste Management	\$470	\$697	\$880	\$968
Travel	\$0	\$140	\$0	\$185

*** MULTI TX/RX REPORT ***

TX/RX NO 1325
PGS. 6
TX/RX INCOMPLETE

TRANSACTION OK
[11]3393795
(1) 19014349235
(2) 4421181
ERROR INFORMATION

TCEQ FAX TRANSMITTAL

DATE: 3/8/06 No. of Pages (including this sheet) 6

TO: Name MR JAMAL MANSOUR / Russ Ford
Organization FEDERAL EXPRESS / HBC Terracon
Fax Number (901) 434-9235 / 442-1181

FROM: TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
Name Trudy Hasan
Project Manager, Darcy Environmental Group
Telephone 512 / 239-2200- 342-8585 x24
Fax Number 512 / 239-2216
Mail MC-137, PO BOX 13087, Austin, TX 78711-3087

NOTES: Response to Corrective Action Proposal(s) for
LPST-ID: 111747 Facility ID: 0029044 PRIORITY: 4.1
If you have problems receiving this fax, please call 512 / 239-2200.

Texas Commission on Environmental Quality
INTEROFFICE MEMORANDUM

TO: FILE

DATE: October 22, 2004
Updated November 15, 2005
Updated February 21, 2006

THRU: Prasanthi Bollineni or Susan Longbine, TCEQ On Site Supervisor
David Bratberg, Senior Project Manager, Darcy Environmental Group
Wade Stone, Team Leader, Environmental Cleanup Section I

FROM: *JA* Trudy Hasan, Case Coordinator, Darcy Environmental Group
Scott Lawless, Project Manager, Environmental Cleanup I Section

RE: File Review of Subsurface Release of Hydrocarbons for the Federal Express Facility,
5811 Technicenter Drive, Austin (Travis County), Texas
LPST ID No. 111747 - Priority 4.1 - Facility ID No. 0029044; R-11

A SIGNIFICANT PORTION OF THIS FILE IS MISSING.

Release Determination

- On October 7, 1996, a confirmed release of approximately 6,797 gallons of gasoline was documented. In October 1996, one 10,000 gallon gasoline tank was removed after the release was discovered. *It appears that "sticking" the tank for fuel measurement created a hole in the tank.*
- Maximum soil concentrations (ppm):
 - benzene *45.3 ppm (Bottom #2, 14')
 - BTEX 741 ppm (Bottom #2, 14')
 - TPH 1,480 ppm (Bottom #2, 14').
- *B1/MW1 was installed two weeks later at the "Bottom #2" location and serves as a confirmation boring:
 - benzene <0.5 ppm (B-1, 14'-15')
 - BTEX 20.09 ppm (B-1, 14'-15')
 - TPH 180 ppm (B-1, 14'-15').

Exposure Pathways Open:

- GW Ingestion (onsite - current)
- GW Ingestion (offsite - current)
- GW Ingestion (onsite - future)
- GW Ingestion (offsite - future)
- GW for Construction Worker
- Plume stability monitoring
- Soils- Exp. Vapor
- Soils - Health/CW
- NAPL, DTW <15'
- NAPL, DTW >15'
- GW to surface water
- Other

Site Characteristics

- Former UST facility; commercial/industrial use
- Future use expected to remain commercial/industrial.
- Surrounding land use is unknown except that there is an elementary school located immediately west (w/in 500') of the site.

Soil Assessment

- Plan A Assessments were conducted in October 1996 and February-March 1997.
- 11 soil borings/ all completed as MWs.
- Maximum soil concentrations (ppm):

benzene 11.4 ppm (MW-6, 36.5'-37.5', 2/5/97)
 BTEX 255 ppm (MW-6, 36.5'-37.5', 2/5/97)
 TPH 4,000 ppm (MW-6, 37', 2/5/97)

- PAH analysis conducted on B-1 @ 31 feet. Napthalene was 8.6 ppm.
- *It appears that, of the 11 soil borings installed, only one soil sample was collected from the 0-15' interval (MW-1, 14'-15'). Based on this limited information, soil contaminants remaining in the 0-15' interval are below health-based target levels.*
- *During the initial RBA, a thorough vapor survey was conducted, with no indication of explosive vapors.*

Groundwater Assessment

- 11 MWs.
- DTW ranges from about 27' to 37' btoc.
- *GW gradient appears to be relative flat; generally to the east and southeast.*
- TDS is 478 ppm (MW-3).
- *11 GWM events were conducted between November 1996 and March 2005. NAPL historically observed in MW-1, MW-2, MW-3, MW-4, MW-5, and MW-6. Note that MW-6 has never been sampled due to presence of NAPL.*
- Maximum dissolved groundwater concentrations:

	<u>Historical</u>	<u>Current (03/23/05)</u>
benzene	3.57 ppm (MW-5, 12/27/01)	4.81 ppm (MW-5)
BTEX	14.24 ppm (MW-5, 12/27/01)	14.48 ppm (MW-5)
MTBE	2.85 ppm (MW-5, 12/27/01)	3.19 ppm (MW-4)
TPH	360 ppm (MW-2, 01/28/04)	98.89 ppm (MW-4)
PAHs	1.86 ppm naphthalene (MW-2, 4/4/01)	NA
- *MW-2 has been tested five times for PAHs. The maximum reported C₁₀-C₂₈ concentration is 142 ppm (MW-2, 1/28/04). Although this sample was not analyzed for PAHs, a sample containing 109 ppm C₁₀-C₂₈ (MW-2, 4/4/01) was tested for PAHs.*
- *The NAPL plume extends about 200' north of the former tankhold and about 75-100' offsite to the west. The NAPL plume is not delineated north of MW-4. Also, note that MW-9 is 175' northwest of MW-6 (i.e., not very good control).*
- *The groundwater plume shows a decreasing groundwater concentrations from source area. Dissolved-phase concentrations appear relatively stable.*
- Fluid wastes have been properly disposed.

NAPL and Corrective Action

- NAPL historically observed in MW-1, MW-2, MW-3, MW-4, and offsite MW-5 and MW-6.
- *Maximum NAPL thicknesses are: 1.61' in MW-1, 4.44' in MW-2, 0.81' in MW-3, 0.81' in MW-4, 0.85' in MW-5, and 4.58' in MW-6.*
- NAPL recovery history:
 - ▶ 6 months of NAPL recovery from MW1, MW2 and MW6 initiated in January 1997. SVE pilot test conducted June 1997. See SVE system map dated 10/97. CAP for SVE approved in February 1998.
 - ▶ NAPL removed via a SVE system utilizing MWs 1,2,& 6 from May 1998 to January 1999. Significant O&M problems reported.
 - ▶ NAPL removed via new SVE system from September 2000 to May 2001 utilizing MWs

- 1,2,& 6. MDPE also used during this time.
- ▶ Passive skimmers were then used to recover product from MW-5 and MW-6 for one year (26 visits) in late 2001-2002.
- ▶ One 8-hour MDPE event attempted utilizing MW5, 6, & 9 in October 2003, but only ran for four hours; unsuccessful (<1 gallon removed)
- ▶ One 24-hour MDPE event attempted on MWs 1, 5, & 6, but only ran eight hours due to diminishing rate of recovery. Approx. 8 gallons of vapors recovered. Deemed unsuccessful by our letter dated 09/01/04.
- ▶ Another 24-hour MDPE event attempted on MWs 1, 5 & 6, but terminated after 12 hours due to low vapor recovery. *26 gallons (162 lbs) of product were reportedly recovered during this 12-hour event, but our calculations show only 3.8 gallons recovered (see 8/18/05 letter). The volume of total fluids recovered (9,600 gallons) also made the event less cost effective.*
- *Between May 2004 and January 2006, NAPL was absent except in MW-6. On 4/29/05, 0.05' of product remained in MW-6 after the last MDPE event. Sorbents were approved for use in MW-6.*
- *In January 2006, significant product re-appeared in MW-1, MW-2, MW-4, MW-5, and MW-6 at thicknesses ranging from 0.15' in MW-2 to 2.12' in MW-6. The water table had dropped to historic lows for the site. Product was handbailed and sorbents were installed in MW-1, 2, 4, and 5. A passive skimmer was installed in MW-6. One month later, there was still significant product in MW-6.*

Receptors and Site Priority/Category

- Site is not located over a major/minor aquifer.
- City of Austin supplies water to the site and surrounding area.
- *A natural gas line is located within 30' east of the NAPL impacted wells; however, the DTW at this site is >15' bgs, so these utilities are not likely to be affected by the release.*
- Norman Elementary School immediately west of the site.
- Site priority is 4.1; BGUC is Category II.
-

Conclusions/Recommendations

This site has met the 9/1/02 deadline and the CAP deadline.

This site remains eligible for reimbursement (MM-EXT 10/14/05).

Removal of NAPL to the maximum extent practicable is the cleanup goal, however:

- HVME (with a two pump system) was conducted and the results were low vapor recovery, high water recovery (9,600 gallons) but very low draw down. And, because they were recovering >13 gpm, it appears that they hit a high yield aquifer and recovery of the submerged NAPL may not be possible.
- The NAPL plume is delineated, with at least one downgradient well without NAPL.
- The NAPL plume is stable.
- The source has been removed.
- NAPL recovery has been ongoing since 1997 via SVE, passive skimming and MDPE.
- Because NAPL is OFFSITE, the 07/17/03 memo can NOT be used.

- Additional NAPL recovery is necessary followed by four quarters of monitoring. *Currently, sorbents are being used to recover NAPL.*

Current Submittals: PA19 (rec'd 2/9/06)

- *NAPL detected in several wells during January 2006 gauging event, due to historically low water table. Gauging table not included - requested fax.*
- *One 12-hour MDPE event using a drop tube only is proposed. Previous MDPE efforts at this site have not been successful. However, given the amount of NAPL in the wells, the event will be preapproved to recover product only and not total fluids. Approve for 24 hours.*
- *Issue CARF. Request copy of 1996 RBA for our files.*

Exposure Pathway Evaluation:

- soils: maximum soil concentrations < health-based and cw target; closed.
- soils: SCR indicates a lack of vapor impacts to buildings, subsurface utilities, etc.; closed.
- current on-site groundwater ingestion: no on-site supply well; closed.
- current off-site groundwater ingestion: closed.
- future on-site groundwater ingestion: no comm. use within 0.5-mile, municipal supply; qualitatively closed.
- future off-site groundwater ingestion: closed.
- construction worker: Depth to gw greater than 15 feet; closed.
- groundwater to surface water: closed.
- PSH removed to maximum extent practicable: NEEDS TO MEET CRITERIA OF JULY 17, 2003 TCEQ GUIDANCE MEMO; **open.**



FAX TRANSMITTAL

To: <u>Trudy</u>	From: <u>Russ Ford</u>
Company: <u>Davey</u>	Office: <u>Austin, Texas</u>
Fax: <u>342-8985</u>	Date: <u>2/21/06</u>
Phone No.: _____	Phone/Fax <u>512-442-1122/512-442-1181</u>
Total Pages Including the Cover: _____	

Remarks:

Trudy,

Attached are fluid quizing tables from Fedex site (111747). We manually bailed the wells with NAPL after the 1/18/06 event and put sorbent socks in them. NAPL recovered in wells MW-6 & MW-1. We also installed a passive skimmer in well MW-6. The readings collected from MW-6 on 2/17/06 are immediately after we removed the skimmer for emptying so they are not at equilibrium. We would like to get out to the site as soon as possible to do the MDPPE before we get a lot of rain and water levels rise back up. Feel free to call me to discuss.

Thanks
Russ Ford

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Terracon Division Office Locations

Austin	Dallas	Fort Worth	Houston	Texas City
5307 Industrial Oaks Suite 160 Austin, TX 78735 (512) 442-1122 FAX (512) 442-1181	8901 Carpenter Frwy. Suite 100 Dallas, TX 75247 (214) 630-1010 FAX (214) 630-7070	2801 Gravel Drive Ft. Worth, TX 76118 (817) 268-8600 FAX (817) 268-8602	11555 Clay Road Suite 100 Houston, TX 77043 (713) 890-8989 FAX (713) 890-8787	3602 3 rd Avenue North Texas City, TX 77590 (409) 945-3503 FAX (409) 945-5077

Additional Terracon Offices Located Nationwide

FEDERAL EXPRESS CORPORATION

5811 Technicenter Drive, Austin, TX
 LPST # 111747

FLUID GAUGING DATA SUMMARY

FEB. 21. 2006 2:42PM TERRACON

DATE	MW-1			MW-2			MW-3			MW-4		
	DTW	NAPL	GWE	DTW	NAPL	GWE	DTW	NAPL	GWE	DTW	NAPL	GWE
9/24/2001	29.68	0.00	529.42	31.01	0.00	529.21	31.89	0.00	529.06	31.30	0.00	528.89
12/27/2001	27.79	0.00	531.31	29.13	0.00	531.09	30.01	0.00	530.94	29.33	0.00	530.86
3/27/2002	29.31	0.00	529.79	30.64	0.00	529.58	31.51	0.00	529.44	30.80	0.00	529.39
6/17/2002	30.56	0.00	528.54	31.98	0.00	528.24	32.80	0.00	528.15	32.06	0.00	528.13
10/22/2003	31.23	0.00	527.87	32.58	0.01	527.65	33.47	0.00	527.48	32.72	0.00	527.47
1/27/2004	32.25	0.51	527.23	33.18	0.00	527.04	34.02	0.00	526.93	33.43	0.00	526.76
3/5/2004	31.41	0.00	527.69	32.79	0.00	527.43	NA	NA	NA	NA	NA	NA
5/18/2004*	28.76	0.48	530.70	30.28	0.00	529.94	31.09	0.00	529.86	30.39	0.00	529.80
5/18/2004**	31.49	0.00	527.61	NA	NA	NA	33.42	0.00	527.53	NA	NA	NA
5/28/2004	31.05	0.00	528.05	32.51	0.00	527.71	33.35	0.00	527.60	32.68	0.00	527.51
6/8/2004	31.01	0.00	528.09	32.50	0.00	527.72	33.35	0.00	527.60	32.58	0.00	527.61
6/16/2004	31.11	0.00	527.99	32.21	0.00	528.01	32.95	0.00	528.00	32.22	0.00	527.97
11/10/2004	32.40	0.00	526.70	32.77	0.00	527.45	32.50	0.00	528.45	31.95	0.00	528.24
12/2/2004	28.64	0.00	530.46	29.67	0.00	530.55	30.55	0.00	530.40	29.80	0.00	530.39
3/3/2005*	29.15	0.00	529.95	30.59	0.00	529.63	31.40	0.00	529.55	30.65	0.00	529.54
3/22/2005**	28.96	0.00	530.14	30.33	0.00	529.89	31.24	0.00	529.71	30.40	0.00	529.79
4/29/2005	29.45	0.00	529.65	30.79	0.00	529.43	31.65	0.00	529.30	30.90	0.00	529.29
1/18/2006	33.08	0.83	526.64	33.95	0.15	526.38	34.66	0.00	526.29	34.21	0.31	526.21
2/17/2006	32.69	0.22	526.58	34.00	0.10	526.30	34.79	0.00	526.16	34.04	0.00	526.15

Notes:

- 1) All measurements in feet
- 2) DTW-depth to water below top of surface casing
- 3) NAPL-non-aqueous phase liquid thickness
- 4) GWE-groundwater elevation (corrected for NAPL using 0.75 specific gravity) in feet above mean sea level
- 5) NA-No groundwater gauging data collected
- 6) * Denotes prior to MDPE event
- 7) ** Denotes immediately after MDPE event

MO. 206 P. 2

FEDERAL EXPRESS CORPORATION

5811 Technicenter Drive, Austin, TX
 LPST # 111747

FLUID GAUGING DATA SUMMARY

FEB. 21. 2006 2:42PM TERRACON

DATE	MW-5			MW-6			MW-7			MW-8		
	DTW	NAPL	GWE	DTW	NAPL	GWE	DTW	NAPL	GWE	DTW	NAPL	GWE
9/24/2001	34.36	0.05	528.88	33.79	0.15	529.19	29.68	0.00	528.90	29.29	0.00	528.90
12/27/2001	32.32	0.00	530.88	31.86	0.08	531.07	27.74	0.00	530.84	27.25	0.00	530.94
3/27/2002	33.88	0.00	529.32	33.39	0.06	529.53	29.15	0.00	529.43	28.72	0.00	529.47
6/17/2002	35.06	0.00	528.14	34.30	0.01	528.58	30.43	0.00	528.15	30.00	0.00	528.19
10/22/2003	35.75	0.02	527.47	35.21	0.02	527.68	31.11	0.00	527.47	30.64	0.00	527.55
1/27/2004	36.42	0.12	526.87	37.08	1.51	526.92	31.69	0.00	526.89	31.30	0.00	526.89
3/5/2004	35.93	0.00	527.27	35.44	0.09	527.50	NA	NA	NA	NA	NA	NA
5/18/2004*	32.90	0.39	530.59	33.09	0.14	529.89	27.97	0.00	530.61	27.55	0.00	530.64
5/18/2004**	35.09	0.00	528.11	35.36	0.00	527.51	NA	NA	NA	NA	NA	NA
5/28/2004	35.65	0.00	527.55	35.11	0.00	527.76	31.00	0.00	527.58	30.63	0.00	527.56
6/8/2004	35.65	0.00	527.55	35.04	0.00	527.83	31.01	0.00	527.57	30.65	0.00	527.54
6/16/2004	35.21	0.00	527.99	34.71	0.00	528.16	30.65	0.00	527.93	30.21	0.00	527.98
11/10/2004	35.95	0.00	527.25	32.50	0.00	530.37	30.35	0.00	528.23	29.90	0.00	528.29
12/2/2004	32.85	0.00	530.35	32.33	0.00	530.54	28.24	0.00	530.34	27.72	0.00	530.47
3/3/2005*	33.75	0.00	529.45	33.41	0.34	529.72	29.05	0.00	529.53	28.69	0.00	529.50
3/22/2005**	33.49	0.00	529.71	33.35	0.05	529.56	28.80	0.00	529.78	28.42	0.00	529.77
4/29/2005	33.98	0.00	529.22	33.81	0.05	529.10	29.29	0.00	529.29	28.92	0.00	529.27
1/18/2006	37.15	██████	526.24	38.16	██████	526.30	32.40	0.00	526.18	31.56	0.00	526.63
2/17/2006	37.05	██████	526.15	37.27	██████	526.29	32.46	0.00	526.12	32.00	0.00	526.19

Comparison 4.5'
 at 35' bptoc
 in 1999

Notes:

- 1) All measurements in feet
- 2) DTW-depth to water below top of surface casing
- 3) NAPL-non-aqueous phase liquid thickness
- 4) GWE-groundwater elevation (corrected for NAPL using 0.75 specific gravity) in feet above mean sea level
- 5) NA-No groundwater gauging data collected
- 6) * Denotes prior to MDPE event
- 7) ** Denotes immediately after MDPE event

NO. 206 P. 3

FLUID GAUGING DATA SUMMARY

DATE	MW-9			MW-10			MW-11		
	DTW	NAPL	GWE	DTW	NAPL	GWE	DTW	NAPL	GWE
9/24/2001	34.70	0.00	529.21	34.29	0.00	528.70	34.49	0.00	529.14
12/27/2001	32.80	0.00	531.11	32.22	0.00	530.77	32.55	0.00	531.08
3/27/2002	34.32	0.00	529.59	33.70	0.00	529.29	34.10	0.00	529.53
6/17/2002	35.48	0.00	528.43	34.90	0.00	528.09	35.24	0.00	528.39
10/22/2003	36.19	0.00	527.72	35.58	0.00	527.41	36.00	0.00	527.63
1/27/2004	36.78	0.00	527.13	36.23	0.00	526.76	36.62	0.00	527.01
3/5/2004	NA	NA	NA	NA	NA	NA	NA	NA	NA
5/18/2004*	32.98	0.00	530.93	32.32	0.00	530.67	32.75	0.00	530.88
5/18/2004**	NA	NA	NA	NA	NA	NA	NA	NA	NA
5/28/2004	36.02	0.00	527.89	35.51	0.00	527.48	35.80	0.00	527.83
6/8/2004	36.03	0.00	527.88	35.45	0.00	527.54	35.88	0.00	527.75
6/16/2004	35.60	0.00	528.31	35.11	0.00	527.88	35.42	0.00	528.21
11/10/2004	32.85	0.00	531.06	32.85	0.00	530.14	32.15	0.00	531.48
12/2/2004	32.30	0.00	531.61	32.64	0.00	530.35	32.70	0.00	530.93
3/3/2005*	34.14	0.00	529.77	33.59	0.00	529.40	34.95	0.00	528.68
3/22/2005**	33.95	0.00	529.96	33.37	0.00	529.62	33.70	0.00	529.93
4/29/2005	34.24	0.00	529.67	33.45	0.00	529.54	34.19	0.00	529.44
1/18/2006	37.34	0.00	526.57	36.75	0.00	526.24	37.14	0.00	526.49
2/17/2006	37.47	0.00	526.44	36.87	0.00	526.12	37.23	0.00	526.40

Notes:

- 1) All measurements in feet
- 2) DTW-depth to water below top of surface casing
- 3) NAPL-non-aqueous phase liquid thickness
- 4) GWE-groundwater elevation (corrected for NAPL using 0.75 specific gravity) in feet above mean sea level
- 5) NA-No groundwater gauging data collected
- 6) * Denotes prior to MDPE event
- 7) ** Denotes immediately after MDPE event

FEDERAL EXPRESS CORPORATION

5811 Technicon Drive, Austin, TX
 LPST # 111747

FLUID GAUGING DATA SUMMARY

FEB. 21. 2006 2:42PM TERRACON

DATE	MW-1			MW-2			MW-3			MW-4		
	DTW	NAPL	GWE	DTW	NAPL	GWE	DTW	NAPL	GWE	DTW	NAPL	GWE
10/31/1996	31.64	0.83	528.08	35.08	4.05	528.18	32.79	0.00	528.16	NA	NA	NA
11/1/1996	32.00	1.21	528.01	35.44	4.44	528.11	NA	NA	NA	NA	NA	NA
11/15/1996	31.04	0.31	528.29	34.02	2.86	528.35	32.66	0.00	528.29	NA	NA	NA
2/18/1997	31.78	1.61	528.53	33.22	2.02	528.52	32.45	0.00	528.50	31.70	0.00	528.49
4/7/1997	NA	NA	NA	NA	NA	NA	32.12	0.00	528.83	31.38	0.00	528.81
7/16/1998	28.82	1.48	531.39	30.29	1.57	531.11	30.13	0.81	531.43	29.39	0.44	531.13
11/19/1998	28.71	1.20	531.29	30.16	1.28	531.02	30.02	0.63	531.40	29.25	0.21	531.10
3/23/2000	32.83	1.21	527.18	33.59	0.53	527.03	34.11	0.05	526.88	33.72	0.58	526.91
9/27/00*	32.87	1.17	527.11	33.69	0.53	526.93	34.14	0.02	526.83	34.00	0.79	526.78
10/5/2000	32.28	0.59	527.26	33.41	0.27	527.01	34.11	0.02	526.86	33.97	0.81	526.83
11/29/2000	28.91	0.00	530.19	31.01	0.77	529.79	31.23	0.00	529.72	30.49	0.00	529.70
12/29/2000	28.30	0.00	530.80	30.25	0.70	530.50	30.56	0.00	530.39	29.83	0.00	530.36
1/29/01*	27.64	0.00	531.46	29.18	0.24	531.22	29.86	0.00	531.09	29.00	0.00	531.19
3/7/2001	28.43	0.00	530.67	29.97	0.26	530.45	30.64	0.00	530.31	29.82	0.00	530.37
4/4/2001	28.18	0.00	530.92	29.54	0.00	530.68	30.42	0.00	530.53	29.60	0.00	530.59
4/25/2001	28.61	0.00	530.49	29.99	0.00	530.23	30.83	0.00	530.12	30.08	0.00	530.11
5/18/01*	28.86	0.00	530.24	30.28	0.00	529.94	31.09	0.00	529.86	30.39	0.00	529.80

Notes:

- 1) All measurements in feet
- 2) DTW-depth to water below top of surface casing
- 3) NAPL-non-aqueous phase liquid thickness
- 4) GWE-groundwater elevation (corrected for NAPL using 0.75 specific gravity) in feet above mean sea level
- 5) NA-no reading collected
- *-System not operating

NO. 206 P. 5

FEDERAL EXPRESS CORPORATION

5811 Technicenter Drive, Austin, TX
LPST # 111747

FLUID GAUGING DATA SUMMARY

DATE	MW-5			MW-6			MW-7			MW-8		
	DTW	NAPL	GWE	DTW	NAPL	GWE	DTW	NAPL	GWE	DTW	NAPL	GWE
10/31/1996	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
11/1/1996	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
11/15/1996	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2/18/1997	34.74	0.00	528.46	36.18	2.40	528.49	30.07	0.00	528.51	29.64	0.00	528.55
4/7/1997	34.41	0.00	528.79	NA	NA	NA	29.76	0.00	528.82	29.30	0.00	528.89
7/16/1998	32.44	0.39	531.05	35.35	4.58	530.96	27.86	0.00	530.72	27.28	0.00	530.91
11/19/1998	32.31	0.18	531.03	35.22	4.32	530.89	27.75	0.00	530.83	27.15	0.00	531.04
3/23/2000	36.54	0.24	526.84	37.30	1.84	526.95	31.68	0.00	526.90	31.26	0.00	526.93
9/27/00*	36.79	0.46	526.76	37.45	1.94	526.88	31.79	0.00	526.79	31.31	0.00	526.88
10/5/2000	36.66	0.34	526.80	36.54	0.87	526.98	31.72	0.00	526.86	31.26	0.00	526.93
11/29/2000	34.04	0.56	529.58	32.98	0.00	529.89	28.89	0.00	529.69	28.35	0.00	529.84
12/29/2000	32.32	0.53	531.28	32.72	0.44	530.48	28.23	0.00	530.35	27.71	0.00	530.48
1/29/01*	32.18	0.00	531.02	31.88	0.28	531.20	27.51	0.00	531.07	27.00	0.00	531.19
3/7/2001	33.61	0.85	530.23	32.59	0.27	530.48	28.27	0.00	530.31	27.82	0.00	530.37
4/4/2001	32.23	0.55	531.38	32.34	0.24	530.71	28.03	0.00	530.55	27.59	0.00	530.60
4/25/2001	33.61	0.45	529.93	32.72	0.20	530.30	28.45	0.00	530.13	28.03	0.00	530.16
5/18/01*	32.90	0.39	530.59	33.09	0.14	529.89	28.74	0.00	529.84	28.31	0.00	529.88

Notes:

- 1) All measurements in feet
 - 2) DTW- depth to water below top of surface casing
 - 3) NAPL-non-aqueous phase liquid thickness
 - 4) GWE-groundwater elevation (corrected for NAPL using 0.75 specific gravity) in feet above mean sea level
 - 5) NA-no reading collected
- *-System not operating

FEDERAL EXPRESS CORPORATION

5811 Technioenter Drive, Austin, TX
 LPST # 111747

FLUID GAUGING DATA SUMMARY

DATE	MW-9			MW-10			MW-11		
	DTW	NAPL	GWE	DTW	NAPL	GWE	DTW	NAPL	GWE
10/31/1996	NA	NA	NA	NA	NA	NA	NA	NA	NA
11/1/1996	NA	NA	NA	NA	NA	NA	NA	NA	NA
11/15/1996	NA	NA	NA	NA	NA	NA	NA	NA	NA
2/18/1997	NA	NA	NA	NA	NA	NA	NA	NA	NA
4/7/1997	35.15	0.00	528.76	34.25	0.00	528.74	34.89	0.00	528.74
7/16/1998	33.93	0.00	529.98	32.97	0.00	530.02	33.62	0.00	530.01
11/19/1998	33.82	0.00	530.09	32.87	0.00	530.12	33.53	0.00	530.10
3/23/2000	36.73	0.00	527.18	36.17	0.00	526.82	36.54	0.00	527.09
9/27/00*	36.84	0.00	527.07	36.28	0.00	526.71	36.60	0.00	527.03
10/5/2000	36.81	0.00	527.10	36.24	0.00	526.75	36.58	0.00	527.05
11/29/2000	34.03	0.00	529.88	33.51	0.00	529.48	33.79	0.00	529.84
12/29/2000	33.38	0.00	530.53	32.81	0.00	530.18	33.13	0.00	530.50
1/29/01*	32.65	0.00	531.26	32.10	0.00	530.89	32.42	0.00	531.21
3/7/2001	33.39	0.00	530.52	32.80	0.00	530.19	33.15	0.00	530.48
4/4/2001	33.15	0.00	530.76	32.60	0.00	530.39	32.92	0.00	530.71
4/25/2001	33.56	0.00	530.35	32.97	0.00	530.02	33.33	0.00	530.30
5/18/01*	33.85	0.00	530.06	33.23	0.00	529.76	33.69	0.00	529.94

Notes:

- 1) All measurements in feet
- 2) DTW-depth to water below top of surface casing
- 3) NAPL-non-aqueous phase liquid thickness
- 4) GWE-groundwater elevation (corrected for NAPL using 0.75 specific gravity) in feet above mean sea level
- 5) NA-no reading collected
- *-System not operating

**TEXAS NATURAL RESOURCE CONSERVATION COMMISSION
PETROLEUM STORAGE TANK
CORRESPONDENCE IDENTIFICATION SHEET**

LPST
111747

Date: February 7, 2006
Site Name: Federal Express Corporation
Site Address: 5811 Technicenter Drive, Austin, TX

S&D

LPST ID No.: 111747
Facility ID No.: 0029044

Diya

This checklist **must** accompany all correspondence submitted to the RPR Section and should be affixed to the front of your submittal as a cover page. Please check the appropriate box for the type of correspondence which you have submitted to the RPR Section. Check all boxes that apply if you are submitting more than one type of correspondence. If you cannot find an appropriate category, please complete the "other" section.

PROPOSALS

- | | | |
|--|---|---|
| <input type="checkbox"/> Initial Abatement (1) | <input type="checkbox"/> Tank Removal (2) | <input type="checkbox"/> Excavation (3) |
| <input type="checkbox"/> Waste Treatment (4) | <input type="checkbox"/> Site Assessment (5) | <input type="checkbox"/> Aquifer Testing (6) |
| <input type="checkbox"/> VES/Sparge Testing (7) | <input type="checkbox"/> Qtrly. GW Monitoring (8) | <input type="checkbox"/> CAP Prep. (9) |
| <input type="checkbox"/> GW Extrac./Treatment (10) | <input type="checkbox"/> Soil Vapor Extrac. (11) | <input type="checkbox"/> Operation & Main. (12) |
| <input type="checkbox"/> Site Closure (13) | <input type="checkbox"/> Plan A Risk Ass. (14) | <input type="checkbox"/> Plan B Risk Ass. (15) |
| <input type="checkbox"/> Semi-annual GW Mon. (16)* | <input type="checkbox"/> Annual GW Mon. (18) | <input checked="" type="checkbox"/> Product Recovery (19) |
| <input type="checkbox"/> Other proposal _____ | | |

→

REPORTING FORMS

- | | |
|--|--|
| <input type="checkbox"/> Assessment Report Form (TNRCC-0562) | <input type="checkbox"/> Release Report Form (TNRCC-0621) |
| <input type="checkbox"/> Product Recovery Report Form (TNRCC-0016) | <input type="checkbox"/> Monitoring Event Summary and Status Report (TNRCC-0013) |
| <input type="checkbox"/> Site Closure Request Form (TNRCC-0028) | <input type="checkbox"/> Final Site Closure Report Form (TNRCC-0038) |
| <input type="checkbox"/> Other form _____ | |

REPORTS

- | | | |
|---|---|--|
| <input type="checkbox"/> Tank Closure/Removal | <input type="checkbox"/> Plan A Risk Assessment | <input type="checkbox"/> Annual Groundwater Monitoring |
| <input type="checkbox"/> O&M/Performance Mon. | <input type="checkbox"/> Plan B Risk Assessment | <input type="checkbox"/> CAP Installation/Modification |
| <input type="checkbox"/> Property Divestiture/Phase I ESA | <input type="checkbox"/> Corrective Action Plan (CAP) | <input type="checkbox"/> Aquifer/Pilot Test Results |

MISCELLANEOUS

- | | |
|--|---|
| <input type="checkbox"/> Off-site access assistance | <input type="checkbox"/> Deadline Extension Request |
| <input type="checkbox"/> Tank tightness test results | <input type="checkbox"/> Request for State-Lead |
| <input type="checkbox"/> Request for LPST Waste Code | <input type="checkbox"/> Class V Reinjection Request |
| <input type="checkbox"/> Notice to Owner/Operator for CAS Services | <input type="checkbox"/> Petroleum-Substance Waste Manifest |
| <input type="checkbox"/> Underground Storage Tank Registration Form | <input type="checkbox"/> Aboveground Storage Tank Registration Form |
| <input type="checkbox"/> Other (anything that does not fit into one of the categories above) _____ | |

Received
FEB 09 2006
TCEQ/PST-RPR

* The proposal for semi-annual monitoring and annual report (Proposal Activity 17) has been discontinued. For semi-annual monitoring, use Proposal Activity 16.

DARCY ENVIRONMENTAL GROUP

FEB 17 2006

I attest that all work has been conducted in accordance with accepted industry standards/practices and adhered to TNRCC guidance and rules. I certify that I am aware that misrepresentation of any of the above claims is a violation of 30 TAC 334.453(b)(1)(E) and that this violation may result in the disciplinary actions set forth in 30 TAC 334.453 and or 334.463 and 334.465.

