

## 2.0 INITIAL FIELD ACTIVITIES

## 2.1 Task 1, Groundwater

Prior to performing the baseline groundwater study, a well inventory review and a site reconnaissance were conducted to identify wells to include in the groundwater monitoring program. Furthermore, URS met with owners of private wells to seek property access and permission to include their wells within the monitoring network.

## 2.1.1 Well Inventory

Initially, an inventory of wells was created using the Texas Water Development Board (TWDB) database of registered public water supply and private wells. URS identified wells that were located within 1,000 ft of TXI's planned mining area and screened within the Colorado River Alluvial Aquifer. Wells were selected for the monitoring program based on their location upgradient, cross gradient, and downgradient of the proposed mining site, with an approximately even distribution throughout the area. For wells with available well logs and well construction details, the information was reviewed to determine if the hydraulic zone screened in each well is hydraulically equivalent to the Colorado River Alluvial Aquifer and the presumed sands and gravels targeted for mining by TXI.

URS performed phone interviews with property owners to confirm well presence and to schedule a site visit to the well.

## 2.1.2 Site Reconnaissance

On July 26, 2011, August 10, 2011 and October 12, 2011 URS performed well reconnaissance visits to determine individual well locations, well access points, well construction details, and in some cases, the depth to groundwater. URS visited with private property owners to request permission to include their wells in the groundwater monitoring program. An access agreement between URS and TXI was necessary to access two wells located on TXI property (the Glass Well and Well 5852213).

Two of the selected wells, ATF Well 1 and NTN Well 2, are located on the neighboring Austin Tree Farm and Native Texas Nursery located on the south side of Milo Road. The location of phreatophyte trees (primarily a large pecan orchard located south of Austin Tree Farm and Native Tree Nursery) was noted during the site visits.

The final list of wells identified and used in the groundwater monitoring program is included in Table 2-1 and shown on Figure 2-1.

# 2.2 Task 2, Air Quality

URS performed site visits on July 26, 2011, August 10, 2011 and October 12, 2011 to identify two locations for the baseline air sampling. The initial site visit was used to identify potential air sampling located between TXI's planned mining area and nearby receptors and locations with sufficient distance from trees, buildings, and other structures that could obstruct wind flow. During the second and third site visits, URS met with private property owners and requested permission for property access for air sampling and to place the air sampling equipment on their property.

Based on the field reconnaissance and with permission from the property owners, two sites for the baseline air sampling were selected. One site was in a field west of Dunlap Road approximately 2,000 ft northeast of the intersection of Dunlap Road and Hunters Bend Road. The other site was at the Austin Tree Farm and located south of Milo Road. The two sampling sites are oriented along a line extending from the Austin Tree Farm diagonally across the TXI property toward the north-northwest, in approximate alignment with the annual predominant wind direction for the area (which is southerly to south-southeasterly). Both sites have a sufficient distant from trees, buildings, and other structures that would obstruct wind flow to the sampler. The air sample locations are shown on Figure 2-2.

#### 2.3 **Task 3, Noise Assessment**

The initial step performed for the noise assessment was site reconnaissance, conducted on August 5, 2011, to identify noise sensitive land uses and terrain features located within the project area and close to the planned mining sites. Noise sensitive land uses that were identified primarily included existing residential neighborhoods located near the proposed mining sites as well as scattered rural residences. Significant residential developments located near the mining sites include the Austin's Colony, Chaparral Crossing, and Twin Creek Meadows neighborhoods, as well as scattered residences located within rural settings. No parks, day care facilities, schools, or churches were identified immediately adjacent to or near the proposed mining sites.

Terrain within the project area is generally flat to slightly rolling. The area contains a mix of established residential neighborhoods, open lands, agricultural land, and land used for existing sand and gravel mining.

