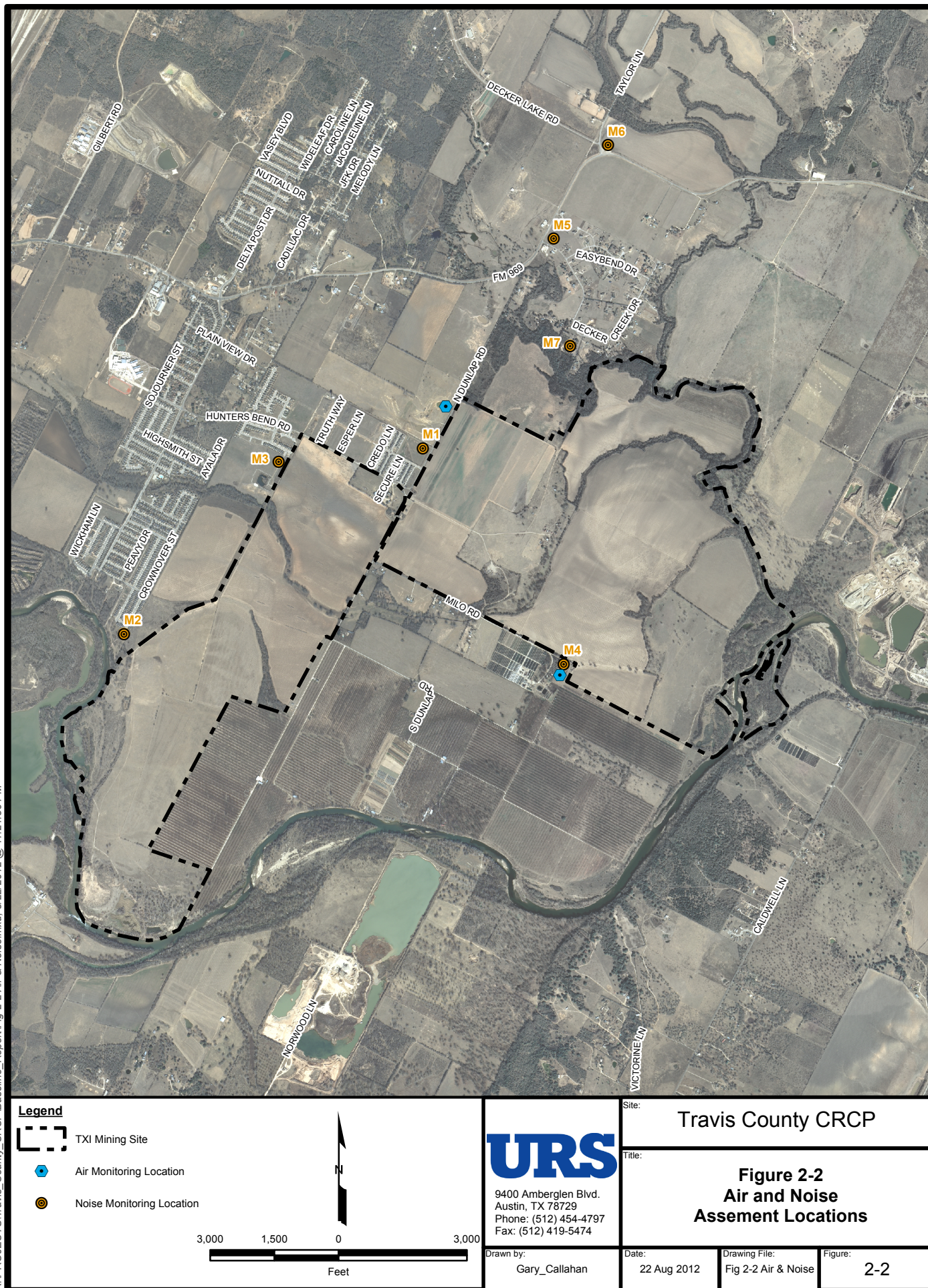


K:\PROJECTS\Travis County CRCP\Baseline\_Report\Fig 2-1 GW Locs.mxd, 8/22/2012 @ 11:21:08 PM



K:\PROJECTS\Travis\_County\_CRCP\Baseline\_Report\Fig 2-2 Air & Noise.mxd, 8/22/2012 @ 11:21:56 PM





## 3.0 ENVIRONMENTAL MONITORING FIELD ACTIVITIES

### 3.1 Task 1, Groundwater

Baseline groundwater gauging and sampling activities were performed during six monitoring events that took place on the following dates:

- October 18 to 19, 2011;
- November 29 to 30, 2011;
- January 4 to 5, 2012;
- February 15 to 16, 2012;
- March 26 to 27, 2012; and
- May 7 to 8, 2012.

Groundwater levels were measured and recorded, and groundwater samples were collected from the wells presented in Table 2-1 and shown on Figure 2-1. Ten wells were gauged and sampled during each event. The Glass well was included only in the October 2011 groundwater monitoring event. Due to low well production, the Glass well was replaced with Wisian Well 2 starting in November 2011.