If a proposal is attached for preapproval, has the proposed work, in part or in whole, already been performed or in progress?

If yes, what work? _____

HBC/Terracon 825 2/25/06
(Registered Corrective Action Specialist) (RCAS Reg. No.) (Expiration date)

[Signature] 2/7/06
(Signature) (Date)

(512) 442-1122 (512) 442-1181
(Telephone #) (FAX #)

Russell C. Ford 1502 7/16/06
(Project Manager) (CAPM Reg. No.) (Expiration date)

[Signature] 2/7/06
(Signature) (Date)

(512) 442-1122 (512) 442-1181
(Telephone #) (FAX #)

By signature below, I certify that documents checked above are included.

Mr Jamal Mansour KAREN ELLIS Federal Express Corporation
(Name of Responsible Party/Contact) (Company)

[Signature] 2/8/06
(Signature) (Date)

(901) 434-8458 (901) 434-9235
(Telephone #) (FAX #)

DARCY ENVIRONMENTAL GROUP

FEB 17 2006

Received

FEB 09 2006

TCEQ/PST-RPR

WORKPLAN AND PREAPPROVAL REQUEST

LPST ID No.: 111747
Responsible Party: Federal Express Corporation
Property Owner: Federal Express Corporation
Facility Name: Federal Express Corporation
Facility Address: 5811 Technicenter Drive
Facility City: Austin
Facility ID No.: 0029044
TNRCC Region: 11
Case Priority: 4.1

Proposed Activity: 02 Phase-Separated Hydrocarbon (PSH) Recovery

Goal of Proposed Activity

The goal of the activity is to remove residual PSH recently observed in onsite monitor wells MW-1, MW-2, MW-4, MW-5 and MW-6 ranging in thickness from 0.15 feet in MW-2 to 2.12 feet in MW-6.

Description of Activities

A single Mobile Dual-Phase Extraction (MDPE) event will be conducted on wells currently exhibiting PSH. The event will be performed for a 12-hour period using a self-contained truck mounted MDPE unit. The current groundwater elevations measured at the site during the most recently completed sampling event (conducted in late January 2006) indicate that the water table is now below historic levels encountered during the January 2004 gauging event (approximately 37 to 38 feet below ground surface) due to the extensive draught conditions affecting the Austin area. Based upon this, it is proposed to conduct the MDPE event utilizing a drop tube since lowering of the water table is currently not necessary. A 750-SCFM thermal oxidizer will be used to treat offgas VOCs with a minimum of 99.5% destruction efficiency. Influent and effluent air samples will be collected during the MDPE event. Influent samples will be collected at the beginning of the event (TPH), about half-way through (TPH/BTEX), and near the end (TPH). Effluent samples will be collected at the beginning (TPH/BTEX) to meet vapor emission permit requirements. Following the completion of the MDPE event, a water level gauging event will be conducted approximately 4 weeks later to document PSH levels.

Preapproval Request Forms

A PSH Recovery Preapproval Proposal form is attached for review.

Initial Abatement/ICAP/PSH Removal Cost Proposal

LPST # 111747

Facility ID: 29044

Responsible Party Federal Express Corporation Facility Name and Address Federal Express, 6811 Technocenter Drive, Austin, TX

Mark appropriate activity 01-1 Initial Abatement 02-1 Interim Corrective Action Plan 02-2 PSH Recovery

Print

Interim Corrective Action Plan \$0

24 hr event w/ garbage visit

Initial Abatement/Manual PSH Removal

A. Personnel

	Sub	Total
Report Preparation	—	—
Office Personnel	—	\$0
Field Personnel	—	\$760
Subtotal Subcontracted Personnel	\$0	
Subcontractor Markup %	—	\$0
Cost Proposal Preparation	—	\$115
A. Total Personnel		\$865

C. Waste Management

	# of Units	\$/Unit	Sub	Total
Water Truck	6	\$75	—	\$450
Disposal	1,500	\$0.40	—	\$200
Subtotal Subcontracted Waste Mgmt		\$470		
Subcontractor Markup %		10%		\$47
C. Total Waste Management				\$637

B. Equipment

	# of Units	\$/Unit	Sub	Total
Balers	—	\$0	—	\$0
Small Items	—	\$0	—	\$0
Drums	—	\$0	—	\$0
Slammers (sm)	—	\$0	—	\$0
Slammers (lg)	—	\$0	—	\$0
Canisters	—	\$0	—	\$0
Sorbents	—	\$0	—	\$0
MDPE Event	1	\$3,250	—	\$3,250
	—	\$0	—	\$0
	—	\$0	—	\$0
	—	\$0	—	\$0
	—	\$0	—	\$0
	—	\$0	—	\$0
Subtotal Subcontracted Equipment =		\$3,250		
Subcontractor Markup %		15%		\$498
B. Total Equipment				\$3,738

D. Travel

	Units	\$/Unit	Sub	Total
Mileage (>100 ft)	—	\$0.31	—	\$0
One way mileage to site	25 miles	—	—	\$0
Travel Time	—	\$40	—	\$0
Per diem	—	\$0	—	\$0
Airfare	—	\$0	—	\$0
Equipment Truck	1	\$140	—	\$140
Subtotal Subcontracted Travel		\$0		
Subcontractor Markup %				\$0
D. Total Travel				\$140

E. Other Expenses

	Units	\$/Unit	Sub	Total
	—	\$0	—	\$0
	—	\$0	—	\$0
	—	\$0	—	\$0
Subtotal Subcontracted Other		\$0		\$0
Subcontractor Markup %				\$0
E. Total Other Expenses				\$0

F. Total Initial Abatement/PSH Recovery Proposed Cost = A+B+C+D+E = \$5,440

Russell C. Ford (CAPM Name, Printed) *[Signature]* (Signature) Temcon (Company) 2/7/2006 (Date)
 (512) 442-1122 (Phone #) (512) 442-1181 (FAX #) 1502 (CAPM #) 7/18/2006 (Exp Date)
 Russell C. Ford (RCAS Rep Name, Printed) *[Signature]* (Signature of Representative) HBC Engineering, Inc (Company) May 28, 2001 (Date)
 (512) 442-1122 (Phone #) (512) 442-1181 (FAX #) 387 (RCAS #) 2/25/2006 (Exp Date)

I acknowledge that the TNRCC may reimburse corrective action costs that are at or below the maximum reimbursable amount published in 30 TAC, Chapter 334, Subchapter M. The maximum reimbursable cost will be the amount approved for the activity unless the Executive Director determines that sound justification for a cost surplus exists. I understand that this certification is not intended to limit what a Registered Corrective Action Specialist, Corrective Action Project Manager, or Contractor may charge. I further understand that the amount of the reimbursement for the above activity will be determined after all receipts are submitted and subject to technical and reimbursable cost review. I certify that this TNRCC form has not been altered.

Federal Express Corporation (Name of Responsible Party) *[Signature]* (Signature of Representative) Jamal Mansour (Name Printed) Federal Express Corporation (Company)
 (901) 434-8458 (Phone #) (901) 434-8235 (FAX #) 3/8/06 (Date)

Scott Lawless - Re: Request for meeting, federal Express, Technicenter drive , Austin, TX, LPST #111747

From: Scott Lawless
To: Ford, Russ
Date: 1/10/2006 2:43 PM
Subject: Re: Request for meeting, federal Express, Technicenter drive , Austin, TX, LPST #111747

Russ,

Thanks for providing the list of concerns. After talking to you, Joyce Sirota and Kristine Elliot, I realized that there was a mis-communication regarding groundwater sampling at this site. All active sites require groundwater sampling. There are no exceptions that I'm aware of. I've reviewed the groundwater monitoring preapproval issued on November 17, 2005 and feel that the sampling schedule is appropriate. I don't anticipate granting any modification to the sampling schedule.

With respect to NAPL recovery, NAPL must be recovered to the maximum extent practicable. This agency will allow NAPL to remain on-site in some cases. NAPL that exists off-site (as is the case with MW-6) will not be allowed to remain floating on the watertable at thicknesses greater than approximately 0.1 feet. If during the execution of the groundwater monitoring activities, NAPL is observed off-site at a greater than 0.1 feet thickness, appropriate NAPL recovery methods will be required.

If you remain interested in meeting with me to discuss this site, I'm generally available Monday through Thursday afternoons.

Thanks
Scott

>>> "Ford, Russ" <RCFord@terracon.com> 1/6/2006 12:23 PM >>>

Scott,

Sorry missed your callback today regarding setting up a meeting to discuss the referenced site. I'm pretty sure Jamal with FedEx still wants to meet with you to discuss the scope of work outlined in your most recent CARF. As you requested in your message, I've outlined a brief agenda which presents the items of concern that we'd like to discuss:

1) Based on the results of Terracon's and FedEx's previous meeting with TCEQ staff on 9/13/04 we felt we had already hammered out an agreement as to the required scope of work necessary to obtain site closure and this agreed upon scope was exactly what we had proposed in our 9/14/05 preapproval request. As noted in the request, groundwater gauging with NAPL recovery using sorbent socks as needed was proposed, but additional groundwater analytical monitoring was not proposed. Needless to say we were both shocked and discouraged when we received your 11/17/05 CARF requesting additional groundwater sampling. We feel that based on the age of the release being almost 10 years old and on historic groundwater analytical data that the dissolved contaminant plume is already stable or reducing and further groundwater sampling is unnecessary. This is further supported by the TCEQ's 11/26/02 comment letter where it is acknowledged that there is a decreasing trend in contamination in the groundwater at the site.

2) NAPL removal-We also feel that we have made sufficient efforts to remove the residual NAPL to the extent practical from the site. We have conducted manually bailing, pneumatic pumping/skimming, SVE, passive skimming as well as several MDPE events to remove the NAPL over the course of the near decade investigation and remediation efforts conducted at the site. We acknowledge that there is still residual NAPL present in at least one of the offsite monitoring wells (MW-6), however due to the hydrogeologic conditions present at the site, removal of this residual NAPL without conducting extensive groundwater pumping and treatment to lower the

water table a sufficient amount to allow for collection of the NAPL is not technically feasible nor economically practical. However, we had agreed upon during our previous meeting to conduct at least 2 and up to 4 quarterly fluid gauging events to document residual NAPL presence as well as conduct manual removal of any NAPL as needed using downhole sorbent socks and we are still prepared to move forward with that scope.

Scott, let me know when you might be available to meet and discuss these issues so that I can coordinate it with FedEx. If you could give me maybe a couple of different dates I'll check with Jamal to see when he can fly in from Memphis.

Thanks,

Russell C. Ford
Senior Hydrogeologist | Austin Environmental Department
Terracon
5307 Industrial Oaks Boulevard, Suite 160 | Austin, Texas 78735
P 512-442-1122 | F 512-442-1181 |
rcford@terracon.com | www.terracon.com

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TCEQ FAX TRANSMITTAL

LPST#111747

DATE: 11/17/05

No. of Pages (including this sheet) 5

TO: Name MR JAMAL MANSOUR
Organization FEDERAL EXPRESS
Fax Number (901) 434-9235

FROM: TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
Name Scott Lawless
Project Manager
Telephone 512 / 239-2200
Fax Number 512 / 239-2216
Mail MC-137, PO BOX 13087, Austin, TX 78711-3087

NOTES: Response to Corrective Action Proposal(s) for
LPST-ID: 111747 **Facility ID: 0029044** **PRIORITY: 4.1**
If you have problems receiving this fax, please call 512 / 239-2200.

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY LPST CORRECTIVE ACTION RESPONSE FORM

LPST-ID: 111747

GENERAL INFORMATION

LPST-ID:	111747	Priority:	4.1
Responsible Party:	FEDERAL EXPRESS	TEL:	901/395-4064
Facility #:	0029044		
Facility Name:	FEDERAL EXPRESS		
Facility Address :	5811 TECHNI CENTER	County:	TRAVIS
Facility City:	AUSTIN		
CAPM & Name:	CAPM01502	FORD PG, RUSSELL C	
CAS ID & Name:			

TCEQ TECHNICAL RESPONSE

9/16/2005 Proposal For LPST: 111747 - QUARTERLY GW MONITORING (4 EVENTS/YR)

Proposed activity is approved with the following modifications:

On August 18, 2005, a TCEQ Letter requested a workplan and preapproval proposal for Non-Aqueous Phase Liquids (NAPL) recovery and four quarters of groundwater monitoring to ensure plume stability. This proposal addresses NAPL recovery by proposing sorbent socks, but does not include groundwater monitoring. Groundwater monitoring activities have been included in this preapproval.

This approval is for quarterly, semi-annual and annual groundwater monitoring events to be completed in conjunction with NAPL recovery using sorbent socks when appropriate for the 11 existing monitor wells. Groundwater should be sampled for BTEX/MTBE/TPH(1005) or BTEX/MTBE and possibly PAH. PAH analysis should only be conducted on a sample that exhibits a TPH concentration in the carbon range C12-C28 that exceeds the method detection limit and that also exceeds the highest C12-C28 concentration for which PAH has been documented. This site will not be granted closure without documented PAH analysis. Upon completion of monitoring activities, please submit an Annual Groundwater Monitoring Report, along with a workplan and cost proposal for the next appropriate phase of corrective action. Please incorporate the following modifications into your monitoring program:

- (1) Analyze samples from monitor well MW-1, MW-2, MW-3, MW-4, MW-5 and MW-6 for BTEX/MTBE/TPH(1005).
- (2) Analyze samples from monitor wells MW-7, MW-8, MW-9, MW-10 and MW-11 for BTEX/MTBE. No TPH analysis is necessary for these monitor wells as levels have remained stable and/or below method detection limits in the C12-C28 hydrocarbon chain.
- (3) Sample monitor well MW-6 quarterly. It appears that MW-6 has never been sampled.
- (4) Sample monitor wells MW-1, MW-2, MW-3, MW-4, MW-5, MW-7 and MW-8 semi-annually.
- (5) Sample monitor wells MW-9, MW-10 and MW-11 annually.

Proposed costs shown are for a total of 21 BTEX/MTBE, 14 TPH(1005) and 4 PAH groundwater samples.

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY LPST CORRECTIVE ACTION RESPONSE FORM

LPST-ID: 111747

TCEQ TECHNICAL RESPONSE

9/16/2005 Proposal For LPST: 111747 - QUARTERLY GW MONITORING (4 EVENTS/YR)

ACTIVITY COST SUMMARY

Proposed Cost: \$3,815.00

Maximum Pre-Approved: \$8,147.00

Signature: _____



Scott Lawless
Project Manager

Date: 11/17/2005

Telephone: 512 / 239-2200

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY LPST CORRECTIVE ACTION RESPONSE FORM

LPST-ID: 111747

9/16/2005 Proposal For : QUARTERLY GW MONITORING (4 EVENTS/YR)

Pursuant to 30 TAC Section 334.82 (a), you are required to notify all parties affected by the contamination. If you determine that contamination from the release has migrated off-site, or if you are required by the TCEQ to conduct further assessment or other corrective actions off-site, then you must notify the affected landowner(s) within 30 days of documenting any impact. Please note that landowners may include state and local owners of rights-of-way. For the purpose of this requirement, notice shall be through any means described in 30 TAC Section 334.82 (a). Please provide documentation to the TCEQ within 30 days that the affected landowner(s) has/have been properly notified. Be aware that failure to notify affected parties is grounds for formal enforcement proceedings.

Please note that preapproval of corrective action activities DOES NOT guarantee reimbursement. Eligibility is determined at the time of reimbursement application review. If the release is eligible, the preapproved amount is the maximum allowed for the proposed activities. The actual amount of reimbursement will be determined after the activities are completed and the reimbursement application and all related receipts and invoices have been submitted to and reviewed by TCEQ according to the applicable technical and reimbursable cost guidelines. In all instances, the completed work must be technically justifiable and should serve to advance the site toward regulatory closure in the corrective action process. The amount of preapproved work performed should be based on completion of the activity's objectives. Additionally, please also note that preapproved amounts include eligible markup.

Unless approved in advance by the PST Reimbursement Section, reimbursement claims for remediation system operation and maintenance and/or quarterly groundwater monitoring should only be submitted after the completion of an annual cycle. The Reimbursement Section can be reached at 512/239-2001.

Please notify the applicable TCEQ regional office at least 10 days before conducting any field activities at this site.

cc: Barry Kalda, TCEQ Region 11 Field Office
1921 Cedar Bend, Suite 150, Austin, Texas 78758-5336
Phone: 512/339-2929 Fax: 512/339-3795

Activity 07: Groundwater Monitoring Preapproval Worksheet

TNRCC #:
LPST #: 111747
Facility #: 0
Facility Name: fed ex corp
Facility address: 5811 technicenter dr., austin

Quarter:
 1st: 1
 2nd: 8
 3rd: 1
 4th: 11
Average Well Depth: 37
Prepared By: sel
Date: 15-Nov-05

A. Personnel

	# of Units	\$/Unit	Total
Fixed Annual		=	\$1,540
1st Event	1 P/S and 0 NA	x	\$190
2nd Event	8 P/S and 0 NA	x	\$540
3rd Event	1 P/S and 0 NA	x	\$190
4th Event	11 P/S and 0 NA	x	\$690
Subtotal Subcontracted Personnel	=	\$0	
Subcontractor Markup %	=	10%	\$0
Cost Proposal Preparation	=		\$195
A. Total Personnel			\$3,345

B. Equipment Costs

	# of Units	\$/Unit	Total
Disposable Bailers	21 x	\$8 =	\$168
Small Items	5 x	\$20 =	\$100
Drums (55-gallon, for purge water)	5 x	\$40 =	\$200
(Other)	0 x	\$75 =	\$0
(Other)	1 x	\$40 =	\$40
Subtotal Subcontracted Equipment	=	\$0	
Subcontractor Markup %	=	15%	\$0
A. Total Equipment			\$508

C. Waste Management

	# of Units	\$/Unit	Total
Vacuum Truck	4 x	\$70	\$280
Fluid Disposal	525 x	\$0.40	\$210
Sub H Discharge/Alt. Disposal Me	0 x	\$75 =	\$0
Subtotal Subcontracted Waste Mgt.	=	\$0	
Subcontractor Markup %	=	10%	\$0
A. Total Waste Management			\$490

D. Analytical Costs

	# of Units	\$/Unit	Total
TPH - 418 1	0 x	\$49 =	\$0
TPH - TX 1005	14 x	\$55 =	\$770
BTEX - 8021b	0 x	\$55	\$0
BTEX /MTBE	21 x	\$55	\$1,155
PAH (6:10)	0 x	\$158	\$0
PAH (8270) w	4 x	\$230	\$920
TDS	0 x	\$15	\$0
TOC	0 x	\$32	\$0
Chlorides	0 x	\$18 =	\$0
Nitrates	0 x	\$24	\$0
Sulfates	0 x	\$5	\$0
(Other)	0	\$0	\$0
(Other)	0 x	\$0	\$0
(Other)	39 x	\$5	\$195
Subtotal Subcontracted Analytical	=	\$0	
Subcontractor Markup %	=	10%	\$0
D. Total Analytical			\$3,040

E. Travel

	Units	\$/Unit	Total
Mileage (>100 rt)	0 x	\$0.405 =	\$0
One way mileage to site	=	10	
Travel Time	2 x	\$40 =	\$64
Per diem	0 x	\$90 =	\$0
Airfare	0 x	\$0 =	\$0
Equipment Truck	5 x	\$140 =	\$700
Subtotal Subcontracted Travel	=	\$0	
Subcontractor Markup %	=	15%	\$0
D. Total Travel			\$764

Total Groundwater Monitoring Activity Costs (A+B+C+D+E) = \$8,147

Item	Proposed		Approved		Approved - Proposed Difference
	Subcontracted	Total	Subcontracted	Total	
Personnel	\$0	\$2,915	\$0	\$3,345	\$430
Equipment	\$0	\$340	\$0	\$508	\$168
Waste Management	\$0	\$0	\$0	\$490	\$490
Analytical	\$0	\$0	\$0	\$3,040	\$3,040
Travel	\$0	\$560	\$0	\$764	\$204
Total	\$0	\$3,815	\$0	\$8,147	\$4,332

*** MULTI TX/RX REPORT ***

TX/RX NO 2086
PGS. 5
TX/RX INCOMPLETE -----
TRANSACTION OK
(1) 9p19014349235
(2) 9p3383795
ERROR INFORMATION -----

TCEQ FAX TRANSMITTAL

LPST#111747

DATE: 11/17/05

No. of Pages (including this sheet) 5

TO: Name MR JAMAL MANSOUR
Organization FEDERAL EXPRESS
Fax Number (901) 434-9235

FROM: TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
Name Scott Lawless
Project Manager
Telephone 512 / 239-2200
Fax Number 512 / 239-2216
Mail MC-137, PO BOX 13087, Austin, TX 78711-3087

NOTES: Response to Corrective Action Proposal(s) for
LPST-ID: 111747 Facility ID: 0029044 PRIORITY: 4.1
If you have problems receiving this fax, please call 512 / 239-2200.

- GW gradient appears to be to the E/SE
- TDS is 478 ppm (MW-3).
- Twenty GWM events conducted between November 1996 and March 2005. NAPL historically observed in MW-1, MW-2, MW-3, MW-4, MW-5 and MW-6
- The following are the groundwater maximums detected:

	<u>Historical</u>	<u>Current (03/23/05)</u>
benzene	3.57 ppm (MW-5, 12/27/01)	4.81 ppm (MW-5)
MTBE	2.85 ppm (MW-5, 12/27/01)	3.19 ppm (MW-4)
TPH	360 ppm (MW-2, 01/28/04)	98.89 ppm (MW-4)
PAH's	See attached groundwater analyticals, PAHs highlighted.	

- The groundwater plume shows a decreasing groundwater concentrations from source area.
- Fluid wastes have been properly disposed.

NAPL

- NAPL historically observed in MW-1, MW-2, MW-3, MW-4, and offsite MW-5 and MW-6
- NAPL recovery history:
 - ▶ 6 months of NAPL recovery from MW1, MW2 and MW6 approved in 01/97; SVE pilot test See attached SVE system map dated 10/97.
 - ▶ NAPL removed via a SVE system from MWs 1,2,& 6, 05/98 to 01/99; O & M problems
 - ▶ NAPL removed via new SVE system from September 2000 to May 2001 on MWs 1,2,& 6 and MDPE. See attached SVE system map dated 10/97.
 - ▶ Bi-weekly (26 visits) PSH recovery from wells 5 & 6 for one year using passive skimmers approved 07/13/01
 - ▶ One 8-hour MDPE event approved 04/03; only 4 hours conducted on 10/11/03; MW5,6, & 9; unsuccessful.
 - ▶ One 8-hour event conducted (although 24 hour event approved) on 05/18/04, MWs 1,5, & 6; deemed unsuccessful by our letter dated 09/01/04.
 - ▶ One 24-hour MDPE event on MWs 1, 5 & 6, low vapor recovery, **terminated after 12 hours.**
- NAPL absent since 05/18/04 at the latest in all but MW6
- NAPL currently (04/29/05) present in MW-6, 0.05' thick (after MDPE event and one month later)

Receptors and Site Priority/Category

- Site is not located over a major/minor aquifer..
- Site priority from 4.1; BGUC is Category II.
- City of Austin supplies water to the site and surrounding area.
- Location of underground utilities appear to be along the north and east property lines.
- Elementary school located immediately west 100' of the site.

Conclusions/Recommendations

- This site has met the 9/1/02 deadline and the CAP deadline.
- The groundwater plume shows a decreasing groundwater concentrations from source area.
- Removal of NAPL to the maximum extent practicable is the cleanup goal, however:

HVME (with a two pump system) was conducted and the results were low vapor recovery, high water recovery (9600 gallons) but very low draw down. And, because they were recovering >13 GPM, it appears that they hit a high yield aquifer and recovery of the submerged NAPL may not be possible.

- The NAPL plume:
 1. The NAPL plume is delineated, with at least one downgradient well without NAPL.
 2. The NAPL plume is stable.
 3. The source has been removed.
 4. NAPL recovery has been ongoing since 1997 via SVE, passive skimming and MDPE.
- Because NAPL is OFFSITE, the 07/17/03 memo can NOT be used.
- Additional NAPL recovery is necessary followed by 4 quarters of monitoring.

Current Submittals: PA-8 (rec'd 09/19/05)

- NAPL recovery using sorbent socks and four quarters of monitoring are approved.

Exposure Pathway Evaluation:

- soils: maximum soil concentrations < health-based and cw target; closed.
- soils: explosive vapors, SCR indicates a lack of vapor impacts to buildings, subsurface utilities, etc.; closed.
- current on-site groundwater ingestion: no on-site supply well; closed.
- current off-site groundwater ingestion: closed.
- future on-site groundwater ingestion: no comm. use within 0.5-mile, municipal supply; qualitatively closed.
- future off-site groundwater ingestion: closed.
- construction worker: Depth to gw greater than 15 feet; closed.
- groundwater to surface water: closed.
- PSH removed to maximum extent practicable: recalcitrant NAPL with thickness of 0.05' in MW6 at DTW 27-37' bgs; NEEDS TO MEET CRITERIA OF JULY 17, 2003 TCEQ GUIDANCE MEMO; open.

LPST 111747

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION
PETROLEUM STORAGE TANK
CORRESPONDENCE IDENTIFICATION SHEET

Date: September 14, 2005
Site Name: Federal Express Corporation
Site Address: 5811 Technicenter Drive, Austin, TX

LPST ID No.: 111747
Facility ID No.: 0029044

SEL

This checklist **must** accompany all correspondence submitted to the RPR Section and should be affixed to the front of your submittal as a cover page. Please check the appropriate box for the type of correspondence which you have submitted to the RPR Section. Check all boxes that apply if you are submitting more than one type of correspondence. If you cannot find an appropriate category, please complete the "other" section.

PROPS

PROPOSALS		
<input type="checkbox"/> Initial Abatement (1)	<input type="checkbox"/> Tank Removal (2)	<input type="checkbox"/> Excavation (3)
<input type="checkbox"/> Waste Treatment (4)	<input type="checkbox"/> Site Assessment (5)	<input type="checkbox"/> Aquifer Testing (6)
<input type="checkbox"/> VES/Sparge Testing (7)	<input checked="" type="checkbox"/> Qtrly. GW Monitoring (8)	<input type="checkbox"/> CAP Prep (9)
<input type="checkbox"/> GW Extrac./Treatment (10)	<input type="checkbox"/> Soil Vapor Extrac. (11)	<input type="checkbox"/> Operation & Main (12)
<input type="checkbox"/> Site Closure (13)	<input type="checkbox"/> Plan A Risk Ass. (14)	<input type="checkbox"/> Plan B Risk Ass. (15)
<input type="checkbox"/> Semi-annual GW Mon. (16)*	<input type="checkbox"/> Annual GW Mon. (18)	<input type="checkbox"/> Product Recovery (19)
<input type="checkbox"/> Other proposal _____		

Received

REPORTING FORMS	
<input type="checkbox"/> Assessment Report Form (TNRCC-0562)	<input type="checkbox"/> Release Report Form (TNRCC-0621)
<input type="checkbox"/> Product Recovery Report Form (TNRCC-0016)	<input type="checkbox"/> Monitoring Event Summary and Status Report (TNRCC-0013)
<input type="checkbox"/> Site Closure Request Form (TNRCC-0028)	<input type="checkbox"/> Final Site Closure Report Form (TNRCC-0038)
<input type="checkbox"/> Other form _____	

SEP 19 2005

TCEQ/PST-RPR

REPORTS		
<input type="checkbox"/> Tank Closure/Removal	<input type="checkbox"/> Plan A Risk Assessment	<input type="checkbox"/> Annual Groundwater Monitoring
<input type="checkbox"/> O&M/Performance Mon.	<input type="checkbox"/> Plan B Risk Assessment	<input type="checkbox"/> CAP Installation/Modification
<input type="checkbox"/> Property Divestiture/Phase I ESA	<input type="checkbox"/> Corrective Action Plan (CAP)	<input type="checkbox"/> Aquifer/Pilot Test Results

MISCELLANEOUS	
<input type="checkbox"/> Off-site access assistance	<input type="checkbox"/> Deadline Extension Request
<input type="checkbox"/> Tank tightness test results	<input type="checkbox"/> Request for State-Lead
<input type="checkbox"/> Request for LPST Waste Code	<input type="checkbox"/> Class V ReInjection Request
<input type="checkbox"/> Notice to Owner/Operator for CAS Services	<input type="checkbox"/> Petroleum-Substance Waste Manifest
<input type="checkbox"/> Underground Storage Tank Registration Form	<input type="checkbox"/> Aboveground Storage Tank Registration Form
<input type="checkbox"/> Other (anything that does not fit into one of the categories above) _____	

* The proposal for semi-annual monitoring and annual report (Proposal Activity 17) has been discontinued. For semi-annual monitoring, use Proposal Activity 16.

WORKPLAN AND PREAPPROVAL REQUEST

LPST ID No.: 111747
Responsible Party: Federal Express Corporation
Property Owner: Federal Express Corporation
Facility Name: Federal Express Corporation
Facility Address: 5811 Technicenter Drive
Facility City: Austin
Facility ID No.: 0029044
TNRCC Region: 11
Case Priority: 4.1

Proposed Activity: 07-1 Quarterly Fluid Level Monitoring

Goal of Proposed Activity

The goal of the proposed activity is to gauge the existing groundwater monitor wells in order to verify stability of the phase-separated hydrocarbons (PSH) plume at the site.

Description of Activities

Each of the existing groundwater monitor wells (MW-1 through MW-11) will be gauged on a quarterly basis for a period of 9-months (4 sampling events) to document stability of the PSH plume.

Sampling Procedures

The depth to PSH and groundwater will be measured in each well using a product interface meter capable of measuring PSH to 0.01 feet. Any wells containing greater than 0.1 feet of PSH will be hand-bailed and then equipped with a downhole hydrocarbon sorbent sock.

Reporting of Activities

Upon the completion of the second quarterly sampling event, if PSH thicknesses are stable and below 0.10 feet, a Site Closure Request Form will be completed and submitted to the TCEQ for approval. If PSH thicknesses are greater than 0.1 feet then monitoring will continue for an additional 2 quarters to document the PSH plume conditions.

Preapproval Request Forms

A Groundwater Monitoring Cost Proposal form is attached for review.

Groundwater Monitoring Cost Proposal

LPST # 111747 Facility ID 29044

Responsible Party Federal Express Corporation Facility Name and Address Federal Express, 5811 Techcenter Drive, Austin, TX

Mark appropriate activity 07-1 Quarterly Monitoring (4 events/yr + Annual Report)
 07-2 Semi-Annual Monitoring (1 event w/MESSR)
 07-3 Annual Monitoring (1 event w/Annual Report)
 07-4 Semi-Annual Monitoring (2 events + Annual Report)

Print

A. Personnel

	Year	# of Wells	Avg Depth	Sub	Total
Fixed Annual					\$860
1st Event	9/2005	11	37		\$440
2nd Event	12/2005	11	37		\$440
3rd Event	3/2006	11	37		\$440
4th Event	6/2006	11	37		\$440
Subtotal Subcontracted Personnel					\$0
Subcontractor Markup %					\$0
Cost Proposal Preparation					\$195
A. Total Personnel					\$2,915

D. Analytical

Type	# Samples	\$/Unit	Sub	Total
TPHBTEX	x	\$0		\$0
TPHBTEXMTBE	x	\$148		\$0
TDS	x	\$0		\$0
PAH(810)	x	\$0		\$0
PAH(8270)	x	\$249		\$0
Chlorides	x	\$0		\$0
Iron	x	\$0		\$0
Nitrates	x	\$0		\$0
Phosphates	x	\$0		\$0
Sulfates	x	\$0		\$0
		\$0		\$0
		\$0		\$0
Shipping	x	\$5		\$0
Subtotal Subcontracted Analytical		\$3,754		\$0
Subcontractor Markup %		10%		\$0
D. Total Analytical				\$0

B. Equipment

	Units	\$/Unit	Sub	Total
Disposable Barriers	x	\$8		\$0
Small Items	x	\$20		\$0
Drums	x	\$40		\$0
Field Instrument	4	\$75		\$300
Absorbent socks (dozen)	1	\$40		\$40
Subtotal Subcontracted Equipment		\$0		\$0
Subcontractor Markup %				\$0
B. Total Equipment				\$340

E. Travel

Type	# Samples	\$/Unit	Sub	Total
Equipment Truck	4	\$140		\$560
One way mileage to site				
Mileage (>100 r.t.)	x	\$0.31		\$0
Travel Time	x	\$40		\$0
Per Diem	x	\$90		\$0
Airfare	x	\$0		\$0
Subtotal Subcontracted Travel		\$0		\$0
Subcontractor Markup %				\$0
E. Total Travel				\$560

C. Waste Management

	Units	\$/Unit	Sub	Total
Vacuum Truck	x	\$75		\$0
Fixed Disposal	x	\$0.40		\$0
Sub H or Alt Disp	x	\$0		\$0
Subtotal Subcontracted Waste Mgmt		\$465		\$0
Subcontractor Markup %		10%		\$0
C. Total Waste Management				\$0

F. Total Groundwater Monitoring Proposed Cost A+B+C+D+E = \$3,815

Russell C. Ford (CAPM Name, Printed) *Russell C. Ford* (Signature) Terracon (Company) 9/14/05 (Date)
 (512) 442-1122 (Phone #) 512) 442-1181 (FAX #) 1502 (CAPM #) July 16, 2006 (Exp. Date)
 Russell C. Ford (RCAS Rep Name, Printed) *Russell C. Ford* (Signature) Terracon (Company) 9/14/05 (Date)
 (512) 442-1122 (Phone #) 512) 442-1181 (FAX #) 387 (RCAS #) February 25, 2006 (Exp. Date)

I acknowledge that the TNRC may reimburse corrective action activity costs that are at or below the maximum reimbursable amount published in 30 TAC, Chapter 334, Subchapter M. The maximum reimbursable cost will be the amount approved for the activity unless the Executive Director determines that sound justification for a cost surplus exists. I understand that this certification is not intended to limit what a Registered Corrective Action Specialist, Corrective Action Project Manager, or Contractor may charge. I further understand that the amount of the reimbursement for the above activity will be determined after all receipts are submitted and subjected to technical and reimbursable cost review. I certify that this TNRC form has not been altered.