Based on this information seven representative sites located within the Austin's Colony, Chaparral Crossing, and Twin Creek Meadows residential developments as well as in adjacent rural areas were selected for noise monitoring. A description of each noise measurement location (Figure 2-2) is provided below:

- Site M1 is located at the northwest corner of Dunlap Road and Chaparral Crossing Boulevard within the Chaparral Crossing subdivision. The site is representative of residences located closest to the proposed mining area. One long-term noise measurement also was performed at this location.
- Site M2 is located on the south end of Crownover Street within the Austin's Colony subdivision. The location is near the west side of the proposed TXI mining area boundary.
- Site M3 is located on the south end of Yabers Court and south of Hunters Bend Road. The location is near the northwest corner of the proposed TXI mining area boundary.
- Site M4 is located at the Native Texas Nursery at the east end of Milo Road. The location is near the southeast corner of the proposed TXI mining area boundary.

- Site M5 is located at the northeast corner of FM 969 and Decker Creek Drive near the entrance to the Twin Creek Meadows subdivision. The site is representative of residences located closest to FM 969 within Twin Creek Meadows.
- Site M6 is located at the northeast corner of FM 969 and Taylor Lane. The site is representative of residences located adjacent to the potential truck haul route along FM 969.
- Site M7 is located at the south end of Decker Creek Drive within the Twin Creek Meadows subdivision. The site is representative of residences located closest to north side of the proposed mining area.

Each noise monitoring location was selected because it was in close proximity to the future mining sites or to truck haul routes and representative of residential locations within the immediate study area.

Table 2-1. Groundwater Wells for Groundwater Monitoring Program

Well ID	Well Owner	Northing	Easting	TOC Elevation (ft msl)	Diameter (inches)	DTW (ft, TOC) <sup>1</sup>	TD (ft, TOC)	Active Pumping	Notes
58522	Douglas Edgar	10063222.73	3174211.78	414.637	4	38.60	56.36	Yes, occasional use for lawn care	Gauged depth to water and sampled
221049	Sarah King	10057588.37	3168216.16	420.800	5	NM	43.98	Yes	Gauged depth to water and sampled
5852213	TXI	10057126.47	3171089.11	406.308	5	29.26	36.38	No	Gauged depth to water and sampled, next to Elm Creek; Transducer location
5852314	Manville WSC	10060996.99	3179527.77	409.216	12	NM	60.00	Yes, 668 GPM, cycles daily	Gauged depth to water and sampled; Water supply well
ATF Well 1	ATF	10054790.33	3174300.03	403.020	16	29.20	50.58	Yes, 450 GPM, occasional use	Gauged depth to water and sampled
Buchheit	Barb Buchheit	10064273.43	3171701.20	416.314	4	NM	30.75	Yes, occasional use for lawn care	Gauged depth to water and sampled
Glass	TXI	$NM^2$	$NM^2$	NM <sup>2</sup>	30	46.00	46.99	No	Hand dug well, on west side of Hunters Mansion; Poor well production; Only gauged and sampled in October 2011
NTN Well 2	Native Texas Nursery	10056198.58	3172482.94	406.565	18	NM	40.77	Yes, 300 GPM, cycles daily	Gauged depth to water and sampled
Holweger	Dale Holweger	10056903.54	3169296.25	411.531	5	NM	39.75	Yes, occasional use for stock tanks	Gauged depth to water and sampled
Wisian Well 1	Mary Wisian	10062371.14	3169965.66	440.240	8	49.76	65.10	No	Gauged depth to water and sampled
Wisian Well 2	Mary Wisian	10062375.18	3169484.23	435.521	6	45.06	62.18	No	Gauged depth to water and sampled

### Note:

The well was replaced in the monitoring network with Wisian Well 2, and therefore, was not included in the professional survey.

ATF - Austin Tree Farm.

DTW - Depth to Water

ft - Feet.

GPM - Gallons per minute.

ID - Identification.

msl - Mean sea level.

NM - Not measured.

NTN - Native Texas Nursery.TD - Total depth (of well).

TOC - Top of casing.

TXI - Texas Industries Incorporated.

WSC - Water Supply Company.

<sup>&</sup>lt;sup>1</sup> Measured during well reconnaissance on 8/10/2011.

<sup>&</sup>lt;sup>2</sup> Due to poor well production, the Glass well was gauged and sampled only in October 2011.