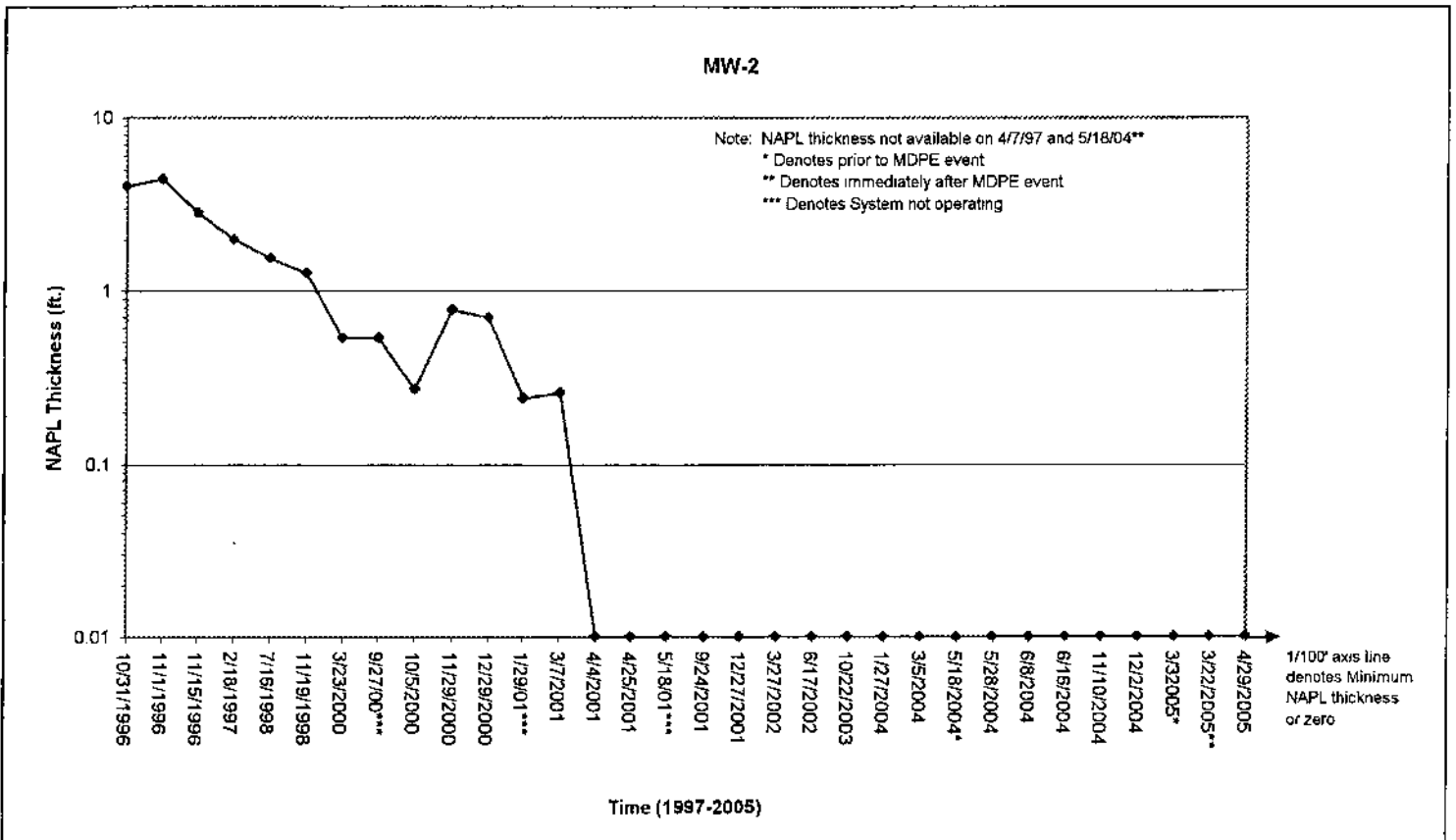
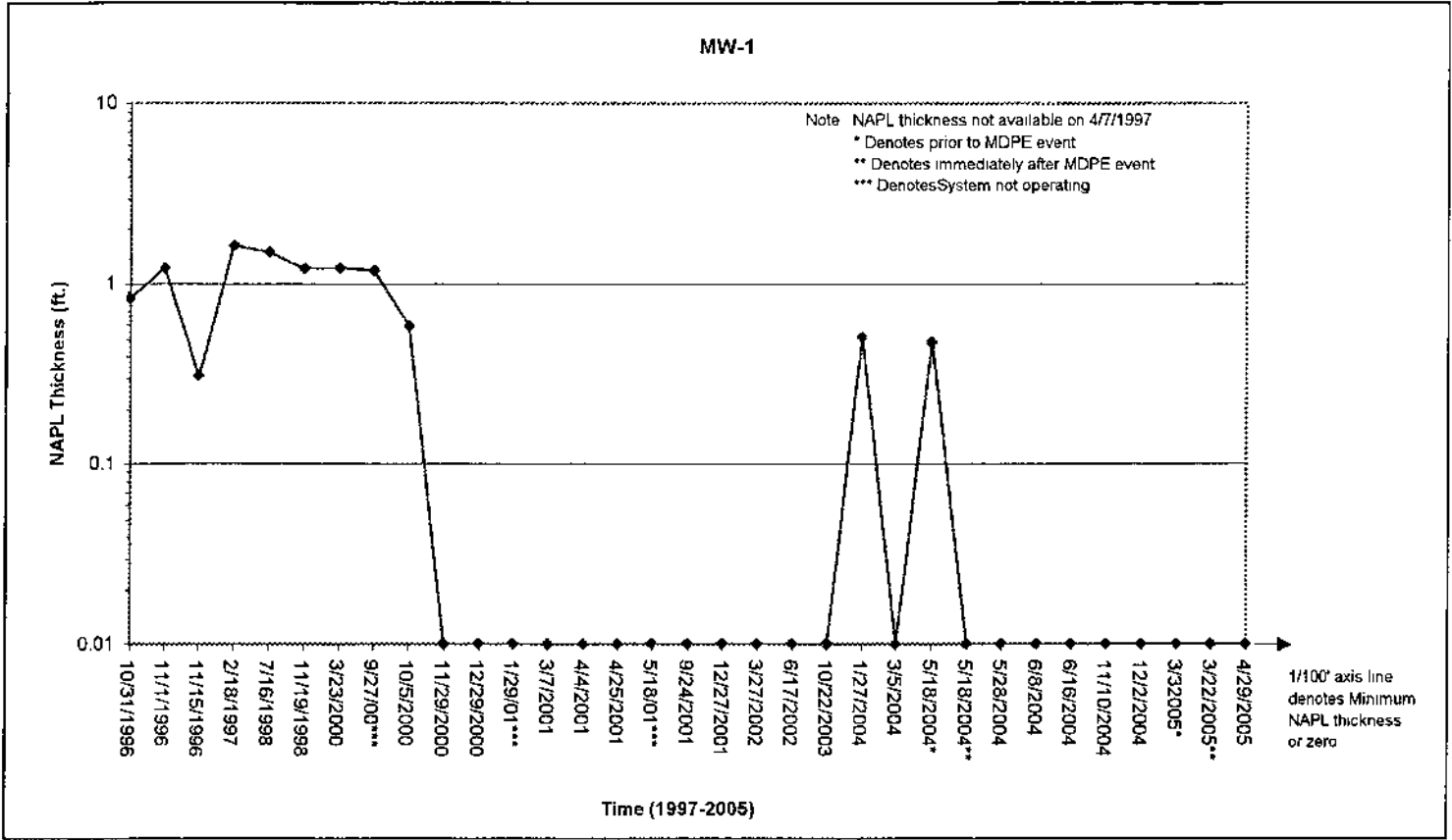
Federal Express Corporation *Jamal Mansour* (Signature of Representative) Jamal Mansour (Name Printed) Federal Express Corporation (Company)
 (901) 434-9458 (Phone #) (901) 434-9235 (Fax #) 9/16/05 (Date)

FLUID GAUGING DATA SUMMARY
 NAPL Thickness

DATE	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8	MW-9	MW-10	MW-11
10/31/1996	0.83	4.05	0.01	NA	NA	NA	NA	NA	NA	NA	NA
11/1/1996	1.21	4.44	NA	NA	NA	NA	NA	NA	NA	NA	NA
11/15/1996	0.31	2.86	0.01	NA	NA	NA	NA	NA	NA	NA	NA
2/18/1997	1.61	2.02	0.01	0.01	0.01	2.4	0.01	0.01	NA	NA	NA
4/7/1997	NA	NA	0.01	0.01	0.01	NA	0.01	0.01	0.01	0.01	0.01
7/16/1998	1.48	1.57	0.81	0.44	0.39	4.58	0.01	0.01	0.01	0.01	0.01
11/19/1998	1.2	1.28	0.63	0.21	0.18	4.32	0.01	0.01	0.01	0.01	0.01
3/23/2000	1.21	0.53	0.05	0.58	0.24	1.84	0.01	0.01	0.01	0.01	0.01
9/27/00***	1.17	0.53	0.02	0.79	0.46	1.94	0.01	0.01	0.01	0.01	0.01
10/5/2000	0.59	0.27	0.02	0.81	0.34	0.87	0.01	0.01	0.01	0.01	0.01
11/29/2000	0.01	0.77	0.01	0.01	0.56	0.01	0.01	0.01	0.01	0.01	0.01
12/29/2000	0.01	0.7	0.01	0.01	0.53	0.44	0.01	0.01	0.01	0.01	0.01
1/29/01***	0.01	0.24	0.01	0.01	0.01	0.28	0.01	0.01	0.01	0.01	0.01
3/7/2001	0.01	0.26	0.01	0.01	0.85	0.27	0.01	0.01	0.01	0.01	0.01
4/4/2001	0.01	0.01	0.01	0.01	0.55	0.24	0.01	0.01	0.01	0.01	0.01
4/25/2001	0.01	0.01	0.01	0.01	0.45	0.2	0.01	0.01	0.01	0.01	0.01
5/18/01***	0.01	0.01	0.01	0.01	0.39	0.14	0.01	0.01	0.01	0.01	0.01
9/24/2001	0.01	0.01	0.01	0.01	0.05	0.15	0.01	0.01	0.01	0.01	0.01
12/27/2001	0.01	0.01	0.01	0.01	0.01	0.08	0.01	0.01	0.01	0.01	0.01
3/27/2002	0.01	0.01	0.01	0.01	0.01	0.06	0.01	0.01	0.01	0.01	0.01
6/17/2002	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
10/22/2003	0.01	0.01	0.01	0.01	0.02	0.02	0.01	0.01	0.01	0.01	0.01
1/27/2004	0.51	0.01	0.01	0.01	0.12	1.51	0.01	0.01	0.01	0.01	0.01
3/5/2004	0.01	0.01	NA	NA	0.01	0.09	NA	NA	NA	NA	NA
5/18/2004*	0.48	0.01	0.01	0.01	0.39	0.14	0.01	0.01	0.01	0.01	0.01
5/18/2004**	0.01	NA	0.01	NA	0.01	0.01	NA	NA	NA	NA	NA
5/28/2004	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
6/8/2004	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
6/16/2004	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
11/10/2004	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
12/2/2004	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
3/3/2005*	0.01	0.01	0.01	0.01	0.01	0.34	0.01	0.01	0.01	0.01	0.01
3/22/2005**	0.01	0.01	0.01	0.01	0.01	0.05	0.01	0.01	0.01	0.01	0.01
4/29/2005	0.01	0.01	0.01	0.01	0.01	0.05	0.01	0.01	0.01	0.01	0.01

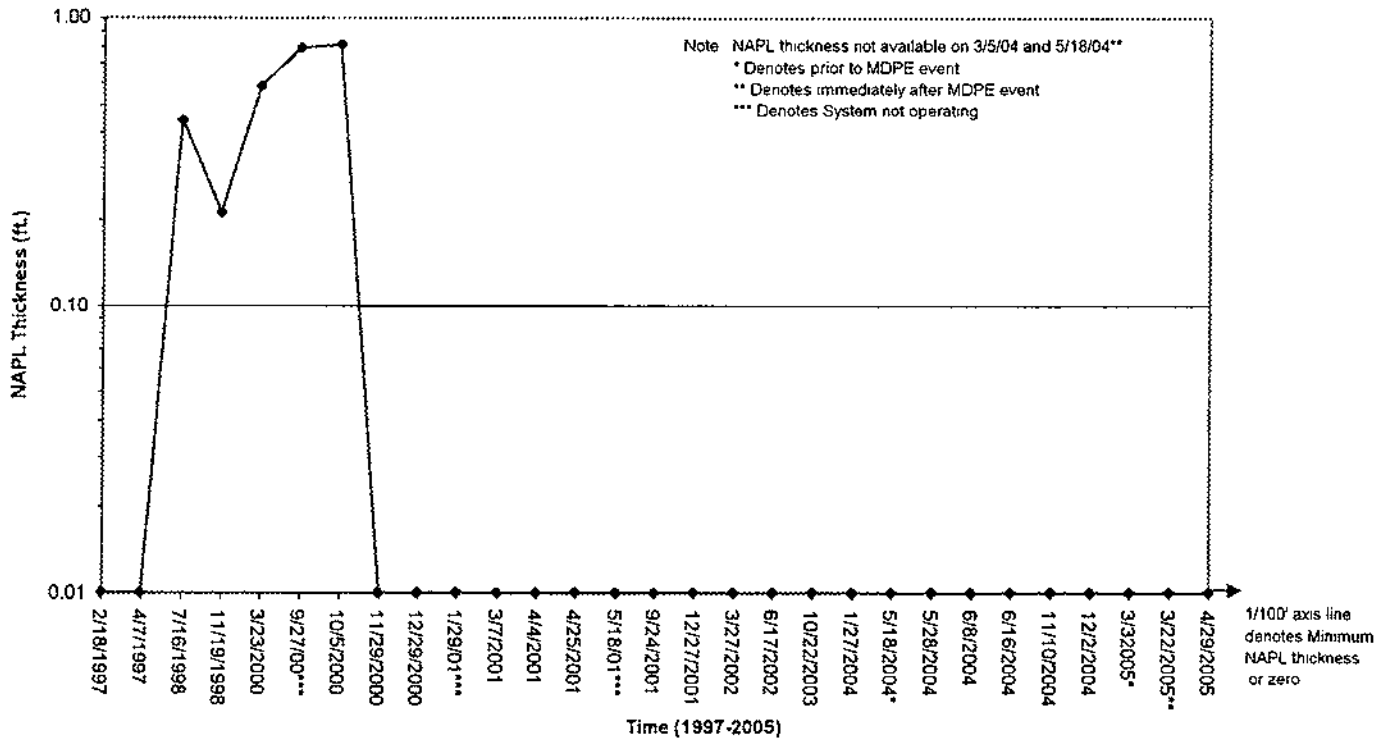
- Notes:
- 1) All measurements in feet
 - 2) NAPL-non-aqueous phase liquid thickness
 - 3) NA-no reading collected
 - 4) * Denotes prior to MDPE event
 - 5) ** Denotes immediately after MDPE event
 - 6) ***-System not operating
 - 7) Bold denotes NAPL thickness exceeds 1/10"
 - 8) 0.01' denotes minimum NAPL thickness or zero

NAPL Thickness

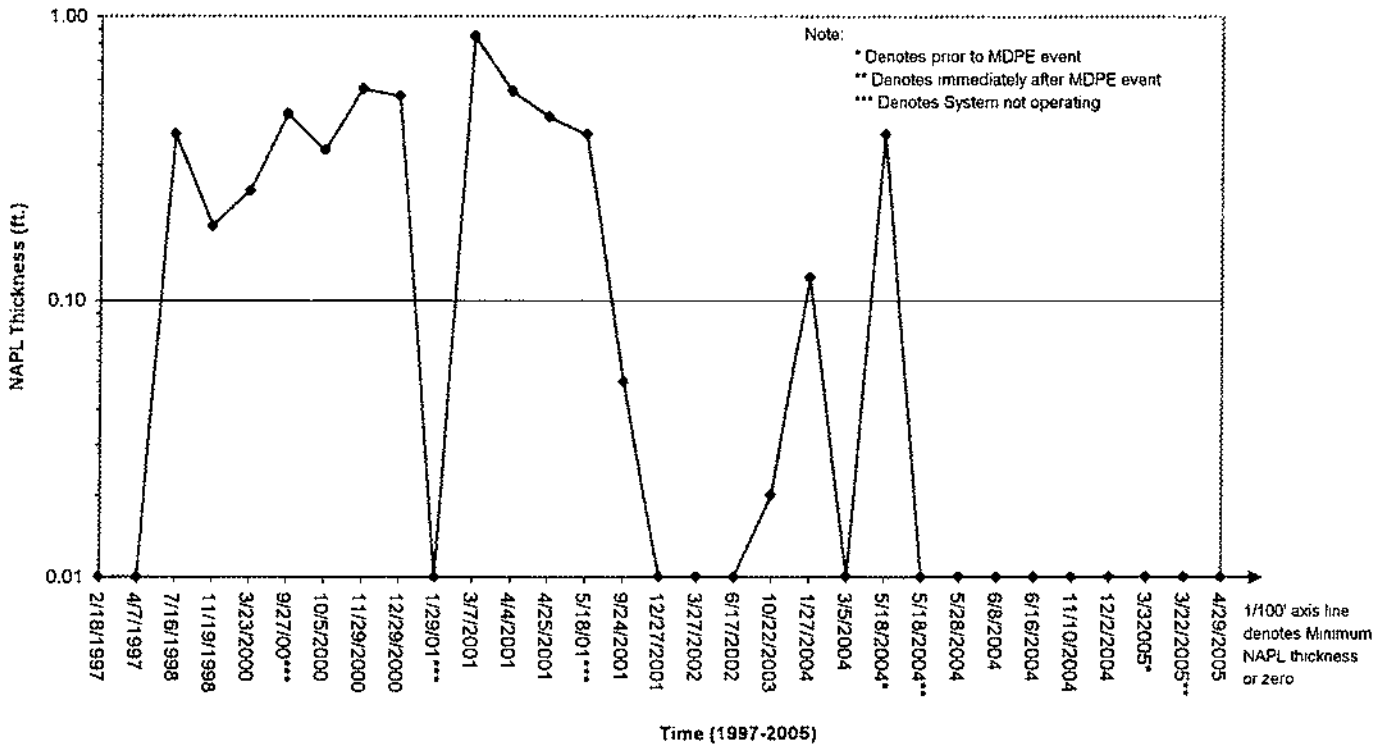


NAPL Thickness

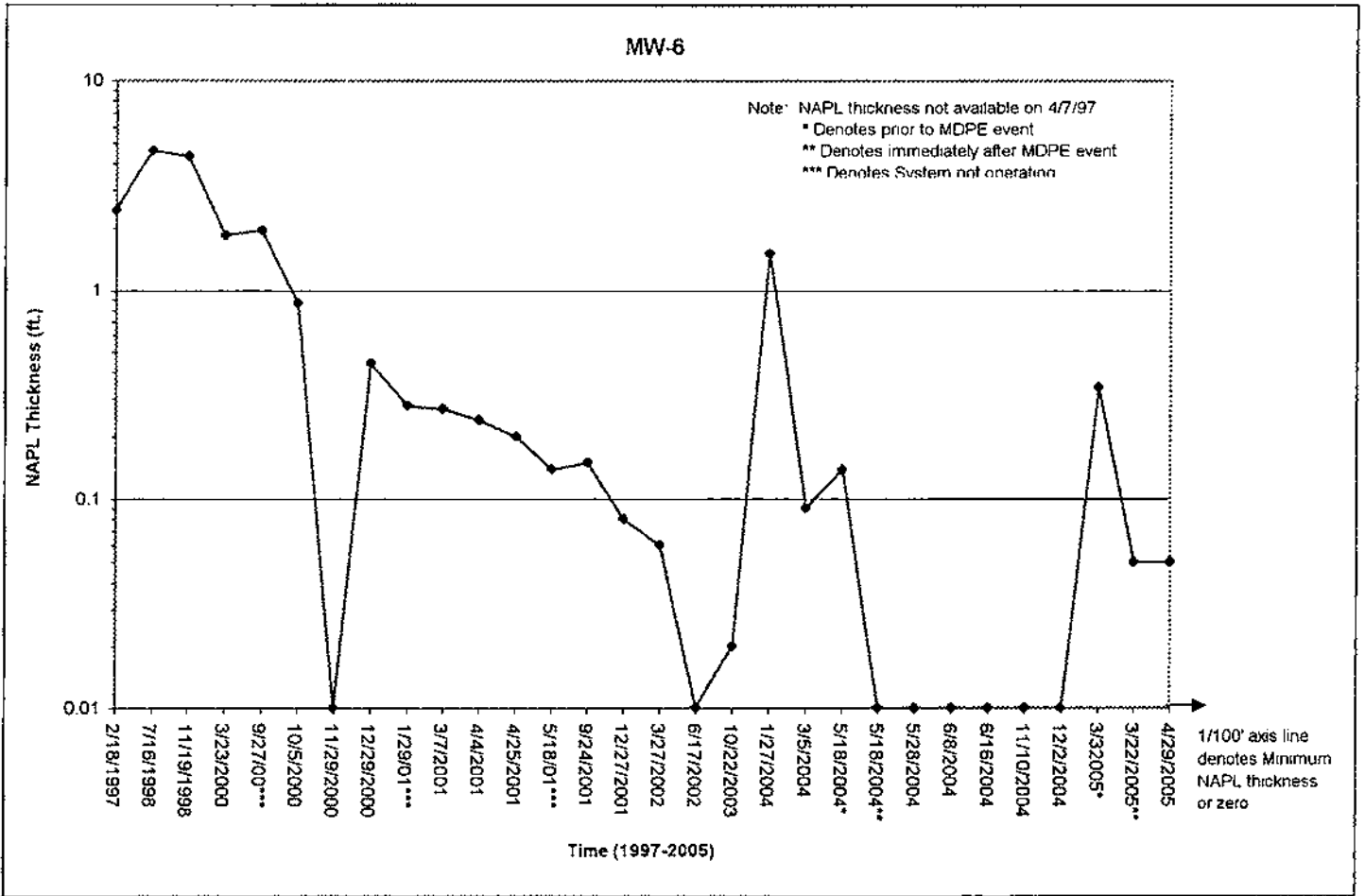
MW-4



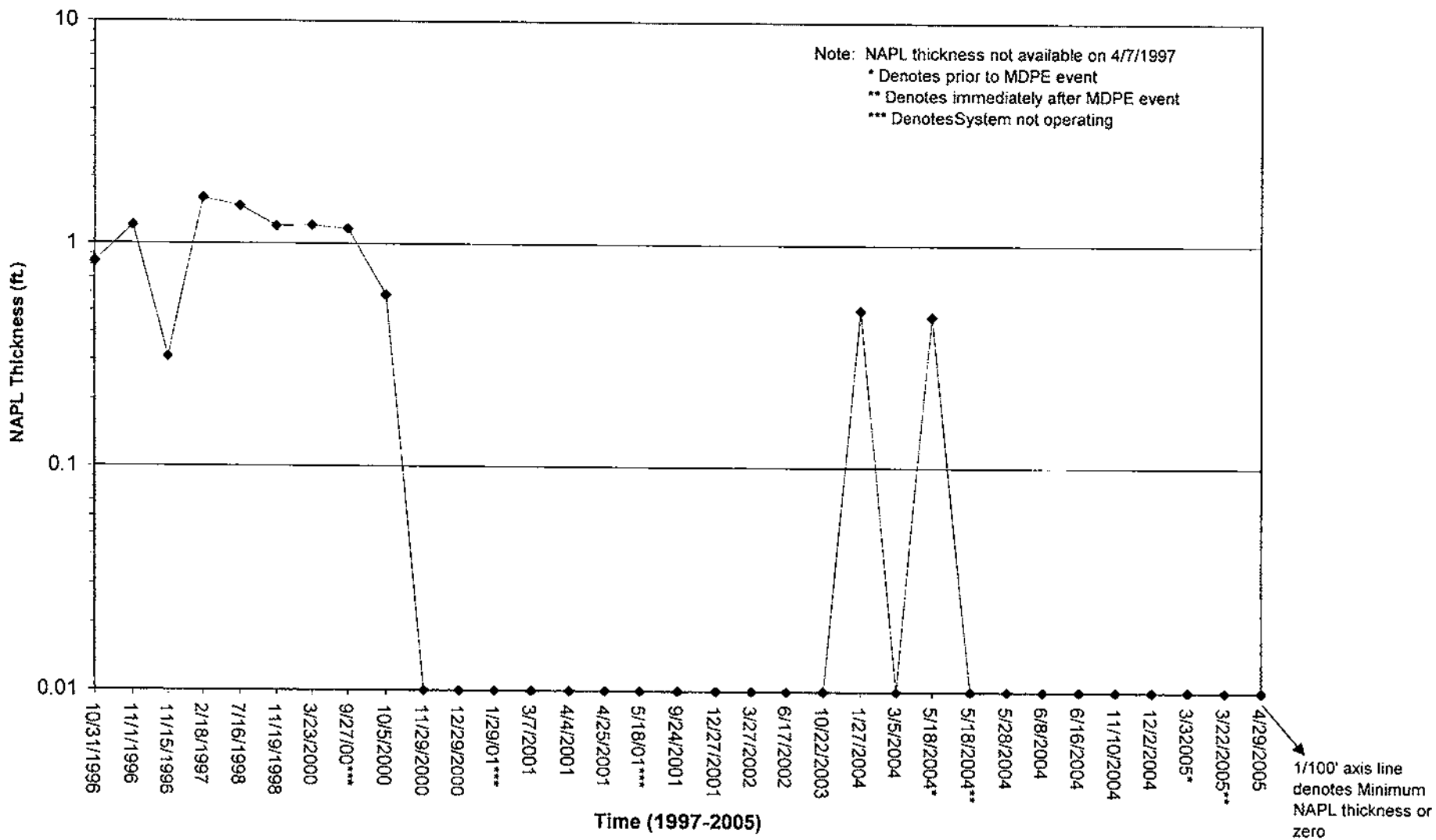
MW-5



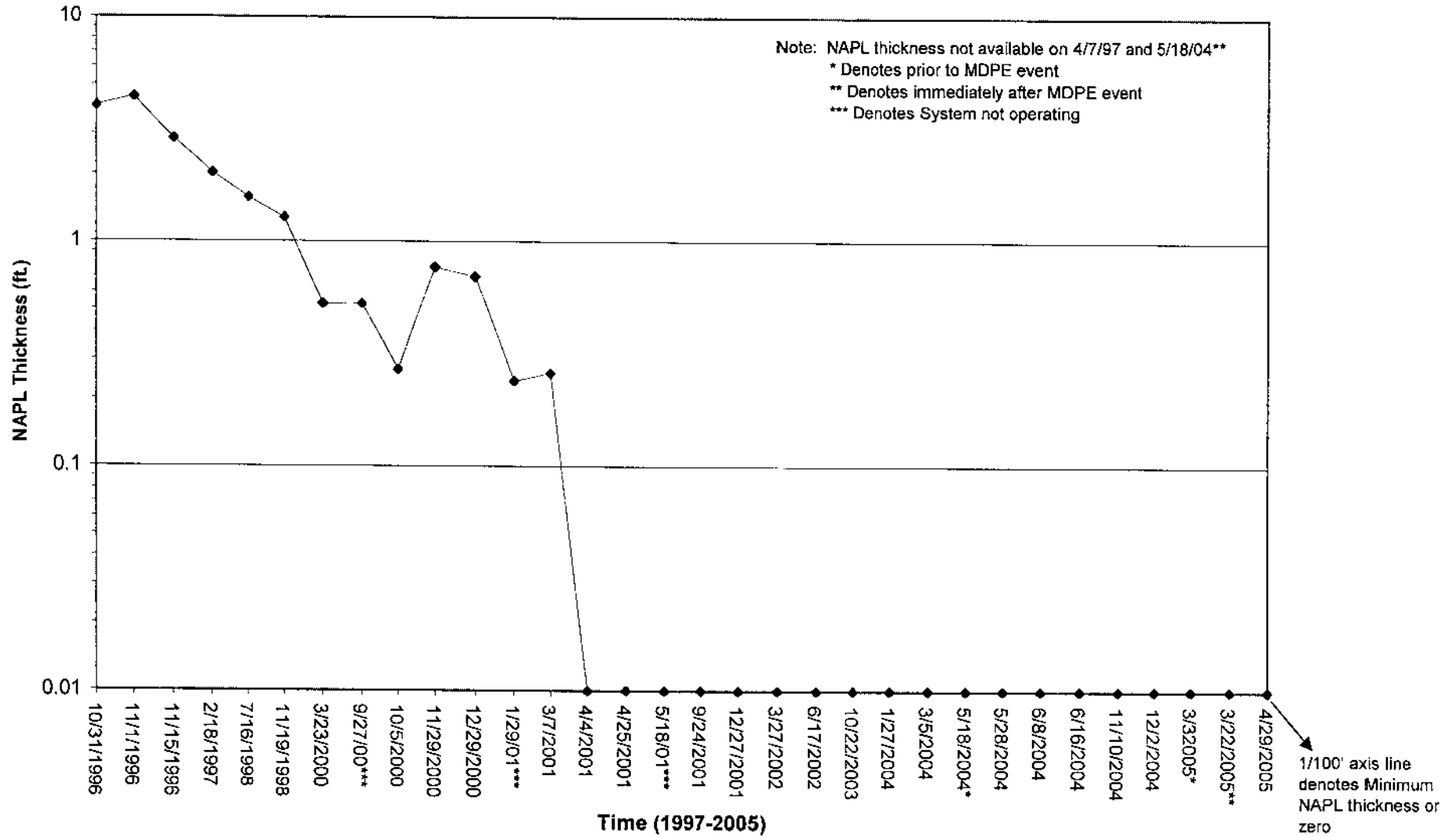
NAPL Thickness



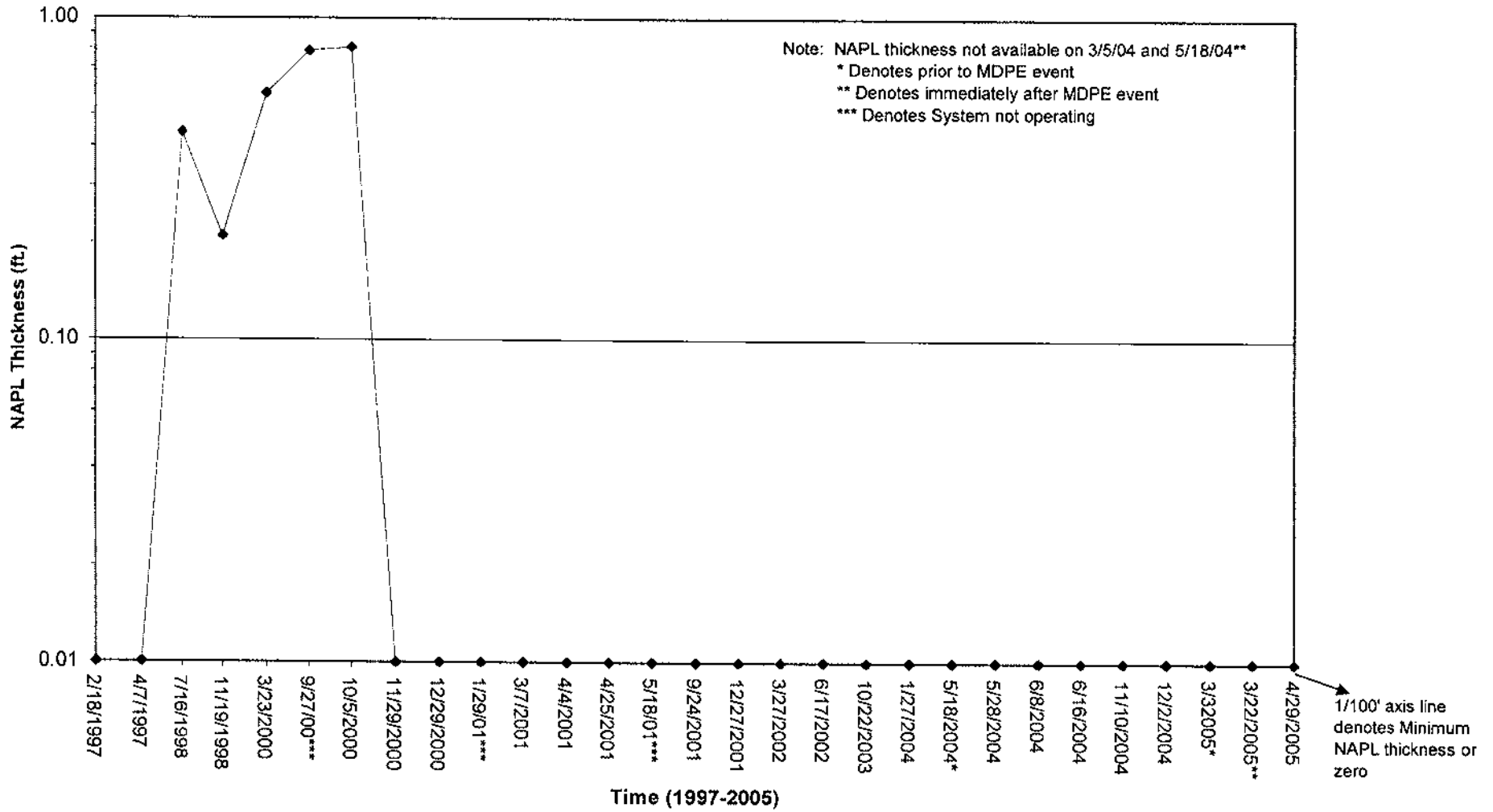
Federal Express Corporation
 5811 Technicenter Drive, Austin, TX
 Terracon Project No. 96007145
 MW-1 - NAPL Thickness (ft.) vs. Time



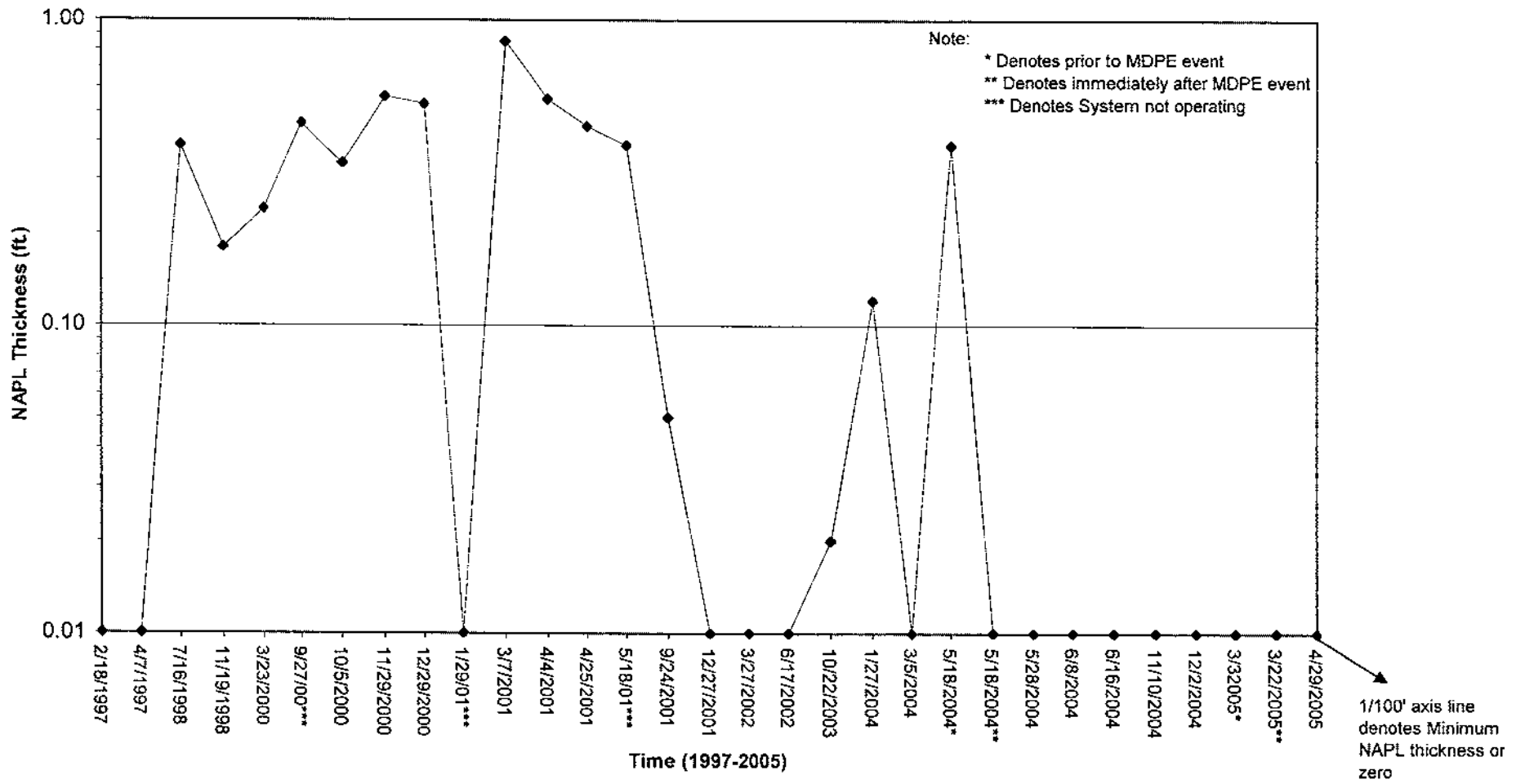
Federal Express Corporation
 5811 Technicenter Drive, Austin, TX
 Terracon Project No. 96007145
 MW-2 - NAPL Thickness (ft.) vs. Time



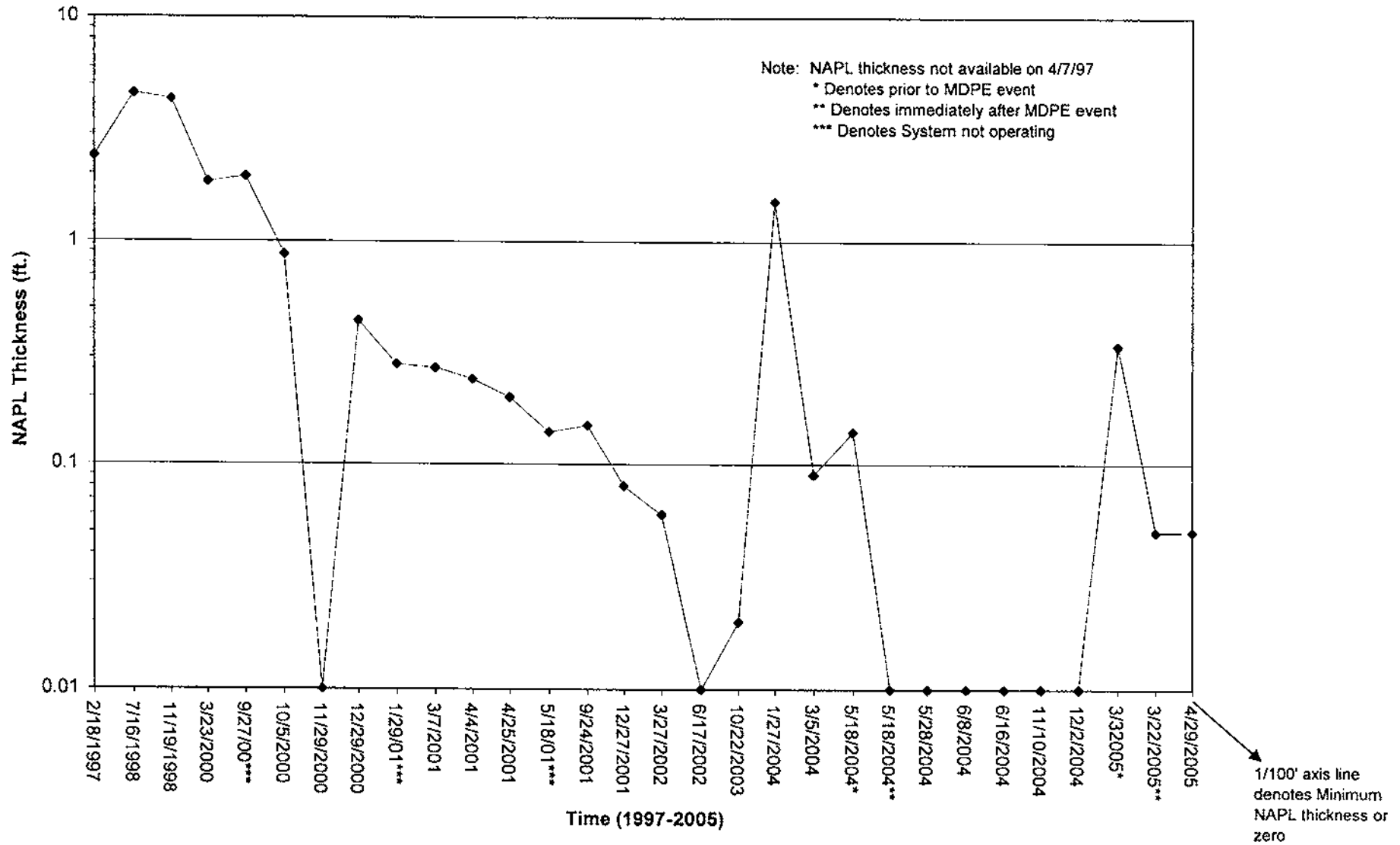
Federal Express Corporation
 5811 Technicenter Drive, Austin, TX
 Terracon Project No. 96007145
 MW-4 - NAPL Thickness (ft.) vs. Time



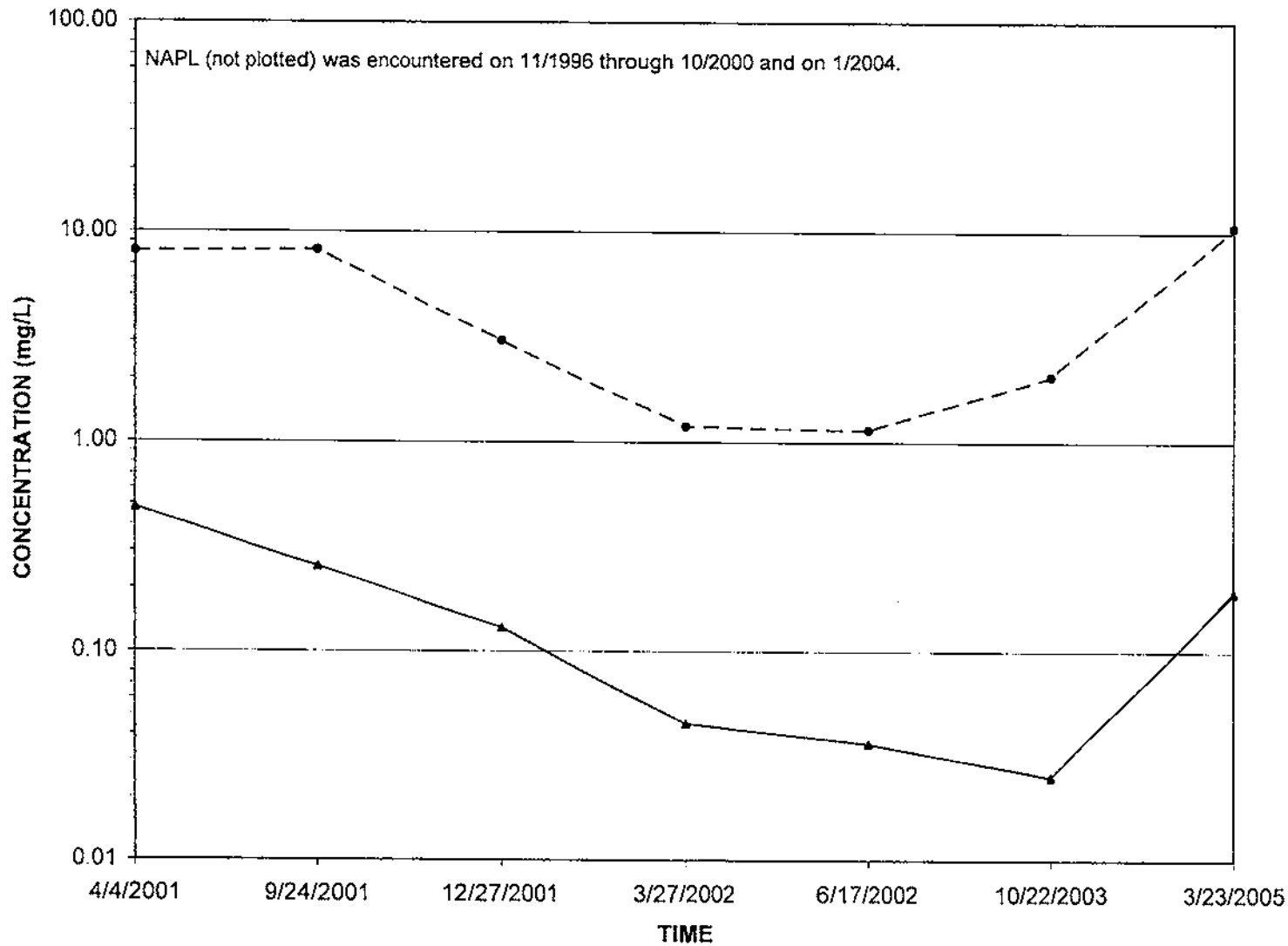
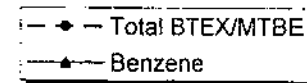
Federal Express Corporation
5811 Technicenter Drive, Austin, TX
Terracon Project No. 96007145
MW-5 - NAPL Thickness (ft.) vs. Time



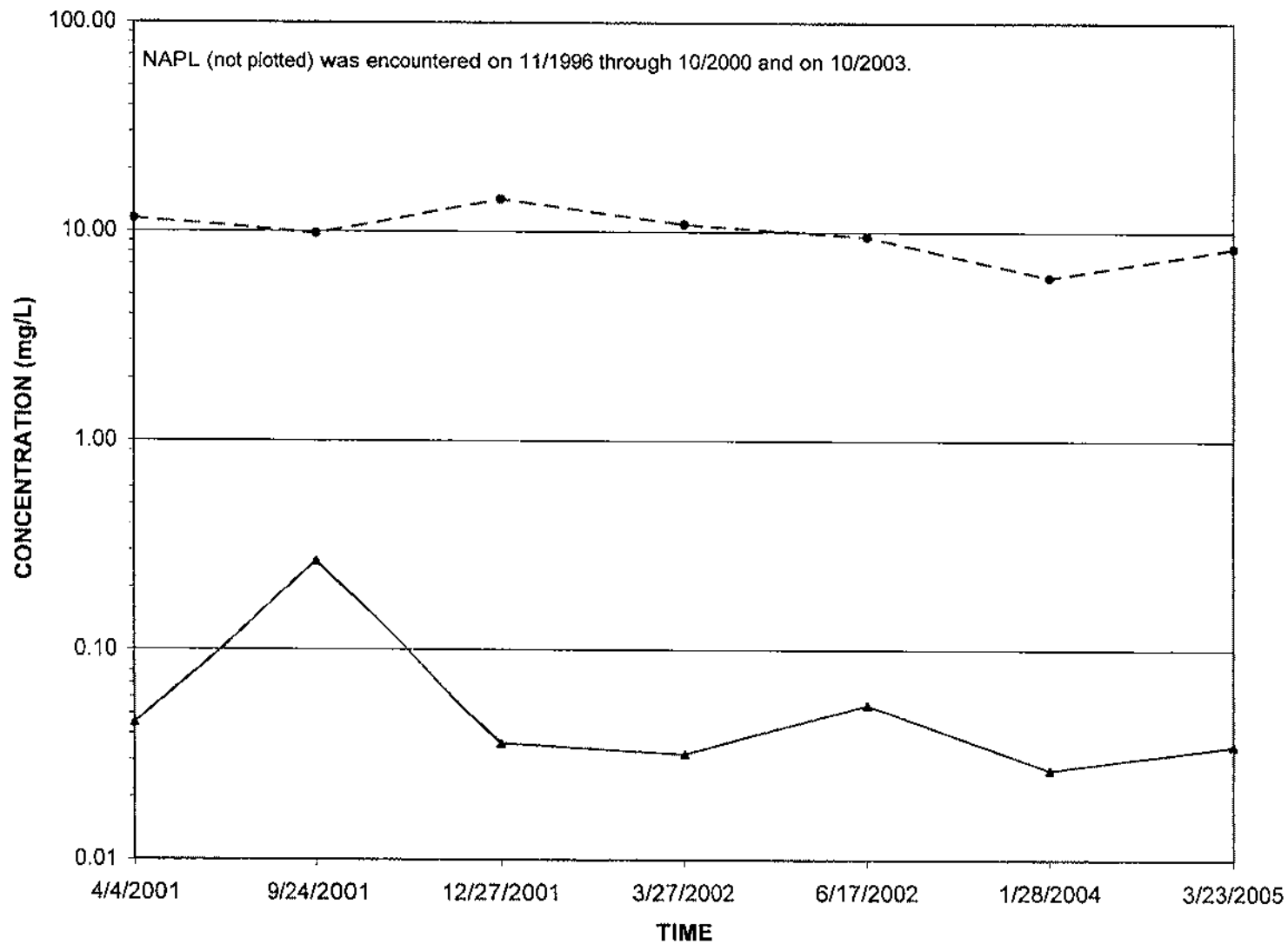
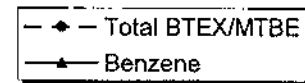
Federal Express Corporation
 5811 Technicenter Drive, Austin, TX
 Terracon Project No. 96007145
 MW-6 - NAPL Thickness (ft.) vs. Time



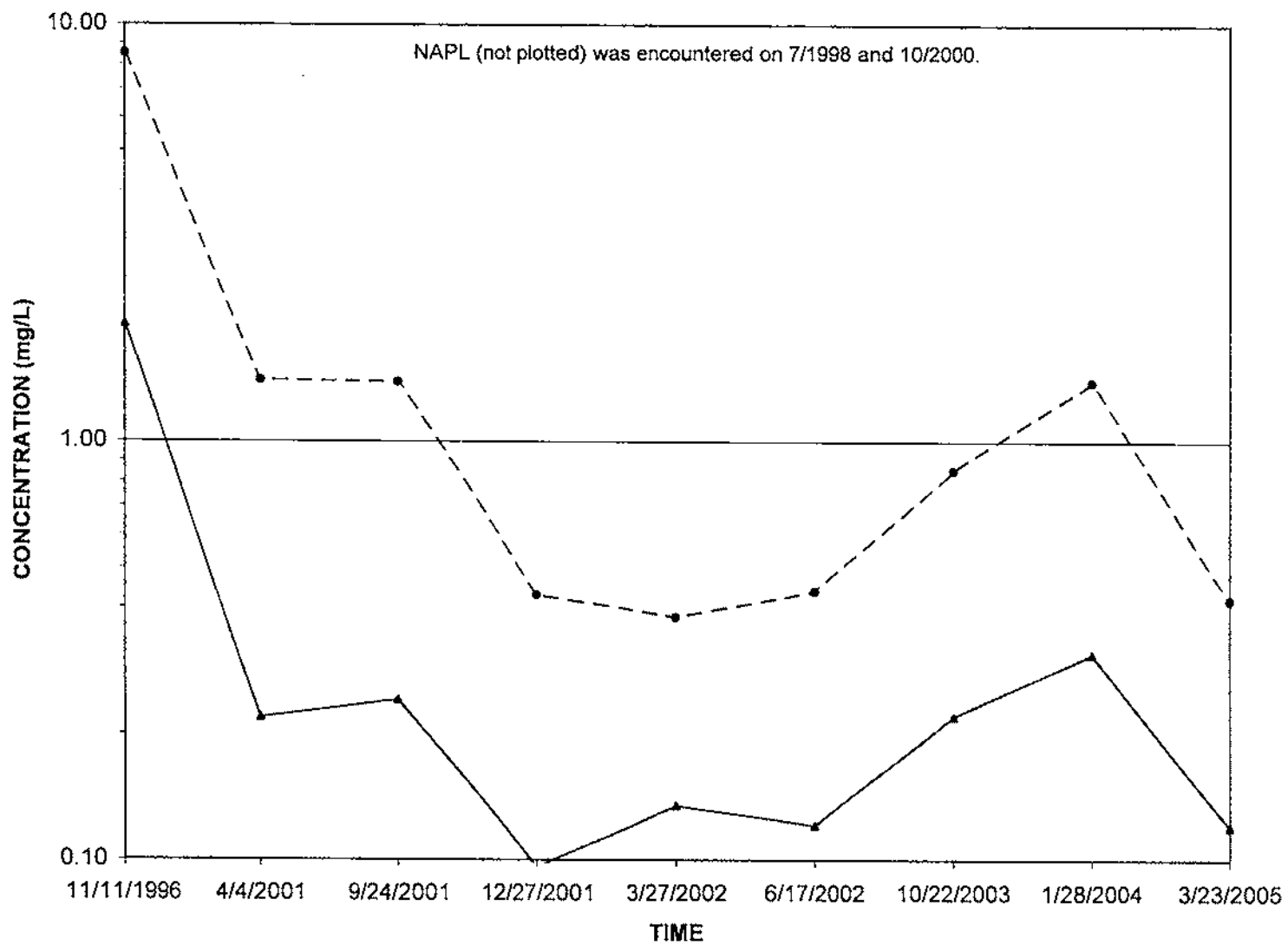
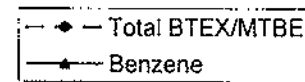
Federal Express Corporation
5811 Technicenter Drive, Austin, TX
Terracon Project No. 96007145
MW-1 - Total BTEX/MTBE vs. Time



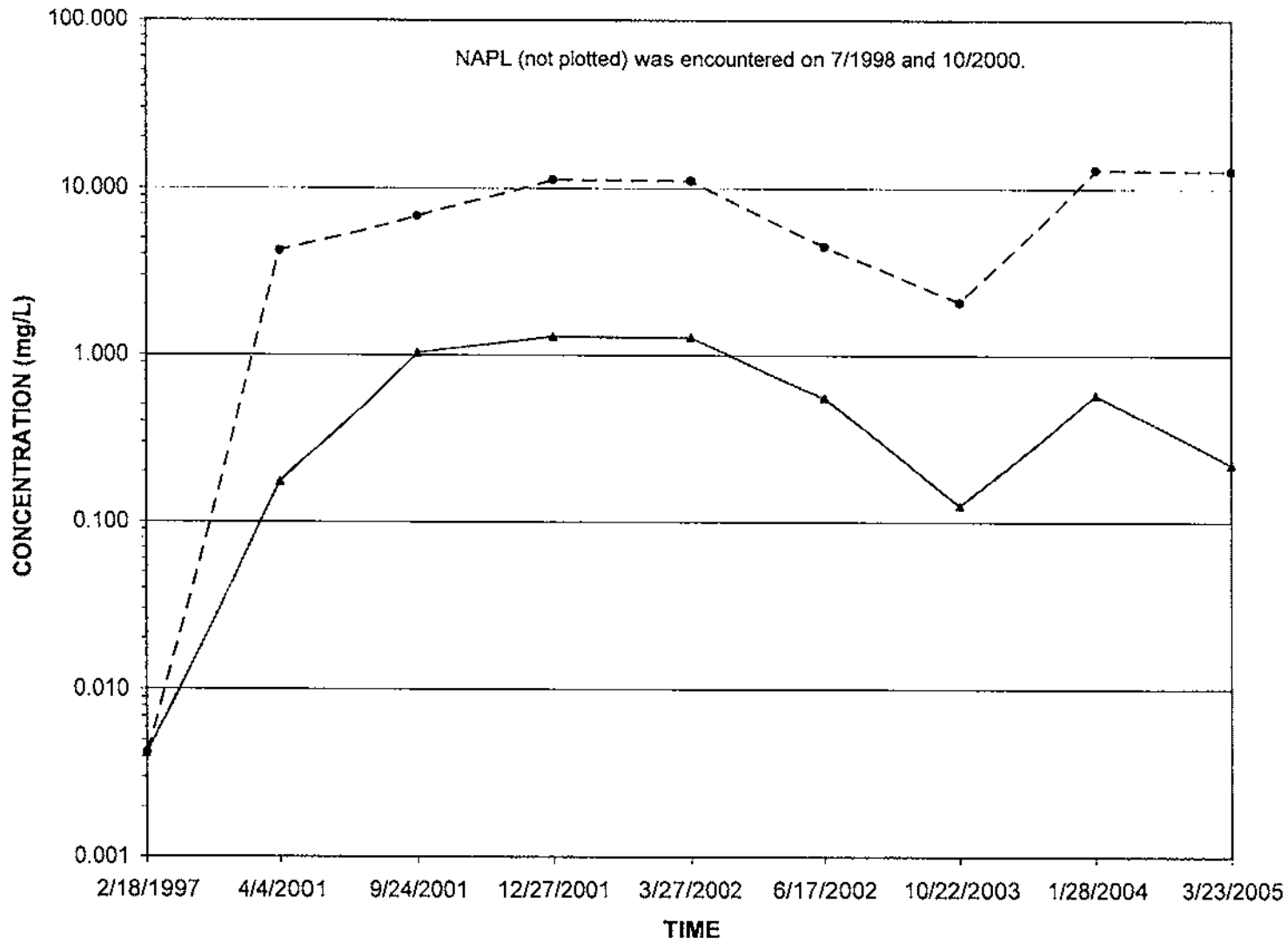
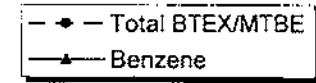
Federal Express Corporation
5811 Technicenter Drive, Austin, TX
Terracon Project No. 96007145
MW-2 - Total BTEX/MTBE vs. Time



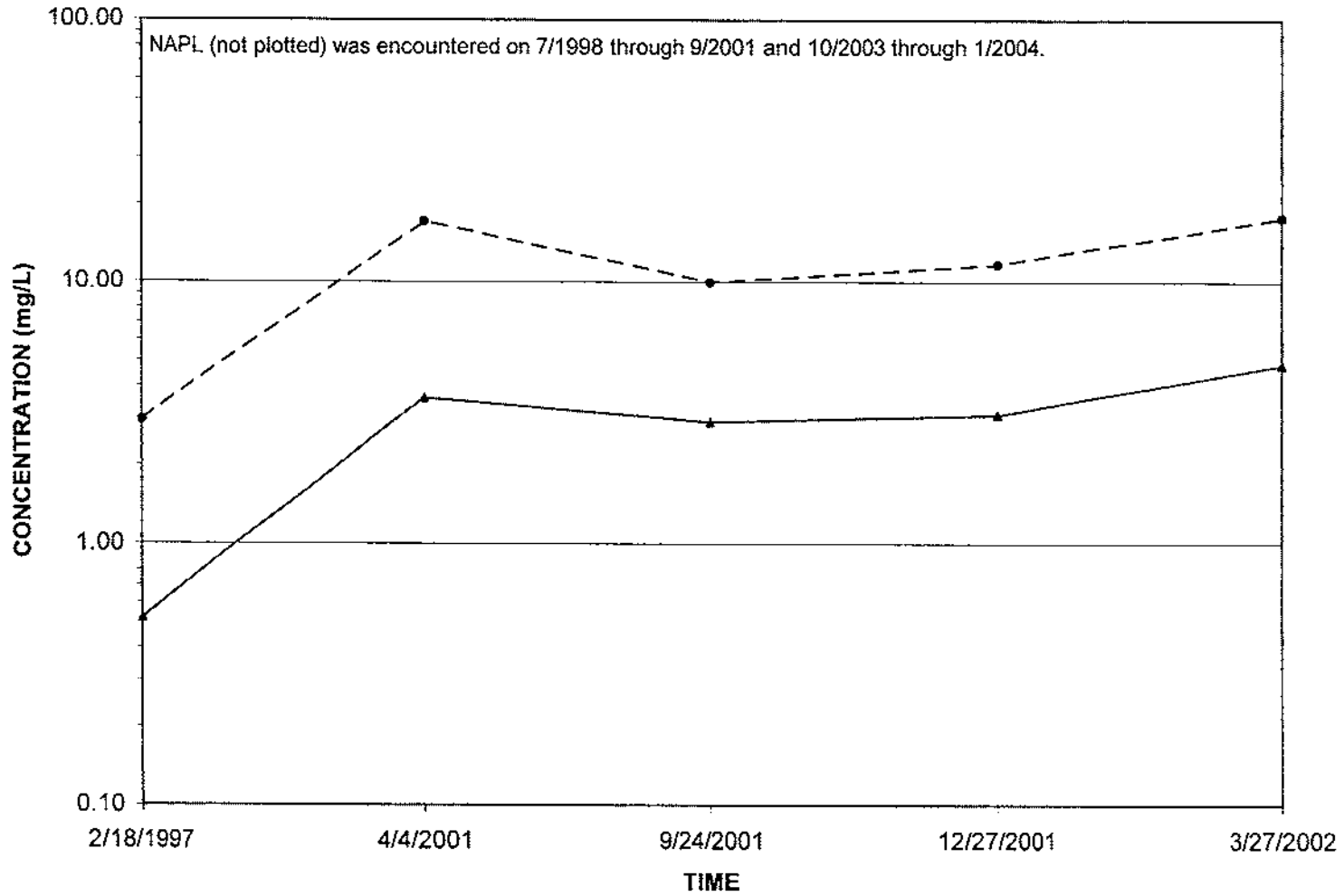
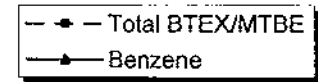
Federal Express Corporation
5811 Technicenter Drive, Austin, TX
Terracon Project No. 96007145
MW-3 - Total BTEX/MTBE vs. Time



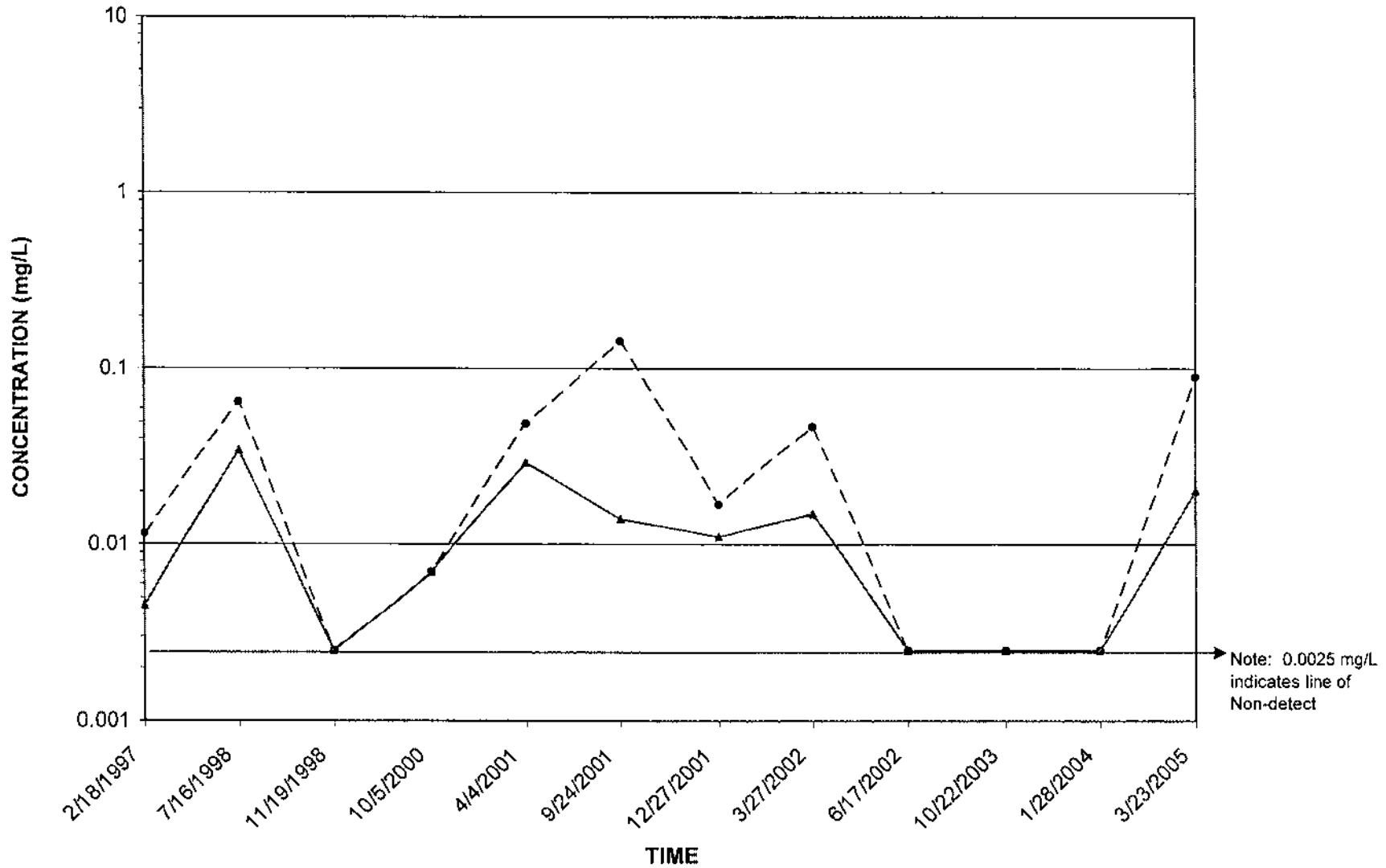
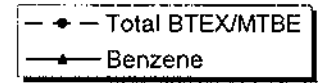
Federal Express Corporation
5811 Technicenter Drive, Austin, TX
Terracon Project No. 96007145
MW-4 - Total BTEX/MTBE vs. Time



Federal Express Corporation
5811 Technicenter Drive, Austin, TX
Terracon Project No. 96007145
MW-5 - Total BTEX/MTBE vs. Time

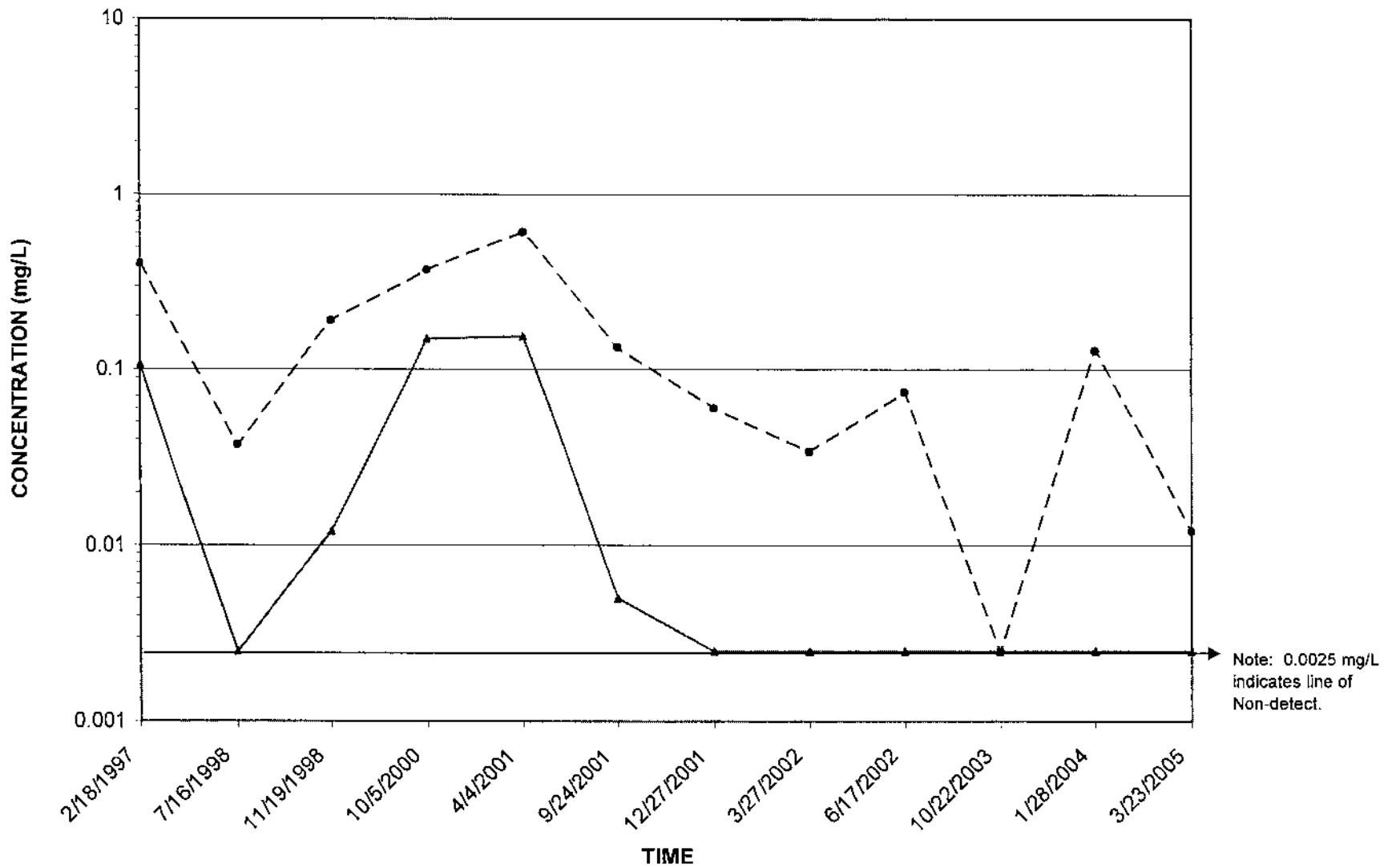


Federal Express Corporation
5811 Technicenter Drive, Austin, TX
Terracon Project No. 96007145
MW-8 - Total BTEX/MTBE vs. Time

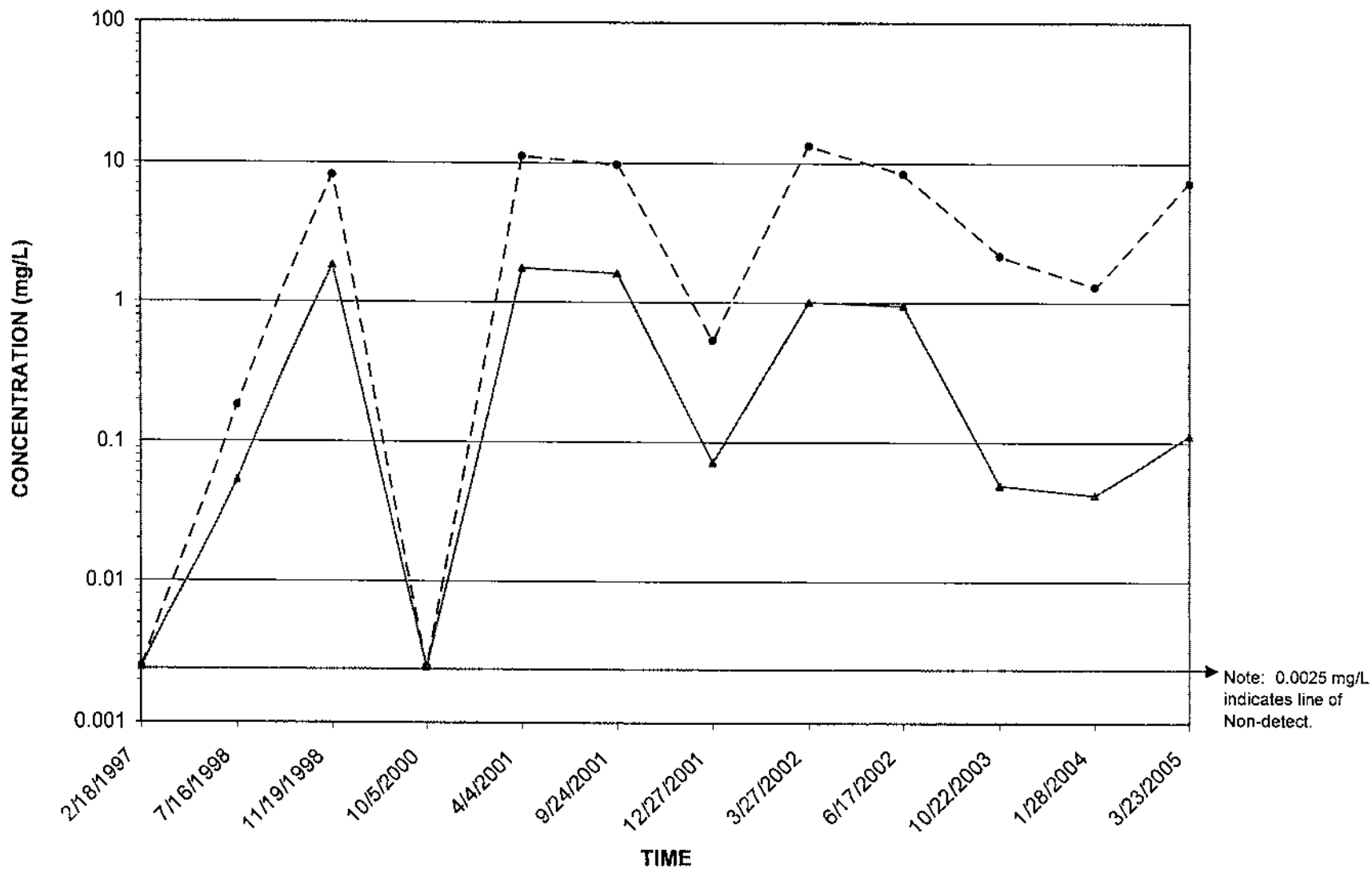
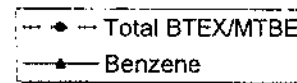


Federal Express Corporation
5811 Technicenter Drive, Austin, TX
Terracon Project No. 96007145
MW-9 - Total BTEX/MTBE vs. Time

---●--- Total BTEX/MTBE
—▲— Benzene



Federal Express Corporation
5811 Technicenter Drive, Austin, TX
Terracon Project No. 96007145
MW-11 - Total BTEX/MTBE vs. Time



MW-1						
DATE		Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
11/11/1996	11/11/1996	NAPL				
7/16/1998	7/16/1998	NAPL				
10/5/2000	10/5/2000	NAPL				
4/4/2001	4/4/2001	0.48	1.240	0.226	6.010	0.113
9/24/2001	9/24/2001	0.25	0.685	0.196	6.990	0.062
12/27/2001	12/27/2001	0.13	0.364	0.105	2.380	0.054
3/27/2002	3/27/2002	0.05	0.107	0.041	0.952	0.040
6/17/2002	6/17/2002	0.04	0.108	0.039	0.954	<0.080
10/22/2003	10/22/2003	0.03	0.109	0.066	1.790	0.067
1/28/2004	1/28/2004	NAPL				
3/23/2005	3/23/2005	0.19	0.835	0.175	9.180	0.192

Total BTEX/MTBE

8.07
8.19
3.03
1.19
1.14
2.06
10.57

MW-2						
DATE		Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
11/11/1996	11/11/1996	NAPL				
7/16/1998	7/16/1998	NAPL				
10/5/2000	10/5/2000	NAPL				
4/4/2001	4/4/2001	0.05	2.330	0.175	8.610	0.313
9/24/2001	9/24/2001	0.27	2.180	0.442	6.400	0.458
12/27/2001	12/27/2001	0.04	2.480	0.927	10.600	0.249
3/27/2002	3/27/2002	0.03	0.804	1.040	8.740	0.197
6/17/2002	6/17/2002	0.06	0.486	0.934	8.010	<0.020
10/22/2003	10/22/2003	NAPL				
1/28/2004	1/28/2004	0.03	0.194	0.438	5.240	0.163
3/23/2005	3/23/2005	0.04	0.104	0.513	7.500	0.242

Total BTEX/MTBE

11.47
9.75
14.29
10.81
9.49
6.06
8.39

MW-3						
DATE		Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
11/11/1996	11/11/1996	1.92	2.250	0.313	2.880	1.150
7/16/1998	7/16/1998	NAPL				
10/5/2000	10/5/2000	NAPL				
4/4/2001	4/4/2001	0.22	0.162	0.111	0.888	0.024
9/24/2001	9/24/2001	0.24	0.072	0.114	0.906	0.056
12/27/2001	12/27/2001	0.10	0.023	0.027	0.266	0.017
3/27/2002	3/27/2002	0.14	0.015	0.045	0.151	0.034
6/17/2002	6/17/2002	0.12	0.015	0.051	0.222	0.028
10/22/2003	10/22/2003	0.22	0.053	0.099	0.381	0.097
1/28/2004	1/28/2004	0.31	0.176	0.135	0.631	0.140
3/23/2005	3/23/2005	0.12	0.024	0.049	0.177	0.047

Total BTEX/MTBE

8.51
1.40
1.39
0.43
0.38
0.44
0.85
1.39
0.42

MW-4						
DATE		Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
2/18/1997	2/18/1997	0.004	<0.001	<0.001	<0.001	<0.001
7/16/1998	7/16/1998	NAPL				
10/5/2000	10/5/2000	NAPL				
4/4/2001	4/4/2001	0.17	0.656	0.419	2.630	0.320
9/24/2001	9/24/2001	1.03	1.770	0.364	3.460	0.155
12/27/2001	12/27/2001	1.29	2.780	0.596	6.370	0.216
3/27/2002	3/27/2002	1.27	3.510	0.408	5.500	0.420
6/17/2002	6/17/2002	0.55	1.100	0.246	2.570	<0.020
10/22/2003	10/22/2003	0.13	0.343	0.121	1.160	0.321
1/28/2004	1/28/2004	0.58	2.940	0.735	8.050	0.574
3/23/2005	3/23/2005	0.22	2.000	0.868	8.810	0.754

Total BTEX/MTBE

0.004
4.20
6.78
11.25
11.11
4.47
2.07
12.88
12.65

MW-5						
DATE		Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
2/18/1997	2/18/1997	0.52	0.811	0.096	1.070	0.449
7/16/1998	7/16/1998	NAPL				
10/5/2000	10/5/2000	NAPL				
4/4/2001	4/4/2001	NAPL				
9/24/2001	9/24/2001	NAPL				
12/27/2001	12/27/2001	3.57	3.98	0.62	6.07	2.85
3/27/2002	3/27/2002	2.90	2.29	0.40	2.36	2.04
6/17/2002	6/17/2002	3.09	2.74	0.50	3.21	2.13
10/22/2003	10/22/2003	NAPL				
1/28/2004	1/28/2004	NAPL				
3/23/2005	3/23/2005	4.81	3.86	0.43	5.38	3.19

Total BTEX/MTBE

2.95
17.09
9.99
11.67
17.67

MW-7						
DATE		Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
2/18/1997	2/18/1997	<0.001	<0.001	<0.001	<0.001	<0.01
7/16/1998	7/16/1998	<0.001	<0.001	<0.001	<0.002	<0.02
11/19/1998	11/19/1998	<0.005	<0.005	<0.005	<0.005	<0.005
10/5/2000	10/5/2000	<0.005	<0.005	<0.005	<0.005	<0.005
4/4/2001	4/4/2001	<0.002	<0.004	<0.004	<0.004	<0.004
9/24/2001	9/24/2001	<0.002	<0.004	<0.004	<0.004	<0.004
12/27/2001	12/27/2001	<0.002	<0.004	<0.004	<0.004	<0.004
3/27/2002	3/27/2002	<0.002	<0.004	<0.004	<0.004	<0.004
6/17/2002	6/17/2002	<0.002	<0.004	<0.004	<0.004	<0.004
10/22/2003	10/22/2003	<0.0008	<0.002	<0.002	<0.003	<0.002
1/28/2004	1/28/2004	<0.0008	<0.002	<0.002	<0.003	<0.002
3/23/2005	3/23/2005	<0.0008	<0.002	<0.002	<0.003	<0.002

Total BTEX/MTBE

0.00
0.00
0.00
0.00
0.00
0.00
0.00
0.00
0.00
0.00
0.00
0.00

MW-8						
DATE		Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
2/18/1997	2/18/1997	0.005	0.003	<0.001	0.004	<0.01
7/20/1998	7/16/1998	0.034	0.004	0.007	0.020	<0.02
11/19/1998	11/19/1998	<0.005	<0.005	<0.005	<0.005	<0.005
10/5/2000	10/5/2000	0.007	<0.005	<0.005	<0.005	<0.005
4/4/2001	4/4/2001	0.029	0.005	<0.004	0.011	0.004
9/24/2001	9/24/2001	0.014	0.010	<0.004	0.114	0.006
12/27/2001	12/27/2001	0.011	<0.004	<0.004	<0.004	0.006
3/27/2002	3/27/2002	0.015	<0.004	<0.004	0.020	0.012
6/17/2002	6/17/2002	<0.002	<0.004	<0.004	<0.004	<0.004
10/22/2003	10/22/2003	<0.0008	<0.002	<0.002	<0.003	<0.002
1/28/2004	1/28/2004	<0.0008	<0.002	<0.002	<0.003	<0.002
3/23/2005	3/23/2005	0.020	0.005	0.008	0.044	0.012

Benzene Total BTEX/MTBE

0.0045 0.0115
0.034 0.065
0 0
0.007 0.007
0.029 0.049
0.014 0.144
0.011 0.017
0.015 0.047
0 0
0 0
0 0
0.0202 0.090

MW-8 Alternative Chart using "ND" as small value

Benzene Total BTEX/MTBE (highest ND value is <0.005)

2/18/1997 0.0045 0.0115
7/16/1998 0.034 0.065
11/19/1998 0.0025 0.0025 ND
10/5/2000 0.007 0.007
4/4/2001 0.029 0.049
9/24/2001 0.014 0.144
12/27/2001 0.011 0.017
3/27/2002 0.015 0.047
6/17/2002 0.0025 0.0025 ND
10/22/2003 0.0025 0.0025 ND
1/28/2004 0.0025 0.0025 ND
3/23/2005 0.0202 0.08985

MW-9						
DATE		Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
3/24/1997	2/18/1997	0.106	0.120	0.008	0.135	0.038
7/16/1998	7/16/1998	<0.001	<0.001	<0.001	0.002	0.035
11/19/1998	11/19/1998	0.012	<0.005	<0.005	<0.005	0.178
10/5/2000	10/5/2000	0.149	<0.005	<0.005	<0.005	0.225
4/4/2001	4/4/2001	0.154	<0.004	<0.004	<0.004	0.454
9/24/2001	9/24/2001	0.005	<0.004	<0.004	<0.004	0.129
12/27/2001	12/27/2001	<0.002	<0.004	<0.004	<0.004	0.060
3/27/2002	3/27/2002	<0.002	<0.004	<0.004	<0.004	0.034
6/17/2002	6/17/2002	<0.002	<0.004	<0.004	<0.004	0.074
10/22/2003	10/22/2003	<0.0008	<0.002	<0.002	<0.003	<0.002
1/28/2004	1/28/2004	<0.0008	<0.002	<0.002	<0.003	0.128
3/23/2005	3/23/2005	<0.0008	<0.002	<0.002	<0.003	0.012

Benzene Total BTEX/MTBE

0.106 0.407
0 0.037
0.012 0.19
0.149 0.374
0.154 0.608
0.005 0.134
0 0.06
0 0.034
0 0.074
0 0
0 0.128
0 0.012

MW-9 Alternative Chart using "ND" as small value

Benzene Total BTEX/MTBE (highest ND value is <0.005)

2/18/1997 0.106 0.407
7/16/1998 0.0025 0.037
11/19/1998 0.012 0.19
10/5/2000 0.149 0.374
4/4/2001 0.154 0.608
9/24/2001 0.005 0.134
12/27/2001 0.0025 0.06
3/27/2002 0.0025 0.034
6/17/2002 0.0025 0.074
10/22/2003 0.0025 0.0025
1/28/2004 0.0025 0.128
3/23/2005 0.0025 0.012

MW-10						
DATE		Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
3/24/1997	2/18/1997	<0.001	<0.001	<0.001	<0.001	<0.01
7/16/1998	7/16/1998	<0.001	<0.001	<0.001	0.002	<0.02
11/19/1998	11/19/1998	<0.005	<0.005	<0.005	<0.005	<0.005
10/5/2000	10/5/2000	<0.005	<0.005	<0.005	<0.005	<0.005
4/4/2001	4/4/2001	<0.002	<0.004	<0.004	<0.004	<0.004
9/24/2001	9/24/2001	<0.002	<0.004	<0.004	<0.004	<0.004
12/27/2001	12/27/2001	<0.002	<0.004	<0.004	<0.004	<0.004
3/27/2002	3/27/2002	<0.002	<0.004	<0.004	<0.004	<0.004
6/17/2002	6/17/2002	<0.002	<0.004	<0.004	<0.004	<0.004
10/22/2003	10/22/2003	<0.0008	<0.002	<0.002	<0.003	0.116
1/28/2004	1/28/2004	<0.0008	<0.002	<0.002	<0.003	<0.002
3/23/2005	3/23/2005	<0.0008	<0.002	<0.002	<0.003	<0.002

Benzene Total BTEX/MTBE

0 0
0.002 0.002
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0.116
0 0
0 0

MW-10 Alternative Chart using "ND" as small value

Benzene Total BTEX/MTBE (highest ND value is <0.005)

2/18/1997 0.0025 0.0025
7/16/1998 0.0025 0.002
11/19/1998 0.0025 0.0025
10/5/2000 0.0025 0.0025
4/4/2001 0.0025 0.0025
9/24/2001 0.0025 0.0025
12/27/2001 0.0025 0.0025
3/27/2002 0.0025 0.0025
6/17/2002 0.0025 0.0025
10/22/2003 0.0025 0.232
1/28/2004 0.0025 0.0025
3/23/2005 0.0025 0.0025

MW-11						
DATE		Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
3/24/1997	2/18/1997	<0.001	<0.001	<0.001	<0.001	<0.01
7/16/1998	7/16/1998	0.053	0.009	0.003	0.012	0.026
11/19/1998	11/19/1998	1.850	2.200	0.036	2.210	<0.005
10/5/2000	10/5/2000	<0.005	<0.005	<0.005	<0.005	<0.005
4/4/2001	4/4/2001	1.770	3.570	0.399	2.600	0.525
9/24/2001	9/24/2001	1.620	3.080	0.625	2.480	0.134
12/27/2001	12/27/2001	0.071	0.085	0.088	0.142	0.040
3/27/2002	3/27/2002	1.010	5.170	0.894	4.350	0.409
6/17/2002	6/17/2002	0.952	3.550	0.523	2.390	<0.020
10/22/2003	10/22/2003	0.049	0.616	0.209	0.774	0.239
1/28/2004	1/28/2004	0.0416	0.336	0.116	0.475	0.145
3/23/2005	3/23/2005	0.1120	1.260	0.737	1.680	0.635

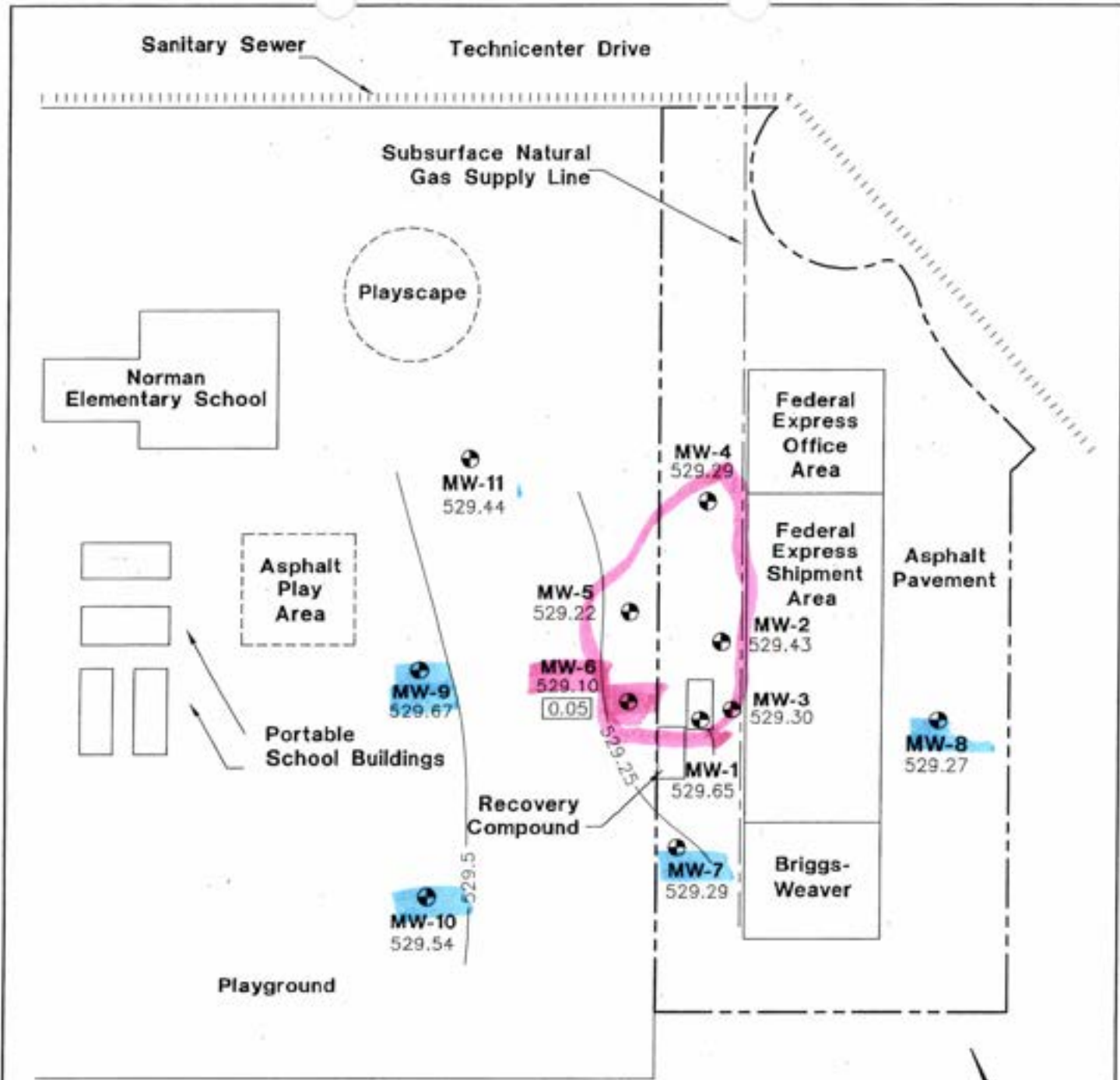
Benzene Total BTEX/MTBE

0 0
0.053 0.103
1.85 6.2963
0 0
1.77 8.864
1.62 7.939
0.0714 0.426
1.01 11.833
0.952 7.415
0.049 1.887
0.0416 1.1136
0.112 6.434



MW-11 Alternative Chart using "ND" as small value

Benzene Total BTEX/MTBE (highest ND value is <0.005)

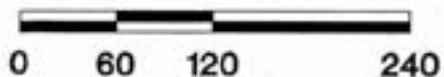
2/18/1997 0.0025 0.0025
7/16/1998 0.053 0.102
11/19/1998 1.85 8.1463
10/5/2000 0.0025 0.0025
4/4/2001 1.77 11.159
9/24/2001 1.62 9.693
12/27/2001 0.0714 0.5374
3/27/2002 1.01 13.252
6/17/2002 0.952 8.367
10/22/2003 0.049 2.175
1/28/2004 0.0416 1.3002
3/23/2005 0.112 7.181



LEGEND

-  Monitoring Well Locations
- 530.70 Groundwater Elevation (Ft. MSL)
-  NAPL Thickness (Ft.)
- 530— Groundwater Elevation Contour (Ft. MSL)

SCALE-FEET



Terracon
 Groundwater Elevation Map
 (4/29/05)
 Federal Express
 Austin, Texas
 Terracon Project No. 96007145

7004 1160 0002 0733 2662

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111747
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FEDERAL EXPRESS CORP
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 (LPST 111747AUG19)

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R. B. "Ralph" Marquez, *Commissioner*
Larry R. Soward, *Commissioner*
Glenn Shankle, *Executive Director*



KGE

LPST 111747

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

August 18, 2005

Mr. Tim Alexander
Federal Express Corporation
3620 Hacks Cross Boulevard, Building B
Memphis, Tennessee 38125

CERTIFIED MAIL
7004 1160 0002 0733 2662
RETURN RECEIPT REQUESTED

Re: Comments to the Annual Groundwater Monitoring Report, Product Recovery Report and Site Closure Request, dated July 15, 2005, for the Federal Express Facility, 5811 Technicenter Drive, Austin (Travis County), Texas
LPST ID No. 111747 - Priority 4.1 - Facility ID No. 0029044; R-11

Dear Mr. Alexander:

The Texas Commission on Environmental Quality (TCEQ) has reviewed the above-referenced submittal. A list of comments is enclosed. If you need to respond to the comments, please prepare a written response, referencing the assigned TCEQ LPST ID number. The information in the TCEQ reference line above should be included in your response.

Your written response to these comments, if necessary, should be submitted to the TCEQ Central Office at the letterhead address, using mail code number MC-137. Should you need additional information or wish to discuss these comments, please call me at (512) 239-2200. We appreciate your continued cooperation in this matter.

Sincerely,

A handwritten signature in black ink that reads "Kristine Elliott".

Kristine Elliott
Project Manager
PST-Responsible Party Remediation Section
Remediation Division

KGE/hmw
111747Aug19.wpd

Enclosure: Specific Comments

Mr. Tim Alexander
Page 2
August 18, 2005
Enclosure 1: Specific Comments

Specific Comments

We have reviewed the Annual Groundwater Monitoring Report dated July 18, 2005. The report documents the monitoring event conducted on March 23, 2005. Only a single event was conducted as opposed to the semi-annual events approved. Dissolved-phase constituents are at a maximum of 4.81 ppm benzene in MW-5 and NAPL, with a thickness of 0.05 feet, is present in MW-6. The report is accepted.

This office has received the MDPE Summary Report dated July 18, 2005 documenting the event of March 17, 2004. A 12-hour event was conducted as opposed to the preapproved 24-hour event. Vapor recovery was relatively low, groundwater generation was high and groundwater draw down was minimal. We do not concur with your reported vapor recovery volume of 16.31 gallons (101.13 pounds). Using the same equation as EnVac Environmental Services, to whom this event was subcontracted, we calculated only 3.86 gallons (23.6 pounds) of recovered vapors. It appears, however, that MDPE technology is ineffective at this particular site, thus the report is accepted despite the discrepancies of vapor recovery.

This Office has received the Site Closure Request dated July 18, 2005 for site closure activities of the above-referenced site. We have completed our review of all available file information pertaining to the above-referenced incident. After careful review of all the data provided and pursuant to Title 30, Texas Administrative Code (TAC), Sections 334.78 - 334.81, we conclude that a final concurrence cannot be issued for this LPST case for the following reasons:

(1) The presence of offsite non-aqueous phase liquid (NAPL) inhibits this site from closing under the July 17, 2003 TCEQ Guidance Memo, and therefore additional NAPL recovery is warranted. After NAPL has been recovered to the maximum extent practicable, or has shown to be absent, the plume must demonstrate those conditions for a minimum of four quarterly monitoring events.

Please submit a workplan and cost proposal for NAPL recovery and for four quarters of groundwater monitoring to ensure plume stability within 30 days of receipt of this letter.

Texas Commission on Environmental Quality
INTEROFFICE MEMORANDUM

TO: FILE **DATE:** 10/22/04
Updated: 08/18/05

THRU: Joyce Sirota, Team Leader
PST-RPR Section
Remediation Division

FROM: Kristine Elliott, Project Manager
PST-RPR Section
Remediation Division

RE: File Review of Subsurface Release of Hydrocarbons for the Federal Express Facility, 5811 Technicenter Drive, Austin (Travis County), Texas
LPST ID No. 111747 - Priority 4.1 - Facility ID No. 0029044; R-11

A SIGNIFICANT PORTION OF THIS FILE IS MISSING.

Release Determination

- On October 7, 1996, a confirmed release of approximately 6,797 gallons of gasoline was documented. In October, 1996 one 10,000 gal. gas tank was removed.
- Maximum soil concentrations (ppm):
 - *45.3 ppm benzene (Bottom #2 @ 14 ft.)
 - 741 ppm BTEX (Bottom #2 @ 14 ft.)
 - 1,480 ppm TPH (Bottom #2 @ 14 ft.)
- *B1/MW1 is a confirmation boring for Bottom #2, benzene <0.500 ppm @ 14-15'; see attached map)

Exposure Pathways Open:
<input type="checkbox"/> GW Ingestion (onsite-current)
<input type="checkbox"/> GW Ingestion (offsite-- current)
<input type="checkbox"/> GW Ingestion (onsite - future)
<input type="checkbox"/> GW Ingestion (offsite - future)
<input type="checkbox"/> GW for Construction Worker
<input type="checkbox"/> Plume stability monitoring
<input type="checkbox"/> Soils- Exp. Vapor
<input type="checkbox"/> Soils - Health/CW
<input type="checkbox"/> NAPL, DTW <15'
<input checked="" type="checkbox"/> NAPL, DTW >15'
<input type="checkbox"/> GW to surface water
<input type="checkbox"/> Other

Site Characteristics

- Commercial/industrial use; **the UST has been removed.**
- Future use expected to remain commercial/industrial, surrounding area is unknown except that there is an elementary school located immediately west (w/in 500') of the site.

Soil Assessment

- 11 soil borings/ all completed as MWs.
- Maximum soil concentrations (ppm):
 - 11.4 ppm benzene (MW-6 @ 37 ft.)
 - 4,000 ppm TPH (MW-6 @ 37 ft.)
- PAH analysis conducted on B-1 @ 31 feet. Napthalene was 8.6 ppm.

Groundwater Assessment

- 11 MWs.
- DTW ranges from about 27' to 37' btoc.

- GW gradient appears to be to the E/SE
- TDS is 478 ppm (MW-3).
- 19 GWM events conducted between November 1996 and January 2004. NAPL historically observed in MW-1, MW-2, MW-3, MW-4, MW-5 and MW-6
- The following are the groundwater maximums detected:

	<u>Historical</u>	<u>Current (03/23/05)</u>
benzene	3.57 ppm (MW-5, 12/27/01)	4.81 ppm (MW-5)
MTBE	2.85 ppm (MW-5, 12/27/01)	3.19 ppm (MW-4)
TPH	360 ppm (MW-2, 01/28/04)	98.89 ppm (MW-4)
PAH's	See attached groundwater analyticals, PAHs highlighted.	

- The groundwater plume shows a decreasing groundwater concentrations from source area.
- Fluid wastes have been properly disposed.

NAPL

- NAPL historically observed in MW-1, MW-2, MW-3, MW-4, and offsite MW-5 and MW-6
- NAPL recovery history:
 - ▶ 6 months of NAPL recovery from MW1, MW2 and MW6 approved in 01/97; SVE pilot test See attached SVE system map dated 10/97.
 - ▶ NAPL removed via a SVE system from MWs 1,2,& 6, 05/98 to 01/99; O & M problems
 - ▶ NAPL removed via new SVE system from September 2000 to May 2001 on MWs 1,2,& 6 and MDPE. See attached SVE system map dated 10/97.
 - ▶ Bi-weekly (26 visits) PSH recovery from wells 5 & 6 for one year using passive skimmers approved 07/13/01
 - ▶ One 8-hour MDPE event approved 04/03; only 4 hours conducted on 10/11/03; MW5,6, & 9; unsuccessful.
 - ▶ One 8-hour event conducted (although 24 hour event approved) on 05/18/04, MWs 1,5, & 6; deemed unsuccessful by our letter dated 09/01/04.
 - ▶ One 24-hour MDPE event on MWs 1, 5 & 6, low vapor recovery, **terminated after 12 hours.**
- NAPL absent since 05/18/04 at the latest in all but MW6
- NAPL currently (04/29/05) present in MW-6, 0.05' thick (after MDPE event and one month later)

Receptors and Site Priority/Category

- Site is not located over a major/minor aquifer..
- Site priority from 4.1; BGUC is Category II.
- City of Austin supplies water to the site and surrounding area.
- Location of underground utilities appear to be along the north and east property lines.
- Elementary school located immediately west 100' of the site.

Conclusions/Recommendations

- This site has met the 9/1/02 deadline and the CAP deadline.
- The groundwater plume shows a decreasing groundwater concentrations from source area.
- Removal of NAPL to the maximum extent practicable is the cleanup goal, however:

HVME (with a two pump system) was conducted and the results were low vapor recovery, high water recovery (9600 gallons) but very low draw down. And, because they were recovering >13 GPM, it appears that they hit a high yield aquifer and recovery of the submerged NAPL may not be possible.

- The NAPL plume:
 1. The NAPL plume is delineated, with at least one downgradient well without NAPL.
 2. The NAPL plume is stable.
 3. The source has been removed.
 4. NAPL recovery has been ongoing since 1997 via SVE, passive skimming and MDPE; appears sufficient effort.
- Because **NAPL is OFFSITE**, the 07/17/03 memo can NOT be used.
- Additional NAPL recovery is necessary followed by 4 quarters of monitoring.

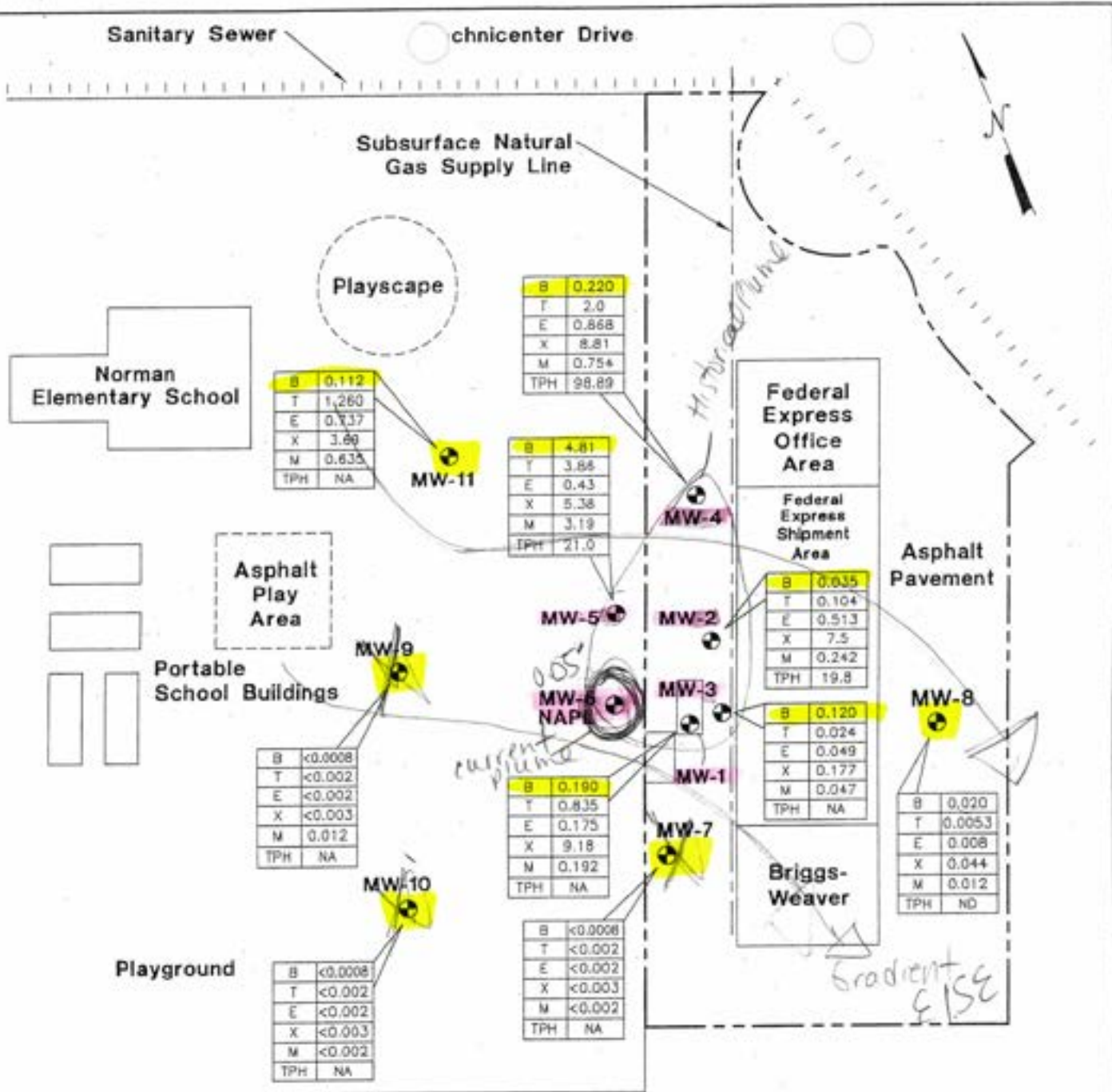
Current Submittals: Annual Groundwater Monitoring Report, MPR and SCR rec'd 07/19/05

- The annual groundwater monitoring report documents a single event instead of semi-annual events. It was accepted.
- The MPR documents a 12 hour event instead of 24 hour because vapor recovery was low and groundwater recovery was high.

Exposure Pathway Evaluation:

A SIGNIFICANT PORTION OF THIS FILE IS MISSING.

- soils: maximum soil concentrations < health-based and cw target; closed.
- soils: explosive vapors, SCR indicates a lack of vapor impacts to buildings, subsurface utilities, etc.; closed.
- current on-site groundwater ingestion: no on-site supply well; closed.
- current off-site groundwater ingestion: closed.
- future on-site groundwater ingestion: no comm. use within 0.5-mile, municipal supply; qualitatively closed.
- future off-site groundwater ingestion: closed.
- construction worker: Depth to gw greater than 15 feet; closed.
- groundwater to surface water: closed.
- PSH removed to maximum extent practicable: recalcitrant NAPL with thickness of 0.05' in MW6 at DTW 27-37' bgs; NEEDS TO MEET CRITERIA OF JULY 17, 2003 TCEQ GUIDANCE MEMO; **open.**



B	0.112
T	1.260
E	0.737
X	3.69
M	0.635
TPH	NA

B	0.220
T	2.0
E	0.868
X	8.81
M	0.754
TPH	98.89

B	4.81
T	3.85
E	0.43
X	5.38
M	3.19
TPH	21.0

B	0.035
T	0.104
E	0.513
X	7.5
M	0.242
TPH	19.8

B	0.120
T	0.024
E	0.049
X	0.177
M	0.047
TPH	NA

B	0.020
T	0.0053
E	0.008
X	0.044
M	0.012
TPH	ND

B	<0.0008
T	<0.002
E	<0.002
X	<0.003
M	0.012
TPH	NA

B	0.190
T	0.835
E	0.175
X	9.18
M	0.192
TPH	NA

B	<0.0008
T	<0.002
E	<0.002
X	<0.003
M	<0.002
TPH	NA

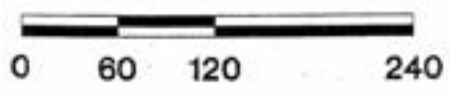
B	<0.0008
T	<0.002
E	<0.002
X	<0.003
M	<0.002
TPH	NA

LEGEND

- Monitoring Well Locations
- B** Benzene
- T** Toluene
- E** Ethylbenzene
- X** Xylenes
- M** MTBE
- TPH** Total Petroleum Hydrocarbons

* All concentrations in mg/L

SCALE-FEET



Terracon
 Hydrocarbon Distribution
 (3/23/05)
 Federal Express
 Austin, Texas
 Terracon Project No. 96007145

MW-1										
DATE	PAH	TDS	TPH (C6-C12)	TPH (C12-C28)	TPH (C28-C35)	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
11/11/1996										
7/16/1998										
10/5/2000										
4/4/2001	NA	NA	14.1(C6-C10)	43.0(>C10-C28)	NA	0.480	1.240	0.226	6.010	0.113
9/24/2001	NA	NA	55.40	6.67	<4.84	0.253	0.685	0.196	6.990	0.062
12/27/2001	NA	NA	12.90	<4.85	<4.85	0.129	0.364	0.105	2.380	0.054
3/27/2002	NA	NA	5.82	2.88	<1.95	0.045	0.107	0.041	0.952	0.040
6/17/2002	NA	NA	4.81	<1.94	<1.94	0.036	0.108	0.039	0.954	<0.080
10/22/2003	NA	NA	23.50	4.41	<1.98	0.025	0.109	0.066	1.790	0.067
1/28/2004										
3/23/2005	NA	NA	NA	NA	NA	0.190	0.835	0.175	9.180	0.192

MW-2										
DATE	PAH	TDS	TPH (C6-C12)	TPH (C12-C28)	TPH (C28-C35)	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
11/11/1996										
7/16/1998										
10/5/2000										
4/4/2001	1.877*	NA	55.2(C6-C10)	109(>C10-C28)	NA	0.045	2.330	0.175	8.610	0.313
9/24/2001	0.636**	NA	149.00	40.50	<4.72	0.265	2.180	0.442	6.400	0.458
12/27/2001	1.669***	NA	104.00	24.70	<4.87	0.036	2.480	0.927	10.600	0.249
3/27/2002	0.525****	NA	35.60	7.59	<1.94	0.032	0.804	1.040	8.740	0.197
6/17/2002	0.356*****	NA	24.0	4.2	<1.95	0.055	0.486	0.934	8.010	<0.020
10/22/2003										
1/28/2004			217.0	142.0	<1.98	0.0269	0.194	0.438	5.240	0.163
3/23/2005	NA	NA	18.6	1.2 (J)	<0.67	0.0350	0.104	0.513	7.500	0.242

*Benz(a)anthracene-0.0005, Benz(b)fluoranthene-0.0007, Benzo(a)pyrene-0.0005, Benz(a)anthracene-0.0007, Chrysene-0.0009, Fluoranthene-0.002, Naphthalene-1.86, Phenanthrene-0.01, Pyrene-0.001
 **Acenaphthene-0.004, Anthracene-0.0009, Benzo(a)anthracene-0.0001, Benz(b)fluoranthene-0.0001, Benzo(a)pyrene-0.0001, Benzo(b)fluoranthene-0.0001, Chrysene-0.0001, Fluoranthene-0.0004, Fluorene-0.0007, Naphthalene-0.618, Phenanthrene-0.001, Pyrene-0.001
 ***Acenaphthene-0.017, Fluoranthene-0.002, Fluorene-0.030, Naphthalene-1.60, Phenanthrene-0.024, Pyrene-0.006
 ****Acenaphthene-0.0009, Fluorene-0.002, Naphthalene-0.322, Phenanthrene-0.0001
 *****Acenaphthene-0.0004, Fluorene-0.0007, Naphthalene-0.333, Phenanthrene-0.0001

PAH's

FEDERAL EXPRESS CORPORATION

5811 Technicenter Drive, Austin, TX

LPST # 111747

GROUNDWATER ANALYTICAL DATA SUMMARY

(all concentrations in mg/L)

MW-3										
DATE	PAH	TDS	TPH (C6-C12)	TPH (C12-C28)	TPH (C28-C35)	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
11/11/1996	NA	478	10(Total)	NA	NA	1.920	2.250	0.313	2.880	1.150
7/16/1998	NAPL									
10/5/2000	NAPL									
4/4/2001	NA	NA	7.22(C6-C10)	13.3(>C10-C28)	NA	0.219	0.162	0.111	0.888	0.024
9/24/2001	NA	NA	19.70	<4.75	<4.75	0.241	0.072	0.114	0.906	0.056
12/27/2001	NA	NA	<4.85	<4.85	<4.85	0.096	0.023	0.027	0.266	0.017
3/27/2002	NA	NA	2.05	<1.96	<1.96	0.135	0.015	0.045	0.151	0.034
6/17/2002	NA	NA	3.48	<2.0	<2.0	0.121	0.015	0.051	0.222	0.028
10/22/2003	NA	NA	3.07	0.88	<1.97	0.220	0.053	0.099	0.381	0.097
1/28/2004	NA	NA	6.50	1.70	<2.02	0.310	0.176	0.135	0.631	0.140
3/23/2005	NA	NA	NA	NA	NA	0.120	0.024	0.049	0.177	0.047

MW-4										
DATE	PAH	TDS	TPH (C6-C12)	TPH (C12-C28)	TPH (C28-C35)	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
2/18/1997	NA	NA	<0.50(Total)	NA	NA	0.004	<0.001	<0.001	<0.001	<0.001
7/16/1998	NAPL									
10/5/2000	NAPL									
4/4/2001	NA	NA	14.6(C6-C10)	43.1(>C10-C28)	NA	0.174	0.656	0.419	2.630	0.320
9/24/2001	NA	NA	20.90	<4.73	<4.73	1.030	1.770	0.364	3.460	0.155
12/27/2001	NA	NA	18.50	5.15	<4.84	1.290	2.780	0.596	6.370	0.216
3/27/2002	NA	NA	20.40	4.48	<1.93	1.270	3.510	0.408	5.500	0.420
6/17/2002	NA	NA	11.00	2.64	<1.96	0.551	1.100	0.246	2.570	<0.020
10/22/2003	NA	NA	23.10	3.27	<1.95	0.125	0.343	0.121	1.160	0.321
1/28/2004	NA	NA	47.40	19.20	<1.99	0.577	2.940	0.735	8.050	0.574
3/22/2005	NA	NA	88.40	9.19	1.3 (J)	0.220	2.000	0.868	8.810	0.754

MW-5										
DATE	PAH	TDS	TPH (C6-C12)	TPH (C12-C28)	TPH (C28-C35)	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
2/18/1997	0.0006*	NA	3.9(Total)	NA	NA	0.520	0.811	0.096	1.070	0.449
7/16/1998						NAPL				
10/5/2000						NAPL				
4/4/2001						NAPL				
9/24/2001						NAPL				
12/27/2001	NA	NA	28.60	5.88	<4.81	3.57	3.98	0.62	6.07	2.85
3/27/2002	NA	NA	10.30	3.61	<1.99	2.96	2.29	0.40	2.36	2.04
6/17/2002	NA	NA	16.50	2.47	<1.93	3.09	2.74	0.50	3.21	2.13
10/22/2003						NAPL				
1/28/2004						NAPL				
3/22/2005	NA	NA	21	<0.67	<0.67	4.81	3.86	0.43	5.38	3.19

increase

MW-7										
DATE	PAH	TDS	TPH (C6-C12)	TPH (C12-C28)	TPH (C28-C35)	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
2/18/1997	NA	NA	<0.5(Total)	NA	NA	<0.001	<0.001	<0.001	<0.001	<0.01
7/16/1998	NA	NA	<5.1(C6-C10)	<5.1(>C10-C28)	NA	<0.001	<0.001	<0.001	<0.002	<0.02
11/19/1998	NA	NA	<4.4(C6-C10)	<4.4(>C10-C28)	NA	<0.005	<0.005	<0.005	<0.005	<0.005
10/5/2000	NA	NA	<5(C6-C10)	<5(>C10-C28)	NA	<0.005	<0.005	<0.005	<0.005	<0.005
4/4/2001	NA	NA	<6.44(C6-C10)	<6.44(>C10-C28)	NA	<0.002	<0.004	<0.004	<0.004	<0.004
9/24/2001	NA	NA	<4.78	<4.78	<4.78	<0.002	<0.004	<0.004	<0.004	<0.004
12/27/2001	NA	NA	<4.84	<4.84	<4.84	<0.002	<0.004	<0.004	<0.004	<0.004
3/27/2002	NA	NA	<1.98	<1.98	<1.98	<0.002	<0.004	<0.004	<0.004	<0.004
6/17/2002	NA	NA	<1.95	<1.95	<1.95	<0.002	<0.004	<0.004	<0.004	<0.004
10/22/2003	NA	NA	NA	NA	NA	<0.0008	<0.002	<0.002	<0.003	<0.002
1/28/2004	NA	NA	NA	NA	NA	<0.0008	<0.002	<0.002	<0.003	<0.002
3/22/2005	NA	NA	NA	NA	NA	<0.0008	<0.002	<0.002	<0.003	<0.002

*-Fluorene detected at 0.006 mg/L

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 LPST # 111747

GROUNDWATER ANALYTICAL DATA SUMMARY

(all concentrations in mg/L)

MW-8										
DATE	PAH	TDS	TPH (C6-C12)	TPH (C12-C28)	TPH (C28-C35)	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
2/18/1997	NA	NA	<0.05(Total)	NA	NA	0.005	0.003	<0.001	0.004	<0.01
7/20/1998	NA	NA	<4.9(C6-C10)	<4.9(>C10-C28)	NA	0.034	0.004	0.007	0.020	<0.02
11/19/1998	NA	NA	<6(C6-C10)	<6(>C10-C28)	NA	<0.005	<0.005	<0.005	<0.005	<0.005
10/5/2000	NA	NA	<5(C6-C10)	<5(>C10-C28)	NA	0.007	<0.005	<0.005	<0.005	<0.005
4/4/2001	NA	NA	<4.67(C6-C10)	<4.67(>C10-C28)	NA	0.029	0.005	<0.004	0.011	0.004
9/24/2001	NA	NA	<4.89	<4.89	<4.89	0.014	0.010	<0.004	0.114	0.006
12/27/2001	NA	NA	<4.90	<4.90	<4.90	0.011	<0.004	<0.004	<0.004	0.006
3/27/2002	NA	NA	<1.97	<1.97	<1.97	0.015	<0.004	<0.004	0.020	0.012
6/17/2002	NA	NA	<1.95	<1.95	<1.95	<0.002	<0.004	<0.004	<0.004	<0.004
10/22/2003	NA	NA	NA	NA	NA	<0.0008	<0.002	<0.002	<0.003	<0.002
1/28/2004	NA	NA	NA	NA	NA	<0.0008	<0.002	<0.002	<0.003	<0.002
3/23/2005	NA	NA	NA	NA	NA	0.020	0.0053 (J)	0.008	0.044	0.012

MW-9										
DATE	PAH	TDS	TPH (C6-C12)	TPH (C12-C28)	TPH (C28-C35)	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
3/24/1997	NA	NA	1.2(Total)	NA	NA	0.106	0.120	0.008	0.135	0.038
7/16/1998	NA	NA	<5.3(C6-C10)	<5.3(>C10-C28)	NA	<0.001	<0.001	<0.001	0.002	0.035
11/19/1998	NA	NA	<4.1(C6-C10)	<4.1(>C10-C28)	NA	0.012	<0.005	<0.005	<0.005	0.178
10/5/2000	0.002*	NA	<5(C6-C10)	<5(>C10-C28)	NA	0.149	<0.005	<0.005	<0.005	0.225
4/4/2001	NA	NA	<5.5(C6-C10)	<5.5(>C10-C28)	NA	0.154	<0.004	<0.004	<0.004	0.454
9/24/2001	NA	NA	<4.95	<4.95	<4.95	0.005	<0.004	<0.004	<0.004	0.129
12/27/2001	NA	NA	<4.87	<4.87	<4.87	<0.002	<0.004	<0.004	<0.004	0.060
3/27/2002	NA	NA	<1.98	<1.98	<1.98	<0.002	<0.004	<0.004	<0.004	0.034
6/17/2002	NA	NA	<1.95	<1.95	<1.95	<0.002	<0.004	<0.004	<0.004	0.074
10/22/2003	NA	NA	NA	NA	NA	<0.0008	<0.002	<0.002	<0.003	<0.002
1/28/2004	NA	NA	NA	NA	NA	<0.0008	<0.002	<0.002	<0.003	0.128
3/22/2005	NA	NA	NA	NA	NA	<0.0008	<0.002	<0.002	<0.003	0.012

*Naphthalene detected at 0.002 mg/L.

MW-10										
DATE	PAH	TDS	TPH (C6-C12)	TPH (C12-C28)	TPH (C28-C35)	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
3/24/1997	NA	NA	<0.5(Total)	NA	NA	<0.001	<0.001	<0.001	<0.001	<0.01
7/16/1998	NA	NA	<4.8(C6-C10)	<4.8(>C10-C28)	NA	<0.001	<0.001	<0.001	0.002	<0.02
11/19/1998	NA	NA	<4.7(C6-C10)	<4.7(>C10-C28)	NA	<0.005	<0.005	<0.005	<0.005	<0.005
10/5/2000	NA	NA	<5(C6-C10)	<5(>C10-C28)	NA	<0.005	<0.005	<0.005	<0.005	<0.005
4/4/2001	NA	NA	<4.89(C6-C10)	<4.89(>C10-C28)	NA	<0.002	<0.004	<0.004	<0.004	<0.004
9/24/2001	NA	NA	<4.84	<4.84	<4.84	<0.002	<0.004	<0.004	<0.004	<0.004
12/27/2001	NA	NA	<4.81	<4.81	<4.81	<0.002	<0.004	<0.004	<0.004	<0.004
3/27/2002	NA	NA	<1.97	<1.97	<1.97	<0.002	<0.004	<0.004	<0.004	<0.004
6/17/2002	NA	NA	<1.95	<1.95	<1.95	<0.002	<0.004	<0.004	<0.004	<0.004
10/22/2003	NA	NA	NA	NA	NA	<0.0008	<0.002	<0.002	<0.003	0.116
1/28/2004	NA	NA	NA	NA	NA	<0.0008	<0.002	<0.002	<0.003	<0.002
3/22/2005	NA	NA	NA	NA	NA	<0.0008	<0.002	<0.002	<0.003	<0.002

MW-11										
DATE	PAH	TDS	TPH (C6-C12)	TPH (C12-C28)	TPH (C28-C35)	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
3/24/1997	NA	NA	<0.50(Total)	NA	NA	<0.001	<0.001	<0.001	<0.001	<0.01
7/16/1998	NA	NA	<5(C6-C10)	<5(>C10-C28)	NA	0.053	0.009	0.003	0.012	0.026
11/19/1998	NA	NA	25.3(C6-C10)	<4.4(>C10-C28)	NA	1.850	2.200	0.036	2.210	<0.005
10/5/2000	NA	NA	<5(C6-C10)	<5(>C10-C28)	NA	<0.005	<0.005	<0.005	<0.005	<0.005
4/4/2001	NA	NA	<5.28(C6-C10)	<5.28(>C10-C28)	NA	1.770	3.570	0.399	2.600	0.525
9/24/2001	NA	NA	9.67	<4.79	<4.79	1.620	3.080	0.625	2.480	0.134
12/27/2001	NA	NA	<4.85	<4.85	<4.85	0.071	0.085	0.088	0.142	0.040
3/27/2002	NA	NA	16.10	3.88	<1.96	1.010	5.170	0.894	4.350	0.409
6/17/2002	NA	NA	11.00	2.09	<1.96	0.952	3.550	0.523	2.390	<0.020
10/22/2003	NA	NA	4.78	<1.95	<1.95	0.049	0.616	0.209	0.774	0.239
1/28/2004	NA	NA	3.51	<2.0	<2.0	0.0416	0.336	0.116	0.475	0.145
3/22/2005	NA	NA	NA	NA	NA	0.1120	1.260	0.737	3.690	0.635

NOTICE OF DOCUMENT QUALITY

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

THE QUALITY OF THE FOLLOWING ORIGINAL PAPER
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Some reasons for poor quality:

There are multiple densities per page, different types of ink, faded document, and some documents are different colors. Many of the photographs, charts, graphs, maps are of poor quality.

ATTACHMENT 15

Summary Table
Soil Analytical Results

TPH Benzene T

E X

Location	Date	TPH	Benzene	Toluene	Xylenes	Other	Lead	Cadmium	Copper
N. Wall 12'	10/10/96	<10	<0.020	<0.020	<0.020	<0.060	NA	NA	NA
S. Wall 12'	10/10/96	<10	<0.020	<0.020	<0.020	<0.060	NA	NA	NA
E. Wall 12'	10/10/96	<10	<0.020	<0.020	<0.020	<0.060	NA	NA	NA
W. Wall/Pipe 12'	10/10/96	<10	<0.020	<0.020	<0.020	<0.060	NA	NA	NA
Bottom #1 14'	10/10/96	<10	<0.020	<0.020	<0.020	<0.060	NA	NA	NA
Bottom #2 14'	10/10/96	1,480	45.25	162	75	459	NA	NA	NA
Stockpile #1	10/10/96	164	<0.020	<0.020	<0.020	<0.060	NA	NA	NA
Stockpile #2	10/10/96	<10	NA	NA	NA	NA	NA	NA	NA
Stockpile #3	10/10/96	<10	NA	NA	NA	NA	NA	NA	NA
B-1 14'-15'	10/29/96	180	<0.500	1.160	2.130	16.800	NA	NA	NA

confirmatory

**Summary Table
Soil Analytical Results
(Continued)**

B-1 30.5'-31.5'	10/29/96	370	6.680	35.0	19.6	129	NA	<0.603 8.080 <0.221 <0.0436 <0.0603 <0.0570 <0.255 <0.0771 <0.0503 <0.101 <0.070 0.302 <0.144 8.610 <0.214 <0.0905	Acenaphthene Acenaphthylene Anthracene Benzo(a)anthracene Benzo(b)fluoranthene Benzo(k)fluoranthene Benzo(g,h,i)perylene Benzo(a)pyrene Chrysene Dibenz(a,h)anthracene Fluoranthene Fluorene Indeno(1,2,3-cd)pyrene Naphthalene Phenanthrene Pyrene	NA
B-1 39'-40'	10/29/96	<10	0.0187	0.0356	0.0128	0.0880	NA		NA	NA
B-2 29'-30'	10/29/96	70	<0.002	<0.002	<0.002	<0.002	NA		NA	NA
B-2 31'-32'	10/29/96	30	<0.002	<0.002	<0.002	<0.002	NA		NA	NA
B-2 36'-37'	10/29/96	<10	<0.002	<0.002	<0.002	<0.002	NA		NA	NA
B-3 25'-26'	10/30/96	<10	0.501	1.620	0.302	2.460	NA		NA	NA
B-3 31'-32'	10/30/96	<10	0.0395	0.0913	0.0250	0.152	NA		NA	NA
B-3 39'-40'	10/30/96	<10	0.007	0.0138	0.0027	0.021	NA		NA	NA
B-4 26'-27'	10/30/96	32	0.109	0.644	0.258	2.0	NA		NA	NA
B-4 31'-32'	10/30/96	110	1.110	6.540	3.270	21.50	NA		NA	NA
B-4 39'-40'	10/30/96	40	0.0034	0.0128	0.0063	0.0513	NA		NA	NA

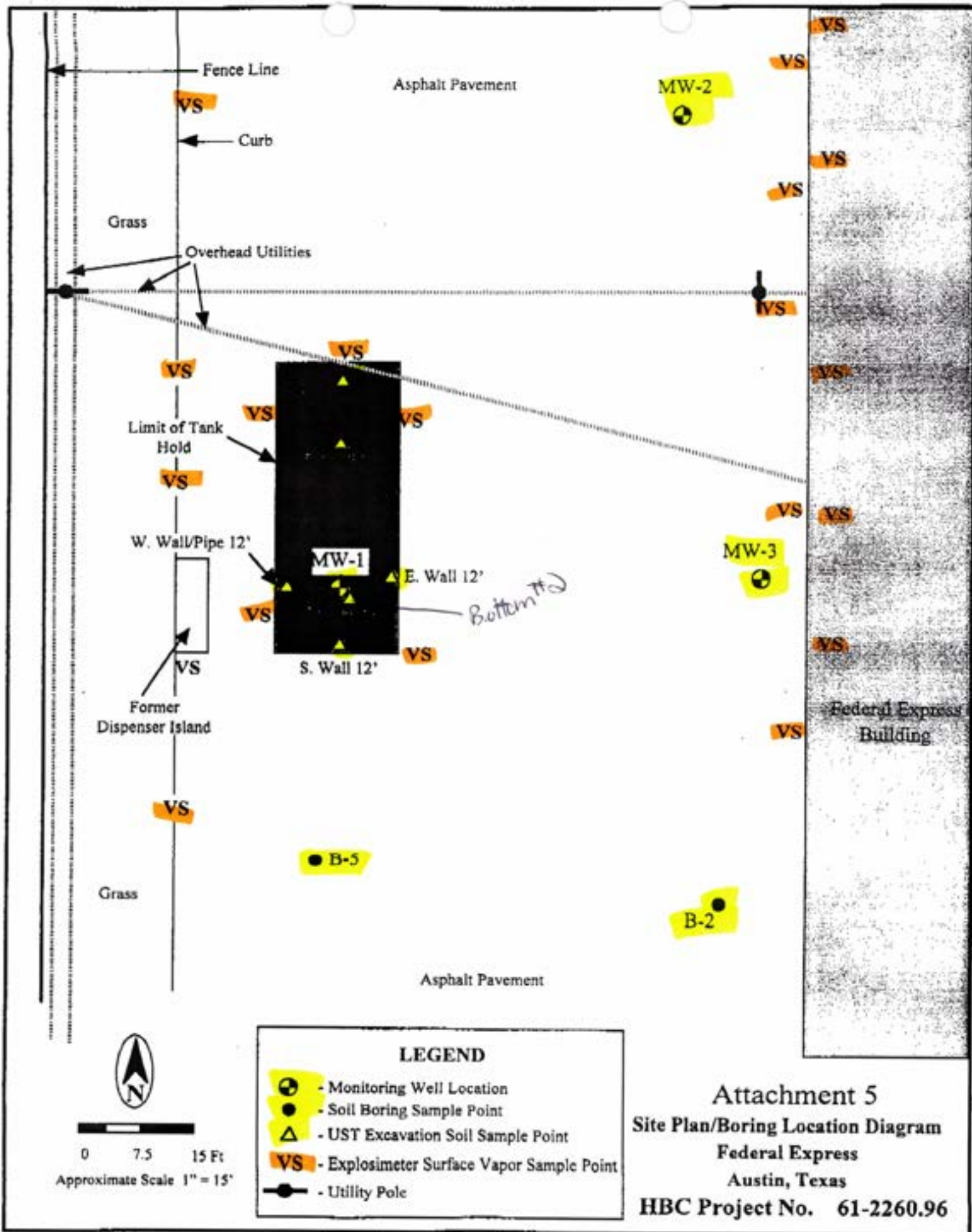
**Summary Table
Soil Analytical Results
(Continued)**

Location	Date	Parameter	Value	Unit	Method	Result	Limit	Notes	Notes	Notes
B-5 25'-26'	10/30/96	<10	<0.002	<0.002	<0.002	<0.002	NA	NA	NA	NA
B-5 30.5'-31.5'	10/30/96	<10	0.0024	0.0059	<0.002	0.0128	NA	NA	NA	NA
B-5 36'-37'	10/30/96	<10	<0.002	<0.002	<0.002	<0.002	NA	NA	NA	NA
Stockpile	10/30/96	70	1.220	2.750	2.410	15.90	NA	NA	NA	NA
MW-4 33'-34'	02/04/97	<10	<0.002	<0.002	<0.002	<0.002	NA	NA	NA	<10.0
MW-4 39'-40'	02/04/97	<10	<0.002	<0.002	<0.002	<0.002	NA	NA	NA	NA
MW-5 31'-32'	02/04/97	500	<0.500	13.3	10.9	81.7	NA	NA	NA	NA
MW-5 37'-38'	02/04/97	<10	0.15	0.445	0.0903	0.568	NA	NA	NA	NA
MW-5 44'-45'	02/04/97	<10	<0.002	<0.002	<0.002	<0.002	NA	NA	NA	NA
MW-6 32'-33'	02/05/97	3,700	5.040	45.20	23.10	153.0	NA	NA	NA	NA
MW-6 36.5'-37.5'	02/05/97	4,000	11.40	56.50	23.80	164.0	NA	NA	NA	<10.0
MW-6 44'-45'	02/05/97	<10	0.0779	0.233	0.0728	0.488	NA	NA	NA	NA
MW-7 31'-32'	02/06/97	<10	<0.002	<0.002	<0.002	0.0021	NA	NA	NA	NA
MW-7 39'-40'	02/06/97	<10	<0.002	<0.002	<0.002	<0.002	NA	NA	NA	NA
MW-8 29'-30'	02/07/97	<10	<0.002	<0.002	<0.002	<0.002	NA	NA	NA	NA
MW-8 39'-40'	02/07/97	<10	<0.002	<0.002	<0.002	<0.002	NA	NA	NA	NA
MW-9 35'-36'	03/10/97	<10	<0.002	<0.002	<0.002	<0.002	NA	NA	NA	NA
MW-9 44'-45'	03/10/97	<10	<0.002	<0.002	<0.002	<0.002	NA	NA	NA	NA

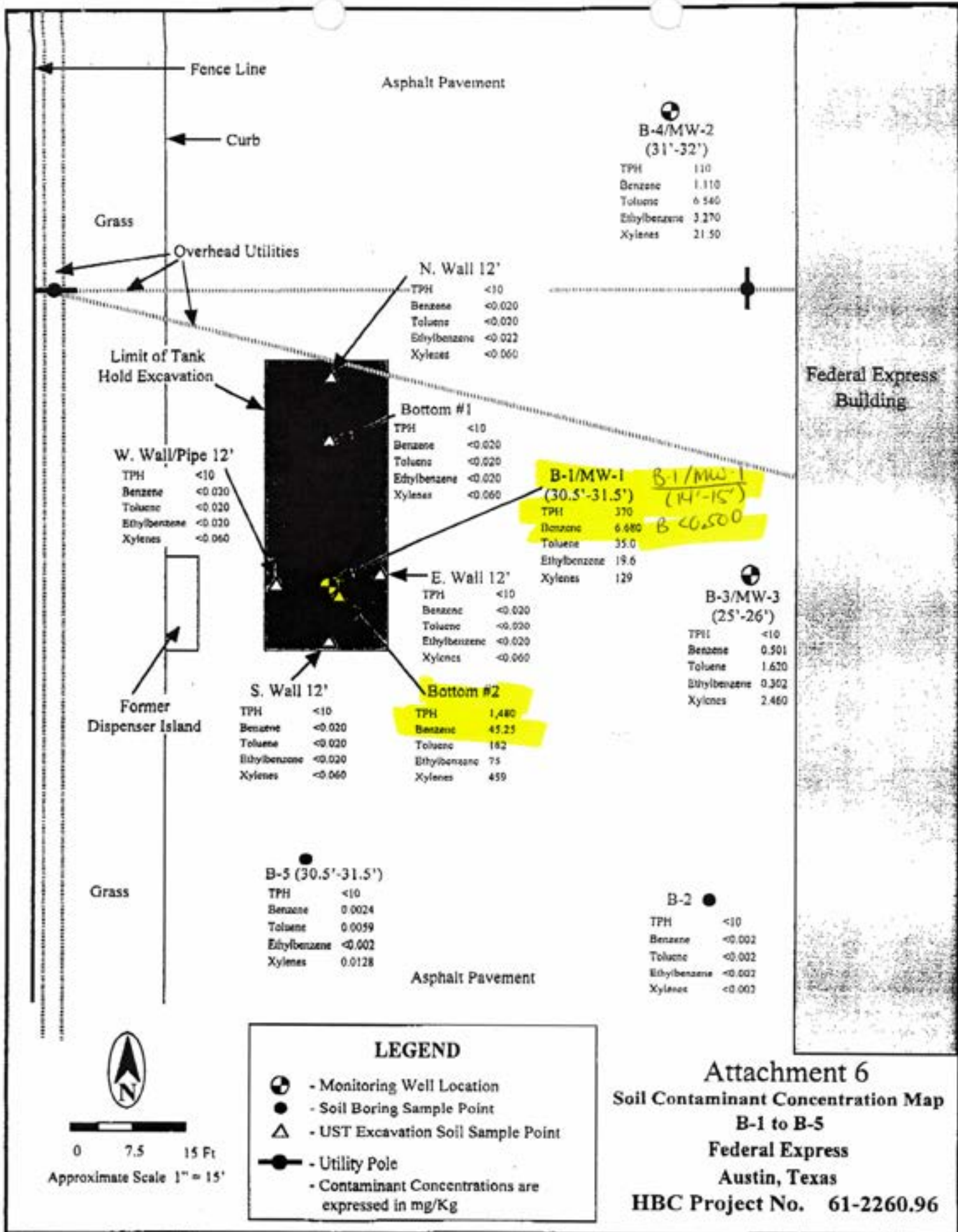
**Summary Table
Soil Analytical Results
(Continued)**

MW-10 35'-36'	03/10/97	30	<0.002	<0.002	<0.002	<0.002	NA	NA	NA
MW-10 44'-45'	03/10/97	<10	<0.002	<0.002	<0.002	<0.002	NA	NA	NA
MW-11 38'-39'	03/11/97	27	<0.002	<0.002	<0.002	<0.002	NA	NA	NA
MW-11 44'-45'	03/11/97	<10	<0.002	<0.002	<0.002	<0.002	NA	NA	NA
Soil Stockpile	03/11/97	27	<0.002	<0.002	<0.002	<0.002	NA	NA	NA

NA - Not Analyzed

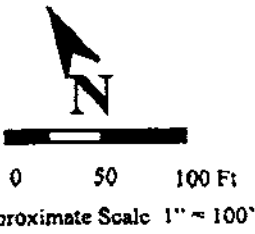
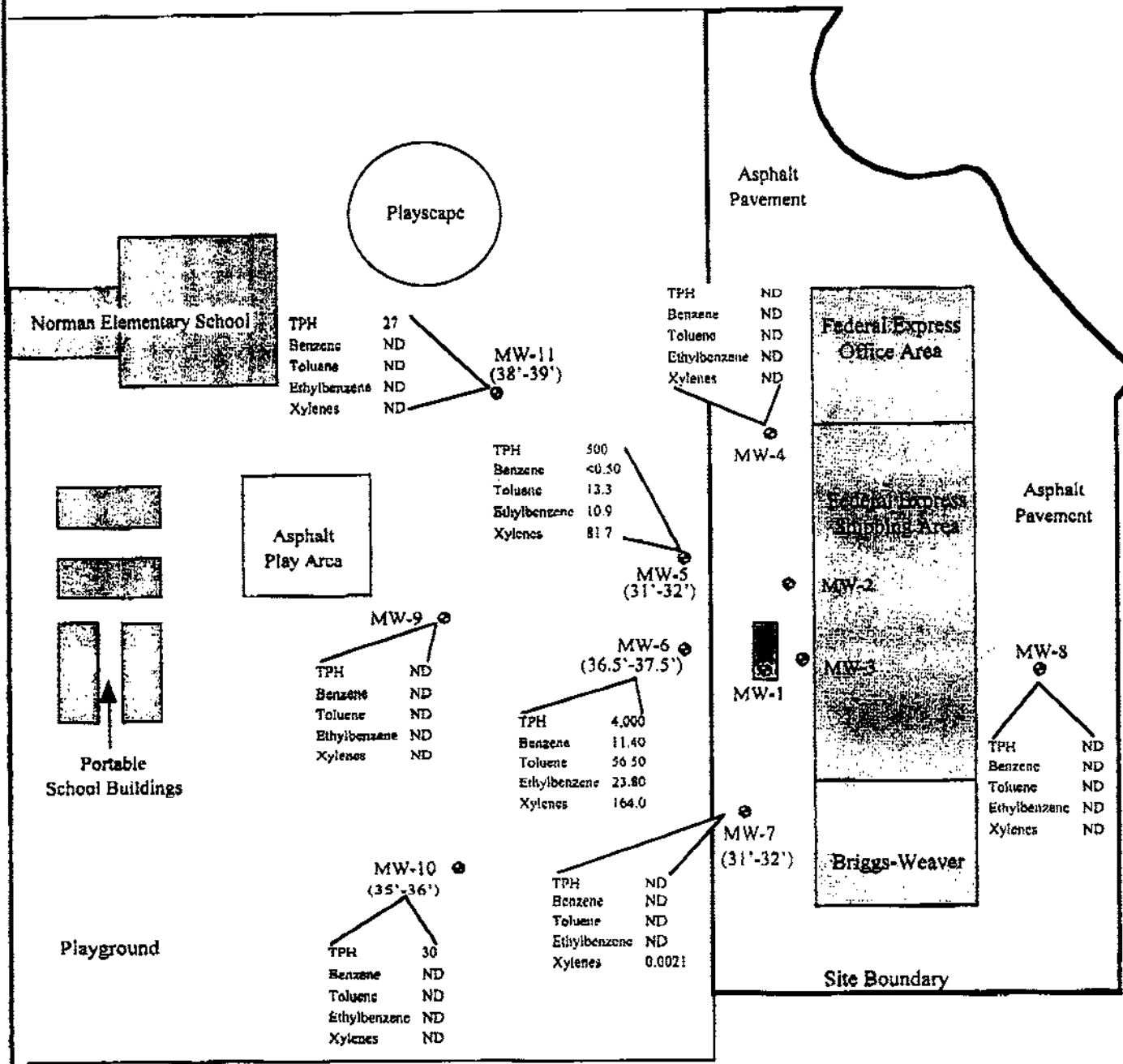


Attachment 5
 Site Plan/Boring Location Diagram
 Federal Express
 Austin, Texas
 HBC Project No. 61-2260.96



Attachment 6
Soil Contaminant Concentration Map
B-1 to B-5
Federal Express
Austin, Texas
HBC Project No. 61-2260.96

Technicenter Drive

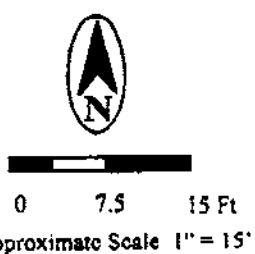
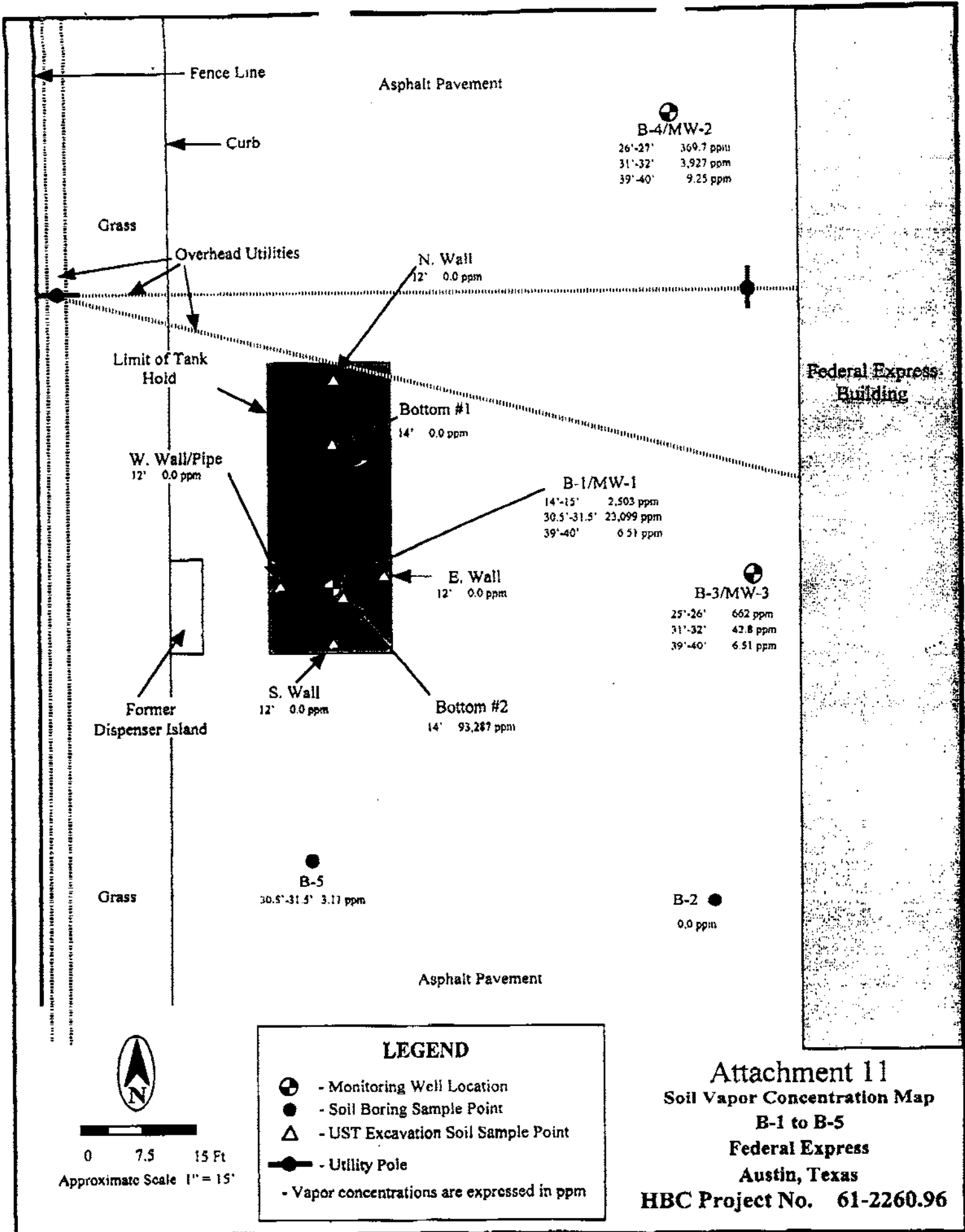


LEGEND

- ⊕ - Monitoring Well Location
- ND - Constituents Not Detected

Contaminant Concentrations are expressed in mg/Kg

Attachment 6A
Soil Contaminant Concentration Map
MW-4 to MW-11
Federal Express
Austin, Texas
HBC Project No. 61-2260.96

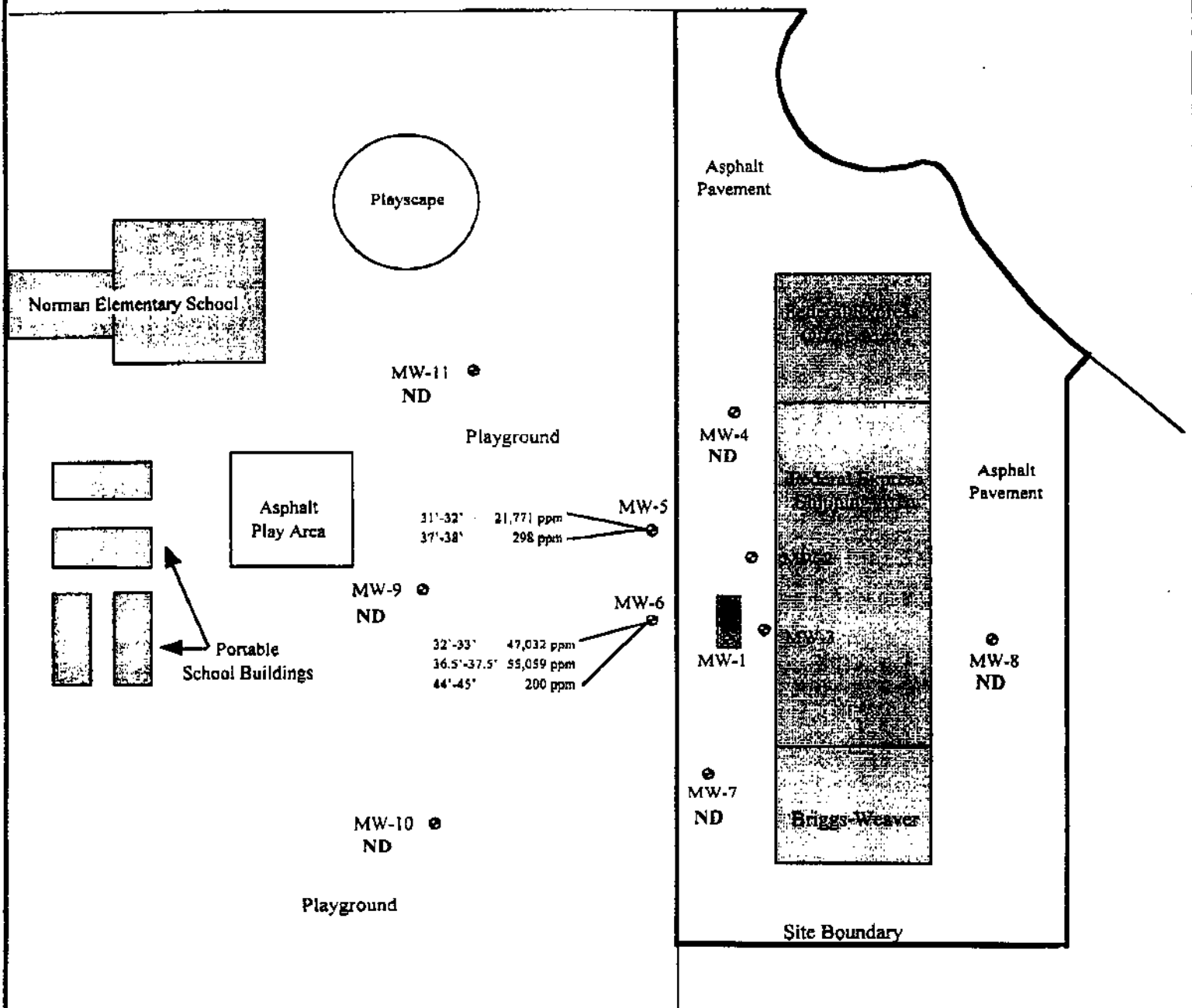


LEGEND

- Monitoring Well Location
- Soil Boring Sample Point
- UST Excavation Soil Sample Point
- Utility Pole
- Vapor concentrations are expressed in ppm

Attachment 11
Soil Vapor Concentration Map
B-1 to B-5
Federal Express
Austin, Texas
HBC Project No. 61-2260.96

Technicenter Drive

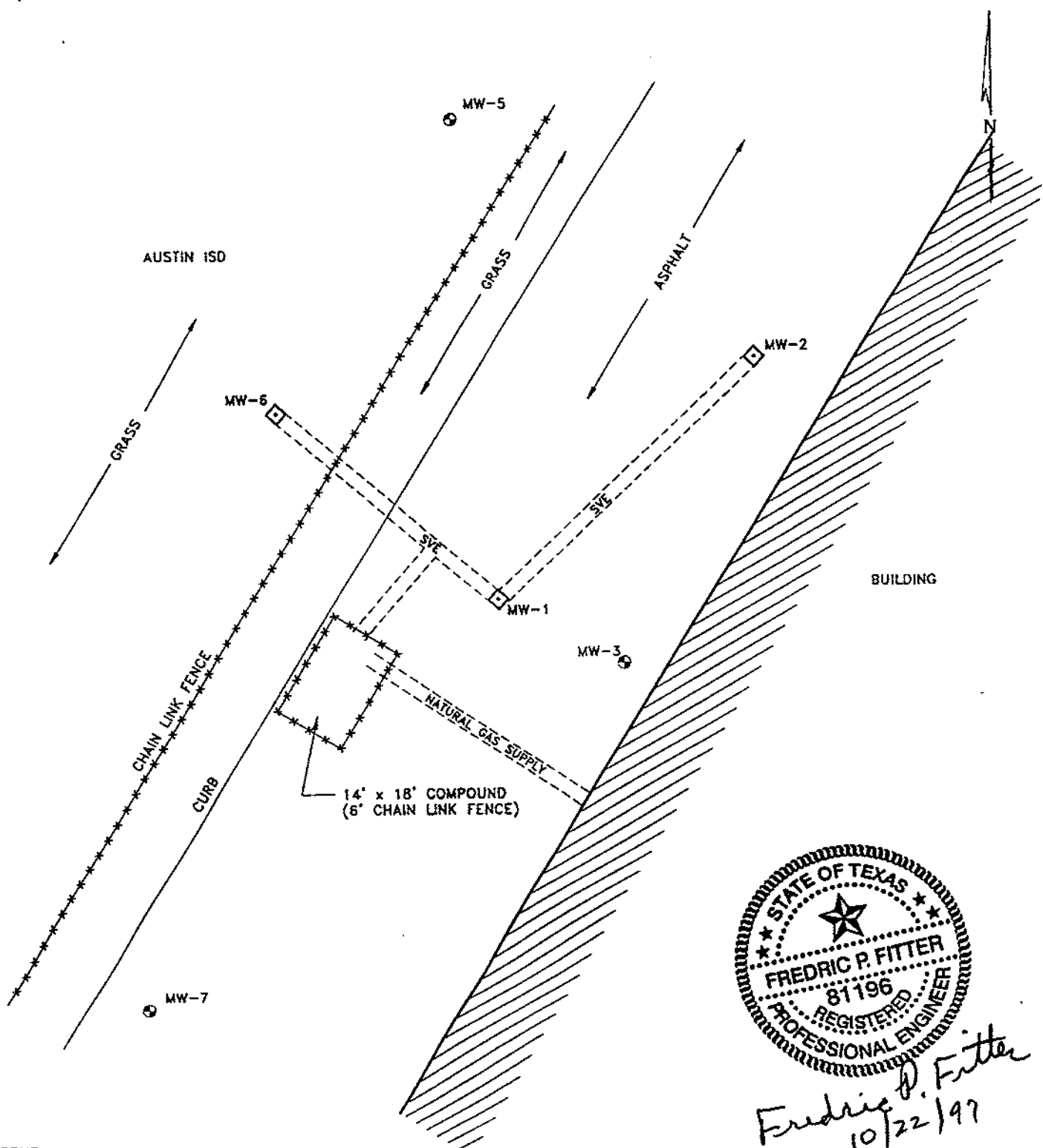


0 50 100 Ft
 Approximate Scale 1" = 100'

LEGEND

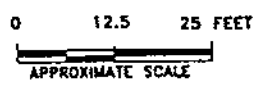
⊙ - Monitoring Well Location
 ND - Not Detected

Attachment 11 A
Soil Vapor Concentration Map
MW-4 to MW-11
Federal Express
Austin, Texas
HBC Project No. 61-2260.96



Fredric P. Fitter
10/22/97

- LEGEND :
- ◊ 12-INCH CIRCULAR WELL COVER
 - ⊙ MONITOR WELL LOCATION



FEDERAL EXPRESS CORPORATION
5811 TECHNI CENTER DRIVE
AUSTIN, TEXAS

FIGURE 10: REMEDIAL COMPOUND/
TRENCH LAYOUT

HBC Project No.: 61-2260-96

POOR QUALITY ORIGINAL DOCUMENTS

Do not add additional information to this file.

ATTACHMENT 15

Summary Table
Soil Analytical Results

TPH Benzene

E X

Location	Date	TPH	Benzene	Other Contaminants	Other Contaminants	Other Contaminants	Other Contaminants	Other Contaminants	Other Contaminants
N. Wall 12'	10/10/96	<10	<0.020	<0.020	<0.020	<0.060	NA	NA	NA
S. Wall 12'	10/10/96	<10	<0.020	<0.020	<0.020	<0.060	NA	NA	NA
E. Wall 12'	10/10/96	<10	<0.020	<0.020	<0.020	<0.060	NA	NA	NA
W. Wall/Pipe 12'	10/10/96	<10	<0.020	<0.020	<0.020	<0.060	NA	NA	NA
Bottom #1 14'	10/10/96	<10	<0.020	<0.020	<0.020	<0.060	NA	NA	NA
Bottom #2 14'	10/10/96	1,480	45.25	162	75	459	NA	NA	NA
Stockpile #1	10/10/96	164	<0.020	<0.020	<0.020	<0.060	NA	NA	NA
Stockpile #2	10/10/96	<10	NA	NA	NA	NA	NA	NA	NA
Stockpile #3	10/10/96	<10	NA	NA	NA	NA	NA	NA	NA
B-1 14'-15'	10/29/96	180	<0.500	1.160	2.130	16.800	NA	NA	NA

confirmatory

**Summary Table
Soil Analytical Results
(Continued)**

Sample ID	Date	Depth (ft)	Moisture (%)	Organic Carbon (%)	Total Solids (mg/g)	Total Petroleum Hydrocarbons (mg/g)	Total Aromatic Hydrocarbons (mg/g)	Individual Compounds (mg/g)	Notes
B-1 30.5'-31.5'	10/29/96	370	6.680	35.0	19.6	129	NA	<0.603 Acenaphthene 8.080 Acenaphthylene <0.221 Anthracene <0.0436 Benzo(a)anthracene <0.0603 Benzo(b)fluoranthene <0.0570 Benzo(k)fluoranthene <0.255 Benzo(g,h,i)perylene <0.0771 Benzo(a)pyrene <0.0503 Chrysene <0.101 Dibenz(a,h)anthracene <0.070 Fluoranthene 0.302 Fluorene <0.144 Ideno(1,2,3-cd)pyrene 8.610 Naphthalene <0.214 Phenanthrene <0.0905 Pyrene	NA
B-1 39'-40'	10/29/96	<10	0.0187	0.0356	0.0128	0.0880	NA	NA	NA
B-2 29'-30'	10/29/96	70	<0.002	<0.002	<0.002	<0.002	NA	NA	NA
B-2 31'-32'	10/29/96	30	<0.002	<0.002	<0.002	<0.002	NA	NA	NA
B-2 36'-37'	10/29/96	<10	<0.002	<0.002	<0.002	<0.002	NA	NA	NA
B-3 25'-26'	10/30/96	<10	0.501	1.620	0.302	2.460	NA	NA	NA
B-3 31'-32'	10/30/96	<10	0.0395	0.0913	0.0250	0.152	NA	NA	NA
B-3 39'-40'	10/30/96	<10	0.007	0.0138	0.0027	0.021	NA	NA	NA
B-4 26'-27'	10/30/96	32	0.109	0.644	0.258	2.0	NA	NA	NA
B-4 31'-32'	10/30/96	110	1.110	6.540	3.270	21.50	NA	NA	NA
B-4 39'-40'	10/30/96	40	0.0034	0.0128	0.0063	0.0513	NA	NA	NA

**Summary Table
Soil Analytical Results
(Continued)**

Sample	Date	Depth	Parameter 1	Parameter 2	Parameter 3	Parameter 4	Parameter 5	Parameter 6	Parameter 7
B-5 25'-26'	10/30/96	<10	<0.002	<0.002	<0.002	<0.002	<0.002	NA	NA
B-5 30.5'-31.5'	10/30/96	<10	0.0024	0.0059	<0.002	0.0128	NA	NA	NA
B-5 36'-37'	10/30/96	<10	<0.002	<0.002	<0.002	<0.002	NA	NA	NA
Stockpile	10/30/96	70	1.220	2.750	2.410	15.90	NA	NA	NA
MW-4 33'-34'	02/04/97	<10	<0.002	<0.002	<0.002	<0.002	NA	NA	<10.0
MW-4 39'-40'	02/04/97	<10	<0.002	<0.002	<0.002	<0.002	NA	NA	NA
MW-5 31'-32'	02/04/97	500	<0.500	13.3	10.9	81.7	NA	NA	NA
MW-5 37'-38'	02/04/97	<10	0.15	0.445	0.0903	0.568	NA	NA	NA
MW-5 44'-45'	02/04/97	<10	<0.002	<0.002	<0.002	<0.002	NA	NA	NA
MW-6 32'-33'	02/05/97	3,700	5.040	45.20	23.10	153.0	NA	NA	NA
MW-6 36.5'-37.5'	02/05/97	4,000	11.40	56.50	23.80	164.0	NA	NA	<10.0
MW-6 44'-45'	02/05/97	<10	0.0779	0.233	0.0728	0.488	NA	NA	NA
MW-7 31'-32'	02/06/97	<10	<0.002	<0.002	<0.002	0.0021	NA	NA	NA
MW-7 39'-40'	02/06/97	<10	<0.002	<0.002	<0.002	<0.002	NA	NA	NA
MW-8 29'-30'	02/07/97	<10	<0.002	<0.002	<0.002	<0.002	NA	NA	NA
MW-8 39'-40'	02/07/97	<10	<0.002	<0.002	<0.002	<0.002	NA	NA	NA
MW-9 35'-36'	03/10/97	<10	<0.002	<0.002	<0.002	<0.002	NA	NA	NA
MW-9 44'-45'	03/10/97	<10	<0.002	<0.002	<0.002	<0.002	NA	NA	NA

**Summary Table
Soil Analytical Results
(Continued)**

Sample	Sample Date	Depth (ft)	As	Cd	Cu	Pb	Fe	Mn	Zn
MW-10 35'-36'	03/10/97	30	<0.002	<0.002	<0.002	<0.002	NA	NA	NA
MW-10 44'-45'	03/10/97	<10	<0.002	<0.002	<0.002	<0.002	NA	NA	NA
MW-11 38'-39'	03/11/97	27	<0.002	<0.002	<0.002	<0.002	NA	NA	NA
MW-11 44'-45'	03/11/97	<10	<0.002	<0.002	<0.002	<0.002	NA	NA	NA
Soil Stockpile	03/11/97	27	<0.002	<0.002	<0.002	<0.002	NA	NA	NA

NA - Not Analyzed

APPENDIX I

Qualifications of Environmental Professional



Joe Galemore is a principal geologist/project manager and INTERA's environmental business development lead. He has 30 years of professional experience managing and supporting projects involving the assessment, investigation, and remediation of contaminated sites and the hydrogeologic characterization of mining sites. Mr. Galemore has performed phase I/II environmental site assessments, remedial investigations, feasibility studies, risk assessments, remedial planning, and remediation system

operation, maintenance, and monitoring at sites contaminated with petroleum hydrocarbons, chlorinated hydrocarbons, nitrate, and metals. He has worked on and managed Superfund projects located in New Mexico, Texas, and Arizona; and Voluntary Remediation Program (VRP) and petroleum storage tank (PST) projects in Texas and New Mexico, all requiring strict compliance with a variety of state and federal regulations. He has provided senior technical support for projects involving the installation of groundwater monitoring wells in Mesozoic-age rocks in the Laguna Mining District, New Mexico. This work involved reverse circulation drilling to depths of over 600 feet, geophysical logging of boreholes, monitoring well design, and correlation of geologic units. This wide variety of experience, coupled with his academic training in geology, has provided a thorough understanding of (1) contaminant fate and transport, (2) the advantages and disadvantages of the various investigation and remediation technologies, (3) regulatory agency requirements, and (4) the myriad of issues associated with scheduling, contracting, and budgeting projects. He uses this combination of practical experience and a theoretical understanding with a common sense approach to advise state agency and private clients successfully on ways to meet project objectives, minimize risk, and keep projects on schedule and budget. Project budgets have varied from thousands of dollars to \$4.5 million. As a group manager and senior professional in Albuquerque, he was responsible for developing new work from state and private sector clients and supervising the technical performance of a group of seven scientists and engineers. He is currently leading environmental business development efforts for INTERA and is providing senior technical support on numerous projects in Texas and New Mexico.

Project Experience – Environmental

City of Austin Brownfields Assessments, City of Austin, Austin, TX. 2015 – Present.
Project Principal. Providing senior technical review and property redevelopment consultation for a multi-year, multi-task environmental consulting contract with the City of Austin Brownfields Program. To date, assignments have included multiple Phase I and II ESAs and preparing a generic Quality Assurance Project Plan (QAPP) and Field Sampling Plan (FSP) for approval by EPA Region 6 to streamline review and approval of subsequent site specific FSPs. Phase I ESAs were conducted in accordance with ASTM E1503-15 and included large tracts of undeveloped land, former bulk storage facilities, city parks, and a large hospital complex in downtown Austin. Phase II ESAs have addressed recognized environmental conditions (RECs) associated with bulk fuel storage facilities, gasoline service stations, landfills, and farming operations and included sampling and analysis of soil-vapor, soil, and groundwater. Potential exposure pathways have included groundwater ingestion, dermal contact with soil, and vapor intrusion of petroleum

Years of Experience: 30

Education:

- MS, 1986, Geology, New Mexico State University
- BS, 1983, Geology, University of Alabama

Professional Registrations/Affiliations:

- Professional Geoscientist, Texas, 2003, No. 531
- Member, New Mexico Geological Society
- Member, National Ground Water Association

Professional History:

2014 – Present	Environmental Business Development Lead, Principal Geologist, Project Manager – INTERA Inc., Austin, TX
2006 – 2013	Senior Geologist, Project Manager, Group Manager, Environmental Business Development Lead – INTERA Inc., Albuquerque, NM
2004 – 2006	Environmental Group Manager, Senior Geologist, Project Manager – Kleinfelder, Inc., Albuquerque, NM
1997 – 2004	Group Manager, Project Manager – Daniel B. Stephens and Associates, Albuquerque, NM
1995 – 1996	Office Manager – Daniel B. Stephens and Associates, Lubbock, TX
1994 – 1995	Geologist, Project Manager – Daniel B. Stephens and Associates, Albuquerque, NM
1991 – 1994	Geologist, Project Manager – Professional Service Industries, Clearwater, FL
1987 – 1991	Geologist, Profit Center Manager – Professional Service Industries, Houston TX
1986 – 1987	Earth Science Teacher – Aldine ISD, Houston, TX

Specialized Training & Software:

- OSHA HAZWOPER Training (40-Hour), 1988
- OSHA Hazardous Waste Site Worker and Supervisor Safety Course (8-Hour), 2015
- CPR, First Aid, Bloodborne Pathogens Training; 29 CFR 1910.1030; 2015
- Evaluating LNAPL Remedial Technologies for Achieving Project Goals, ITRC, 2015
- Phase I and II Environmental Site Assessments for Real Estate Transfers, 2009
- Approaches to Predicting NAPL Behavior to Improve Characterization and Lower Remediation Costs, 2008
- Applied Environmental Statistics, 2000

hydrocarbons, chlorinated solvents, and landfill gas into future buildings. Texas Risk Reduction Program (TRRP) procedures and standards and US Environmental Protection Agency (EPA) vapor intrusion screening levels (VISLs) were used to evaluate the environmental risk associated with redevelopment of properties. In addition to conducting senior technical review of proposals and reports, Mr. Galemore has participated in meetings with developers to discuss redevelopment options and measures to mitigate presence of municipal solid waste and contaminated soil vapor.

City of Austin Environmental Rotation Contract, City of Austin, Austin, TX. 2016. Senior Scientist. Provided senior technical review of Phase I ESA for a property planned for major improvement of roadway along Lady Bird Lake. Activities included participation in project planning meeting with City of Austin design engineer and City of Austin Environmental Rotation contract manager; review of roadway improvement plans; review of Phase I ESA report; and identification of RECs.

North Railroad Avenue Plume Superfund Project, New Mexico Environment Department. Espanola, New Mexico. 2016 – Present. Project Manager. Leading efforts to remediate tetrachloroethylene, and degradation products, at former laundromat. Activities to date have included the development of (1) remedial action plan to inject carbon substrate using direct push injection techniques, (2) Sampling and Analysis Plan in accordance with NMED and US EPA Region 6 requirements, and (3) scoping, cost estimate, and subcontractor documents. Work to remediate the hot spot and source area parts of the shallow plume is planned to start in April. Scoping documents have also been developed to revise the conceptual site model and evaluate previous investigations and remedial actions associated with the presence of tetrachloroethylene in the deep aquifer.

Ortiz Landfill Investigation, City of Santa Fe, Santa Fe, New Mexico. 2016 – Present. Senior Technical Lead. The New Mexico Environment Department (NMED) is requiring the City of Santa Fe to Modify the Stage 1 Abatement Plan for the former Ortiz Landfill. INTERA, through a competitive bidding process led by Mr. Galemore, won the contract to characterize the municipal solid waste, sub-waste soils, vadose zone soil gas and to site and plan for the installation of an approximately 400 feet deep groundwater monitoring well. To date the Sampling and Analysis Plan for characterization activities has been submitted. Mr. Galemore attended a meeting with the City of Santa Fe and NMED representatives to discuss the planned activities and work is scheduled to begin in May.

Mountain View Nitrate Plume Restoration Project, New Mexico Office of Natural Resources Trustee, Albuquerque, NM. 2011 – Present. Project Manager. Currently leading a team of geologists, hydrologists, and engineers in efforts to (1) actively remediate 1,700 acre-feet of nitrate-contaminated groundwater using enhanced in-situ bioremediation, (2) passively remediate an additional 4,600 acre-feet of nitrate-contaminated groundwater using natural attenuation, and (3) assist NMED with a plan to minimize storm water infiltration through vadose zone soils contaminated with an estimated 1,400 tons of nitrate as nitrogen. Project budget is \$4.5 million and is scheduled to be completed in 2019. To date, additional investigations have been performed, access to numerous public and private properties has been successfully negotiated, pilot testing consisting of aquifer characterization and emulsified oil substrate (EOS) injection planning and testing has been conducted, the design of a full scale remediation system has been developed, a New Mexico Environment Department (NMED) discharge permit and New Mexico Office of the State Engineer permit has been secured, construction documents have been developed, and Phase I of the active remediation has been successfully completed. Phase I remediation consisted of the construction and operation of four subsurface bioremediation cell units, two remote production wells (RPWs), and one injection well used to dispose of treated water. Construction of the system lasted approximately 3 months and involved (1) the injection of 25,000 pounds (~ 3,400 gallons) of EOS into each unit, (2) laying 1,000s of feet of underground PVC and HDPE conveyance piping, (3) installation of two electrical submersible pumps and nine pneumatic pumps, and (4) connection of pumps and piping to a prefabricated remediation equipment shed with an automated controls system. The system is operating as designed and has been expanded. Four additional treatment units were constructed, and three additional remote pumping wells were installed that are providing nitrate-contaminated water to the existing treatment cell. A new treatment cell consisting of three units and up to four remote pumping wells is being designed to address areas containing nitrate (as nitrogen) concentrations that exceed 100 mg/L in the norther part of the site.

Litigation Support for Investigation into Impacts Caused by Oil/Gas Well Fracturing Operations, Confidential Client, West TX. 2010 – Present. Senior Technical Support. Client contacted INTERA after hydraulic fracturing of a horizontal oil and gas well visibly impacted a nearby water supply well completed in the Ogallala Aquifer. Subsequent reconnaissance of the area revealed the presence of a surface blowout feature from which drilling, fracturing, and/or flow-back fluids erupted onto the surface at a site approximately 1,000 feet from the well and flowed into a sensitive wetlands area. Investigations have included (1) sampling of supply wells and spring on the ranch and evaluating analytical chemical results, (2) a surface geophysical survey to determine areas containing soils with anomalously high electrical conductivity values, (3) collection and analysis of more than 150

sediment samples in wetlands, (4) drilling, sampling, and analysis of multiple shallow soil borings using direct push technology methods, (5) drilling, sampling, and geophysical logging of air- and mud-rotary boring through the Ogallala Aquifer, and (6) subsequent groundwater monitoring well installation and groundwater sampling. Responsibilities have included leading a team of hydrogeologists in the investigations, interacting with the client and project manager to develop a strategy for filing claim, and presenting findings to the responsible party. Currently developing the costs to investigate and remediate resulting environmental impacts. The remediation plan includes methods and cost estimates to restore the wetlands, contain hydrocarbon and saline impacted perched water from entering the wetlands, and investigation methods to evaluate the impacts to the Ogallala Aquifer.

State Screening Sampling Phase for the Toms Custom Spraying Site, Superfund Site Discovery and Assessment Program (SSDAP), Texas Commission on Environmental Quality (TCEQ), Randall County, TX. 2014 – 2015. *Project Manager.* Spills and equipment cleaning at Toms Custom Spraying, a business providing ground herbicide applicator services from the early 1970s through early 1980s impacted surface soils. Contaminants of concern included herbicides and metals associated with releases at the site. Specific contaminants include 2,4-D, atrazine, dibenz(a,h)-anthracene, lead, arsenic and selenium. Investigation activities included collection of surface soil samples for evaluation of the surface soil pathway and collection of water well samples from surrounding residential water wells to evaluate the drinking water pathway. Project management responsibilities include participating in site visits with TCEQ personnel, development of the SSDAP Field Sampling Plan involving multiple laboratories, development and review of the Site-Specific Health and Safety Plan (SSHASP), preparation of Work Order proposals, budget and schedule control, development of a SSDAP letter report, and communication with TCEQ Project Manager. Results of the investigation indicated that the concentrations of the contaminants of concern were below action limits, and the project was closed.

Texas Commission on Environmental Quality, Superfund Site Discovery and Assessment Program (SSDAP), Gardner Flyers, Inc., Mercedes, Hidalgo County, TX. 2014. *Geologist.* Developed SSDAP site assessment report detailing methods and results of the sampling and analysis of soil, sediment, and drinking water samples at a facility that formerly provided aerial pesticide spraying service. Contaminants of concern included 4,4'-DDT, permethrins, toxaphene, and 2,4-D Dacthal (DCPA). Testing methods included EPA Methods 8081B for the analysis of organochlorine pesticides, 8270D SIM for organophosphorus pesticides and specific analytes Baythroid, Daconil, Dacthal (DCPA) and permethrin, and 8151A for chlorinated herbicides. Data were validated, tabulated, and illustrated on maps generated using ArcGIS.

Industrial Road/Metals Proposed State Superfund Site, Texas Commission on Environmental Quality Superfund Program, Corpus Christi, TX. 2013 – 2014. *Geologist.* Developed Remedial Investigation Technical Memorandum for the Identification of Lead Impacted Soil. Objective of project was to delineate the extent of lead impacted soils near a railroad easement in an industrial section of Corpus Christi. The results of the investigation are being used to guide decisions concerning the removal of soil that contains lead at concentrations that present a risk to human health. The technical memorandum summarized field activities and presented results using geographic information system tools. It included an evaluation of a portable x-ray fluorescence (XRF) analyzer as a tool for field screening of lead impacted soils and correlation of screening data with data measured in laboratory. The evaluation concluded that there was a strong correlation between field screening data and laboratory data but the field preparation and analysis was excessively time consuming for the type of soils being tested.

Investigation and Groundwater Monitoring for PSTB Sites, New Mexico Environment Department, Multiple Sites, NM. 2010 – Present. Senior Technical Lead. Supporting work to conduct periodic groundwater monitoring activities and complete investigation activities at petroleum storage tank sites across New Mexico. Work included the following:

- **Groundwater Monitoring at Frank's Conoco Site, Bernalillo, NM. 2014 – Present.** Responsible for reviewing site data and developing a work plan for additional investigation to aid in the delineation of light non-aqueous phase liquid (LNAPL) and dissolved-phase contamination at the Site. The work plan included the installation of four new monitoring wells to determine the nature and extent of petroleum contamination at the Site. The work plan has been approved, and field activities are ongoing.
- **Groundwater Monitoring at Exxon Reese Site, Ruidoso, NM. 2014 – Present.** Supported the completion of groundwater monitoring events at the Site to assess groundwater concentration trends with respect to potential Site closure. Current duties include planning consultation and work plan and report review.
- **Groundwater Monitoring at Shell Reese Site, Ruidoso, NM. 2014 – Present.** Supported the completion of groundwater monitoring events at the Site to assess groundwater concentration trends with respect to potential Site closure. Current duties include planning consultation and work plan and report review.

- **Groundwater Monitoring at Texaco Reese Site, Ruidoso, NM. 2014 – Present.** Supported the completion of a single groundwater monitoring event at the Site to assess groundwater concentration trends and fluid levels. Current duties include planning consultation and work plan and report review.
- **Groundwater Monitoring at Tatum Public Schools, Tatum, NM. 2014 – Present.** Supported the completion of groundwater monitoring events at the Site to assess groundwater concentration trends and fluid level fluctuations. Current duties include planning consultation and work plan and report review.
- **Groundwater Monitoring at NMDOT Sites in Williamsburg, Santa Clara, and Cliff, NM. 2009 – Present.** Supported the completion of groundwater monitoring events at these sites to support ongoing monitoring efforts. Current duties include planning consultation and work plan and report review.
- **Groundwater Monitoring at Caldwell Motors Site in Belen, NM. 2009 – Present.** Supported the completion of groundwater monitoring events at the Site to assess groundwater concentration trends with respect to potential Site closure. Current duties include planning consultation and work plan and report review.
- **Groundwater Monitoring at Angel Fire Ski Lift (a.k.a. Back Basin) Site, Angel Fire, NM. 2009 – Present.** Supported the completion of groundwater monitoring events at the Site to assess groundwater concentration trends with respect to potential Site closure. Current duties include planning consultation and work plan and report review.
- **Groundwater Monitoring at Angel Fire Maintenance Building Site, Angel Fire, NM. 2009 – Present.** Supported the completion of groundwater monitoring events at the Site to assess groundwater concentration trends. Current duties include planning consultation and work plan and report review.
- **LNAPL Investigation at the Angel Fire Maintenance Building, Angel Fire Resort, Angel Fire, NM. 2013 – 2014.** Responsible for developing a field program to maximize data collection regarding the nature and extent of the LNAPL plume at the Angel Fire Maintenance Building Site. Designed the monitoring well specifications for each soil boring (if converted to monitoring wells) to be used as future soil vapor extraction (SVE) wells. Three soil borings were advanced, with two borings being completed as monitoring wells. A report was developed that made recommendations for quarterly monitoring to gain a better understanding of the water fluctuations to maximize the potential use of SVE as an effective remediation tool and to evaluate trends in dissolved phase contaminants. A work plan has been submitted to install additional monitoring wells to aid in the delineation of the dissolved-phase groundwater plume; Petroleum Storage Tank Bureau (PSTB) approval of the work plan is pending.
- **Soil Vapor Extraction Pilot Test at the Angel Fire Maintenance Building, Angel Fire Resort, Angel Fire, NM. 2012.** Responsible for overseeing an SVE pilot test, which consisted of extracting contaminated soil vapors in fine-grained soils at a site contaminated with petroleum hydrocarbons. During the test, flow rates, vacuums, fluid levels, and hydrocarbon concentrations in soil vapor were measured from the extraction well. Pressure distribution in the subsurface was determined by measuring vacuum in nearby observation wells. A report was developed that made recommendations for long-term use of SVE as a means to recover light non-aqueous phase liquid (LNAPL) during the low water months. A work plan has been submitted to conduct a long-term SVE pilot test during the winter months; PSTB approval of the work plan is pending.

St. Anthony Mine Closure, United Nuclear Corporation, Cebolleta Land Grant, Vicinity of Grants, NM. 2012 – 2014. *Senior Technical Support.* Supported a team of geologists and engineers involved with the closure of uranium mines located near Grants, NM. Project involves the implementation of a Stage II Abatement Plan regulated by the New Mexico Environment Department (NMED) to reclaim surface mine features and monitor groundwater quality. Activities included the oversight of core descriptions, geophysical logging, and the design and installation of groundwater quality monitoring wells installed in the Jackpile Sandstone of the Brushy Basin Member of the Morrison Formation (Jurassic). Boreholes were cored using sonic drilling techniques to depths ranging from approximately 65 to 325 feet below ground surface. Boreholes were logged using gamma, electric, and neutron geophysical instruments. Past responsibilities included borehole log development and review.

Hydrologic Characterization for Proposed Juan Tafoya Uranium Mill and Tailing Site, Neutron Energy LLC, Marquez, NM. 2012 – 2014. *Senior Technical Support.* Supported a team of geologists involved with the characterization of a site proposed for uranium ore milling and tailings containment. Project involved the implementation of a Hydrologic Work Plan regulated by the United States Nuclear Regulatory Commission. Activities included the oversight of drill cuttings descriptions, geophysical logging, and the design and installation of 15 groundwater quality monitoring wells installed in the Tres Hermanos Member of the Mancos Shale (Cretaceous) and Quaternary Alluvium. Boreholes were advanced using reverse circulation, air rotary with downhole

hammer drilling techniques to depths ranging from approximately 30 feet to 770 feet. Boreholes were logged using gamma and electric geophysical instruments. Past project responsibilities included borehole log development and review.

Site Investigation of New Mexico Department of Transportation (NMDOT) General Office Complex, Environmental Geology Section, Santa Fe, NM. 2010 – 2013. Project Manager. Led the investigation into the nature, extent, and magnitude of chlorinated solvents in the vadose zone and groundwater at NMDOT's general office complex. This project developed after a preliminary site investigation (PSI) performed by INTERA revealed low concentrations of chlorinated solvents in soil vapor at various locations within the complex. Three clusters of soil gas wells were initially installed to depths ranging from 25 to 50 feet below ground surface. Soil gas samples were collected using the latest U.S. Environmental Protection Agency (EPA) guidance and analyzed for volatile organic compounds (VOCs) using standard EPA methods. Low concentrations of trichloroethylene (TCE) and 1,1,1-trichloroethane (TCA) were found in the soil vapor samples. The highest concentrations were present in samples collected near the NMDOT Material's Laboratory, which formerly contained an underground tank used to store TCE and TCA. This information was presented to the New Mexico Environment Department and has led to a second phase in the investigation. In this phase, a dual-purpose (i.e., groundwater and soil vapor) monitoring well has been designed, drilled, and installed to a total depth of 385 feet using sonic drilling and sampling techniques. In addition to the groundwater monitoring well screen, five soil-vapor sampling ports have been attached to the outside of the polyvinyl chloride (PVC) casing at depths identified during the drilling as potentially containing VOCs. Primary responsibilities included client and regulatory agency interaction, subcontracting drillers, team lead for planning document development, and drilling/well installation oversight. Results indicated that regional aquifer was not impacted and contaminated soil-vapor may be from off-site sources. A plan for plugging and abandoning the groundwater and soil vapor monitoring wells was prepared.

Initial Site Assessments, New Mexico Department of Transportation (NMDOT), Environmental Geology Section, NM. 2014. Project Manager. Led team in the assessment of an approximately two-mile long corridor of NM Highway 47 in Valencia County, New Mexico. Commercial and residential land use was present on adjoining properties. Commercial properties included numerous current and historical gasoline service stations. Project was performed in accordance with NMDOT guidance and the standard practice for Phase I environmental site assessments (ASTM E 1527-13). Project identified eight recognized environmental conditions (RECs) and one historical recognized environmental condition (HREC). A thorough review of regulatory agency files and communication with the design engineer concerning specifics of the roadway improvements eliminated numerous sites as a potential risk to the NMDOT project.

Remedial Investigation and Remediation of the Santa Fe County Judicial Complex Construction Site, Santa Fe County, Santa Fe, NM. 2009 – 2014. Senior Technical Lead. Supported project team during performance of remedial investigation and remediation activities at the Santa Fe County's Judge Steve Herrera Judicial Complex construction site. INTERA was contracted by Santa Fe County after gasoline, a light non-aqueous phase liquid (LNAPL), was discovered at depths to be excavated for construction of underground parking. Initial activities involved intensive investigation work to determine nature, magnitude, and extent of contamination. Data were gathered and used to develop a conceptual site model that was the basis for support of sometimes-contentious negotiations with personnel from the NMED Petroleum Storage Tank Bureau (PSTB) concerning location of release(s). Negotiations were successful in convincing PSTB to (1) isolate the construction site by installing a low-permeability barrier wall using jet grouting and slurry wall techniques and (2) remediate LNAPL outside of the construction site. Other responsibilities have included reviewing and providing opinions concerning investigation and remediation planning documents developed by PSTB contractors, support for the development of a construction dewatering plan, support for the development of remedial planning documents, presentations to Santa Fe County Board of County Commissioners, preparation and review of VRP documents, and advising the construction team concerning regulatory and scheduling issues. Later responsibilities included review of risk assessment and building protective measures documents. Remediation by excavation and offsite disposal has resulted in the removal of approximately 30,000 gallons of gasoline. Construction of the facility was completed and a Certificate of Completion was issued by the New Mexico Environment Department's Voluntary Remediation Program.

Kirtland Air Force Base Fuel Spill, Albuquerque Bernalillo County Water Utility Authority, Bernalillo County, NM. 2013 – 2014. Geologist. Supported a team of hydrologists, geologists, engineers, and GIS specialists in the development of a conceptual site model for the fate and transport of a large release of aviation gasoline and jet fuel. Activities included the integration of Albuquerque Basin stratigraphy with site specific geologic data into a geologic model for the site. Used Leap Frog™, a 3-D visualization tool, to build the geologic model.



Shannon George has six years of professional experience in providing geological and environmental services. Her professional experience includes compliance activities for state and federally regulated environmental sites, and collecting geologic and hydrogeologic data for subsurface characterization of mining, manufacturing, and utility projects. Ms. George's experience has involved project management; geologic mapping, drilling oversight, geotechnical soil and rock logging; contaminant plume delineation; assistance with the design of groundwater monitoring systems; installing water

supply wells, and groundwater and methane monitoring wells; conducting soil and groundwater sampling; environmental site assessments (Phase I and Phase II), remedial investigations, operation and maintenance of remediation systems; and authoring numerous technical reports and site-specific Health and Safety Plans. Her project management experience includes building and maintaining client relationships, database management, and coordination of subcontractors.

Project Experience – Environmental

Environmental Site Assessments (ESAs) for Redevelopment Purposes, City of Austin Brownfields Program, Austin, TX. 2016 – 2017. Hydrogeologist. Participating as team member in Brownfield Assessment contract for the City of Austin Brownfields Program. The Program is designed to promote property redevelopment and community revitalization within the City by providing environmental assessment services. Representative tasks include Phase I and Phase II ESAs to identify and investigate Recognized Environmental Conditions (RECs) for several subject properties. Details of the projects include the following:

- **Phase II ESA of Fusebox Property, 5300 Jain Lane.** A Phase II ESA was conducted to evaluate soil gas at the site. The purpose was to refine the site conceptual site model for the planning of future development at the property. The site is located in a broader area where historical large-scale storage of petroleum products occurred, and known impacts to groundwater and soil exist. Performed drilling oversight of direct push technology (DPT); observed installation of temporary soil vapor monitoring wells; collected 1-hour composite samples from the wells; and observed well abandonment. Concentration of organic compounds were compared to EPA vapor intrusion screening limits, and used to provide a summary of results, and recommendations for future development of the property.
- **Phase II ESA of Centre Plaza.** A Phase II ESA was conducted to evaluate soil gas at this site. The purpose was to create a site conceptual site model for planning of future development at the property. The site is located in the vicinity of a former landfill other sites in the area were known to have impacted soil gas. Performed drilling oversight of DPT; observed installation of temporary soil vapor monitoring wells; collected 1-hour composite samples from the wells; and observed well abandonment. Concentration of organic compounds were compared to EPA vapor intrusion screening limits, and used to provide a summary of results, and recommendations for future development of the property.
- **Phase II ESA of 5600 Jain Lane.** A Phase II ESA was conducted to evaluate soil gas at the site. The purpose was to refine the site conceptual site model for the planning of future development at the property. The site is located in a broader area where historical large-scale storage of petroleum products occurred, and known impacts to groundwater and soil exist. Performed drilling oversight of direct push technology (DPT); observed installation of temporary soil vapor

Years of Experience: 6

Education:

- MS, 2012, Geology, University of Buffalo
- BS, 2008, Geology, Temple University

Professional

Registrations/Affiliations:

- Professional Geologist, TX, 2016, No. 12504
- Professional Geologist, GA, 2014, No. 2139
- National Association of State Boards of Geology (ASBOG), Health and Safety Coordinator, and Member at Large for the Council of Examiners
- Austin Geological Society, Member
- Atlanta Geological Society, Sponsorship Manager, former President, Vice President, and CFO.

Professional History:

2016 – Present	Hydrogeologist – INTERA Incorporated, Austin, TX
2010 – 2016	Project Hydrogeologist – Golder Associates, Inc., Atlanta, GA
2008 – 2010	Research, Teaching, and Field Assistant – University at Buffalo, Buffalo, NY

Specialized Training & Software:

- 40-Hour General Site Workers Training, OSHA 29 CFR 1910.120(e)(3), 2010
- 8-Hour Refresher/Supervisor, OSHA 29 CFR 1910.120, 2017
- OSHA 10-Hour Construction Safety Training, 2013
- Mine Safety & Health Administration New Miner Training, 2011
- Mine Safety & Health Administration Refresher, 2016
- ArcGIS, WinSitu, EQiS Professional

monitoring wells; collected 1-hour composite samples from the wells; and observed well abandonment. Concentration of organic compounds were compared to EPA vapor intrusion screening limits, and used to provide a summary of results, and recommendations for future development of the property.

- **Phase II ESA of 4523 Tannehill Lane.** A Phase II ESA was conducted to evaluate potential chemical impacts of two piles of fill materials discovered at the subject property. The extent and approximate volume of the debris piles were determined, and two, three-part composite soil samples were collected and analyzed as part of the evaluation. The project was completed to assess costs and logistics for potential future development.
- **Phase II ESA of the Salvation Army Property, 4216 South Congress Avenue.** A Phase II ESA was conducted to evaluate potential chemical impacts of a debris piled discovered at the subject property. Five, three-part composite soil samples were collected and analyzed and part of the evaluation. The project was completed to assess costs and logistics for potential future development.
- **Phase II ESA at the Montopolis Recreation Center, 1200 Montopolis Drive.** *Geologist.* Installed a temporary groundwater monitor well to assess if subsurface impacts occurred on the subject property related to a gas station at an adjoining property. The property is scheduled to undergo building demolitions and property redevelopment. Concentrations of petroleum products were not discovered during the Phase II ESA. The results were evaluated against Texas protective concentration levels and EPA vapor intrusion screening limits, and the results were submitted to the client.
- **Phase I ESA of the Brackenridge Campus.** Performed a Phase I ESA for a medical facility campus located on 14.3 acres of land in downtown Austin. The Phase I ESA was conducted to assess if RECs were associated with the Subject Property to assist the client with redevelopment planning. Several RECs were identified, and recommendations were provided to assist with future development of the property.
- **Phase I ESA of 2705-2713 East 5th Street.** Performed a Phase I ESA for a commercial property located on 0.65 acres of land. The property was used to store construction service supplies. The Phase I ESA was conducted to assess if RECs were associated with the Subject Property to assist the client with redevelopment planning. One RECs was identified on an adjoining parcel of land, and recommendations were provided to assist with future development of the property.
- **Phase I ESA of 1142 Shady Lane.** Performed a Phase I ESA for a developed commercial property in an area with historical petroleum impacts to soil and groundwater. The Phase I ESA was conducted to assess if RECs were associated with the Subject Property to assist the client with determination for property acquisition.
- **Phase I ESA of the Montopolis Recreation Center located at 1200 Montopolis Drive.** *Geologist.* Performed a Phase I ESA for the Montopolis Recreation Center, which is scheduled to undergo building demolitions and property redevelopment. The ESA was completed to assess environmental liability and construction worker health and safety.
- **Phase I ESA of Pioneer Crossing.** *Geologist.* Performed a Phase I ESA on approximately 32 acres of undeveloped land that is being considered for future development. The property adjoins a closed, unlined landfill, and is in an area where historical open-pit gravel mining was conducted. The Phase I ESA was conducted to assess if RECs were associated with the subject property, assist the client with determination for property acquisition, and assess environmental liability and construction worker health and safety.

Environmental Services Rotation List, City of Austin, Austin, TX. 2016. *Hydrogeologist/Geologist.* Participating as team member for various projects under the Environmental Services Rotation Contract for the City of Austin Public Works Department. Representative tasks include the following:

- **Phase I ESA of the Fallwell Lane Improvements Project.** A Phase I ESA was completed on approximately 30 acres of a mostly undeveloped property near a power station and a waste water treatment plant as part of a road improvements project for the City of Austin. The ESA was completed as part of the due diligence process to assess environmental liability and construction worker health and safety.
- **Phase I ESA of Lambie Street.** *Geologist.* A Phase I ESA was completed on 1.5 acres at a mostly undeveloped property in downtown Austin as part of the planning process for development of the property. The ESA was completed as part of the due diligence process to assess environmental liability and construction worker health and safety.

Soil Vapor Monitoring and Transducer Installation, Confidential Client, Hemphill County, TX. 2017. *Field Geologist.* Performed field screening of methane, oxygen, carbon dioxide, and volatile organic compounds gases; and vapor sampling at a series of wells at the project site. Field screening was completed using GEM5000 and TVA1000 instruments at regular intervals while air was purged from the wells. Sampling was completed using Isotech sample bags. After screening and sampling was conducted, round of water level measurements were collected, and In-Situ LevelTrolls and BaroTrolls were deployed for long-term pressure monitoring in select monitor wells and for atmospheric background pressure.

Monitoring Well Installation, Confidential Client, Hemphill County, TX. 2016. *Field Geologist.* Performed drilling oversight and geological logging for installation of a series of groundwater monitoring wells into the Ogallala aquifer in the Texas panhandle. Observation of sonic drilling, continuous core sampling, and performed oversight on a contractor conducting environmental sampling for the assessment of potential impacts.

Work Plan and Cost Estimate for Monitoring Well Installation, Cliff Patrol Yard, New Mexico Department of Transportation, Grant County, NM. 2017. *Geologist.* Drafted planning documents for monitoring well installation and semi-annual groundwater monitoring. The work was being performed for regulatory compliance of a site impacted by leaking underground storage tanks.

Preliminary Site Investigation, N. Valley Drive, New Mexico Department of Transportation, Las Cruces, NM. 2016. *Field Geologist.* Performed drilling oversight, geologic and environmental logging, and soil sampling. Observation of direct push drilling technology and continuous soil sampling. The purpose was to evaluate subsurface conditions at select intersections along a highly-used corridor with known impacts.

Initial Site Assessment, US 70 Corridor (N. Main St.), New Mexico Department of Transportation, Las Cruces, NM. 2016. *Geologist.* Performed site reconnaissance, file review, and draft report for an Initial Site Assessment. The purpose was to perform an environmental evaluation as part of due diligence procedures for corridor projects according to state specific guidelines (*Hazardous Material Assessment Handbook*) and modified from ASTM Standard E 1527-13.

Field Sampling Plan and Health and Safety Plan, CR 3507 Groundwater Plume, Texas Commission on Environmental Quality, Murchison, TX. 2017. *Hydrogeologist.* Assistance with the preparation of the Superfund Site Discovery and Assessment Program (SSDAP) Field Sampling Plan, and Health and Safety Plan, for the State Screening Sampling phase of the site. The well associated with the site is a public water supply well with concentrations of benzene just below the maximum contaminant level (MCL). The site is being assessed for eligibility for the State Superfund Program. Figures were created for the Field Sampling Plan and Health and Safety Plan using the ArcGIS software program.

Groundwater Sampling and IDW Management, Jensen Drive Superfund Site, Texas Commission on Environmental Quality, Houston, TX. 2016 – Present. *Field Geologist.* Groundwater monitoring activities were conducted at this site as part of ongoing monitoring under the Texas State Superfund Program. Collected water level readings in monitoring wells and on-site sump, purged groundwater monitor wells using low-flow methodology, collected groundwater samples including field quality assurance samples, and managed IDW. Other duties included observing the boundary fence for damage, and documenting the findings.

Site Operation and Maintenance, Industrial Road (Former Industrial Metals Facility), Texas Commission on Environmental Quality, Corpus Christi, TX. 2016. *Field Geologist.* Oversight of subcontractors during site maintenance activities, which included mowing the site and clearing plants and debris from the facility. Other duties included observing the clay cap associated with past remediation activities, and the boundary fence, for damage. Documented on-site activities and reported to the project manager.

Groundwater Sampling and Investigation Derived Waste Management (IDW), River City Metal Finishing Inc State Superfund Site, Texas Commission on Environmental Quality, San Antonio, TX. 2016. *Field Geologist.* Site is a former electroplating facility that operated from 1994 to 2002. Contaminants of concern at the Site are metals, hexavalent chromium, and cyanide. Groundwater monitoring activities were conducted at this site following groundwater sampling protocol as specified in the Site Quality Assurance Project Plan. Field activities included collecting water level readings in monitoring wells, purging groundwater wells using low-flow methodology, collecting groundwater samples, and collecting a liquid IDW sample. Prepared the site Health and Safety Plan. Figures were created for Health and Safety Plan using the ArcGIS software program.

Monitoring Well Installation, Emelle Hazardous Waste Landfill, Chemical Waste Management, Sumter County, AL. Oversight of the installation of a groundwater monitoring well in the Late Cretaceous age chalk of the Selma Group. The monitor well was being installed at the Emelle Hazardous Waste Landfill for hazardous waste permit compliance.

Monitoring Network Installation and Groundwater Sampling, Southern Company Services, Plant Wansley, Roopville, Heard County, GA. 2015. *Geologist.* Performed drilling oversight, geological logging, installation of groundwater monitoring wells, and background groundwater and surface water monitoring events at a coal-fired power plant for regulatory compliance with the Environmental Protection Agency Final Rule: *Disposal of Combustion Residuals from Electric Utilities.*

Hydrogeologic Site Conceptual Model and Groundwater Monitoring Network Development, Southern Company Services, Monroe County, GA. 2015. *Geologist.* Assisted with development of hydrogeologic site conceptual models and groundwater monitoring networks for coal-fired power plants for regulatory compliance with the Environmental Protection Agency Final Rule: *Disposal of Combustion Residuals from Electric Utilities.* Tasks included geologic and structure mapping in geologically complex regions of the southeastern United States, and the design of the groundwater monitoring network using field data, previously completed geochemical studies, and publicly available information.

- **Plant Scherer, Juliette, Monroe County, GA.**
- **Plant Hammond, Rome, Floyd County, GA.**
- **Plant Wansley, Roopville, Heard County, AL.**

Corrective Action Activities for a Voluntary Cleanup Site, Hall County, GA. 2010 – 2015. *Hydrogeologist.* Semi-annual compliance field work, data analysis, and reporting for corrective action activities for former paper mill with impacted soil and groundwater. The contaminants of concern are perchloroethene and degradation compounds (trichloroethene, ethene, 1,2-dichloroethene, and vinyl chloride). Other tasks included assessment of potential of soil vapor intrusion, and underground injection of EHC-L© to enhance the biodegradation of chlorinated ethene solvents. Successfully negotiated a reduction of the groundwater monitoring system.

Corrective Action Plan (Phase II) Development for a Closed Manufacturing Facility, Confidential Client, Floyd County, GA. 2014. *Geologist.* Completion of the second phase of the Corrective Action Plan (CAP) for a closed manufacturing facility under the Georgia Rules and Regulations, Subject 391-3-19 Hazardous Site Response. Metals concentrations in soil and groundwater, and low-level dissolved chlorinated ethenes were detected in groundwater at the facility, and the first phase of the CAP was evaluated based on additional data collected for the site. The CAP compared the soil and groundwater concentrations to site-specific calculated Risk Reduction Standards (RRS), data presented in Phase I of the CAP, and naturally occurring conditions based on a literature review. A groundwater model was designed using the United States Environmental Protection Agency software BIOCHLOR. The model was used to predict the natural attenuation of the chlorinated ethenes at the Site.

Phase I ESAs, Hertz Car Rental Facilities, Nashville, TN. 2013. *Geologist.* Performed a Phase I ESA at two rental car facilities at the airport in Nashville, TN. The ESAs were completed as part of the due diligence process to assess environmental liability for the sale of the commercial properties. Findings of one Phase I ESA indicated a potential REC of a leaking underground storage tank. A Phase II ESA was conducted at the site to confirm the presence or absence of petroleum products in the subsurface.

Phase I ESAs, Americold, Cold Storage Facilities, Gainesville and Pendergrass, GA. 2013. *Geologist.* Performed a Phase I ESA at two cold storage facilities in Gainesville and Pendergrass, GA. The ESAs were completed as part of the due diligence process to assess environmental liability during for the sale of the commercial properties.

Phase I ESA of an 800-acre Property, Twiggs County, GA. 2012. *Geologist.* Conducted a Phase I ESA at an 800-acre tract of forested land following to assess environmental liability for a property transaction. The ESA was performed using ASTM Standards E 1527-05, and E 2247-08, entitled *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process for Forestland or Rural Property.*

Phase I ESA at an Unnamed Commercial Property, Johns Creek, GA. 2011. *Geologist.* Performed a Phase I ESA for a partially developed commercial property with underground utilities. The ESA was completed as part of the due diligence process to assess environmental liability for the sale of the commercial property.