#### 3.1.1 Groundwater Elevation

Groundwater levels were measured in accordance with the Texas Commission on Environmental Quality (TCEQ) Standard Operating Procedure (SOP) 7.1 (*Water Level/Sediment Measurement*) (See Appendix B of the *Sampling and Analysis Plan* [URS, October 2011]). All wells were measured within the same 48-hour period to ensure that a synoptic potentiometric surface was observed. The groundwater levels were recorded on monitoring well purge forms, which are included in Appendix A. In addition, hourly groundwater levels in Well 5852213 were monitored and recorded with an In-Situ Troll 500 submersible water level pressure transducer.

On November 30, 2011, Landesign Services, Inc, a licensed professional surveyor, surveyed the coordinates and top of casing elevations for the wells included in the monitoring network. The coordinates and top of casing elevation data are included in Table 2-1. The Glass well was not surveyed because the well was replaced in the monitoring network with Wisian Well 2.

The groundwater gauging data for the six groundwater monitoring events are presented in Table 3-1. Potentiometric surface maps of the baseline study area for the October 2011, November 2011, January 2012, February 2012, March 2012, and May 2012 events are included in Figures 3-1 through 3-6, respectively. The groundwater elevation data recorded with the pressure transducer in Well 5852213 is presented in a well hydrograph with corresponding precipitation data from the Lower Colorado River Authority (LCRA) hydromet rain gauge located at the Gilleland Creek Station #5417 (Figure 3-7). The Gilleland Creek Station is located approximately 4 miles north of the study area near the intersection of FM 973 and SH 130.

#### 3.1.2 Groundwater Sampling

Prior to groundwater sample collection, the groundwater was purged in accordance with the appropriate TCEQ SOPs, as included in Appendix B of the *Sampling and Analysis Plan* (URS, October 2011). Three wells (Well 5852213, Wisian Well 1, and Wisian Well 2) were purged

using a submersible pump with dedicated tubing and the low-flow technique in accordance with TCEQ SOPs 7.3 (*Purging a Monitoring Well with a Pump*) and 7.4 (*Micro Purging a Monitoring Well*). Seven wells were sampled using dedicated pumps and were purged in accordance with TCEQ SOP 7.9 (*Purging a Drinking Water Well*). Due to low well production, the Glass well was sampled with a disposable bailer during the October 2011 sampling event because an insufficient volume of water was in the well for use of the submersible pump. Wisian Well 2 was sampled as a replacement of the Glass well for subsequent sampling events.

Groundwater field parameters were collected in accordance with TCEQ SOP 7.5 (*Measurements of Field Parameters*). The field parameters were measured using the YSI 556 water quality meter with flow-through cell, Mettler Toledo pH meter, and LaMotte turbidity meter. The meters were calibrated according to manufacturer's instructions prior to each monitoring event. Field notes and monitoring well purge forms with recorded field parameters (temperature, specific conductivity, pH, turbidity, dissolved oxygen, and oxidation reduction potential) are included Appendix A.

After the wells were purged and field parameters stabilized, groundwater samples were collected in accordance with TCEQ SOP 7.7 (*Groundwater Sampling Using a Pump*), 7.8 (*Groundwater Sampling Using a Low-Flow Techniques*), or 7.10 (*Sampling a Drinking Water Well*). Due to the low well production at the Glass well, a grab groundwater sample was collected from the well in October 2011 using a disposable weighted bailer. All groundwater samples were handled in accordance with TCEQ SOP 6.4 (*Sample Handling and Control*).

Groundwater samples, including quality control samples such as duplicate, equipment blank, and matrix spike (MS)/matrix spike duplicate (MSD) samples were submitted to the LCRA laboratory and analyzed for ammonia by U.S. Environmental Protection Agency (EPA) Method 350.1, anions (chloride, fluoride, nitrate, and sulfate) by EPA Method 300.0, bicarbonate (as  $\text{HCO}_3$ ) and carbonate (as  $\text{CO}_3$ ) by Standard Method (SM) 2320B, cations (calcium, magnesium, potassium, and sodium) by EPA Method 200.7, and total suspended solids (TSS) by SM 2540D. The analytical results from the six monitoring events are presented in Table 3-2 and major-ion chemistry composition is depicted in Trilinear and Stiff diagrams presented in Figures 3-8 and 3-9. Laboratory analytical reports of the groundwater data are included in Appendix B.

All gauging and sample equipment, including the water level indicator and submersible pump (where applicable), were decontaminated between use at each well. The decontamination process consisted of two steps: 1) soapy water wash and 2) distilled water rinse.

### **3.2 Task 2, Air Monitoring**

As requested by Travis County, baseline levels of  $\text{PM}_{2.5}$  and  $\text{PM}_{10}$  were measured during four multi-day periods:

- October 20 to November 4, 2011;
- January 5 to 20, 2012;
- March 15 to 30, 2012; and
- May 3 to 18, 2012.



Air sampling for PM<sub>2.5</sub> and PM<sub>10</sub> was conducted using MiniVol portable air samplers, manufactured by Airmetrics, Inc. The sampling technique used by the MiniVol is a modification of the PM<sub>10</sub> reference method described in the U.S. Code of Federal Regulations (CFR) (40 CFR Part 50, Appendix J). A PM<sub>10</sub> reference sampler must have: 1) an air inlet to provide particle size discrimination, 2) a flow control device capable of maintaining a flow rate within specified limits, 3) means to measure the flow rate during the sampling period, and 4) a timing control device capable of starting and stopping the sampler. The Airmetrics MiniVol Portable Air Sampler has all these features; however, the MiniVol's flow rate (five liters per minute) is generally less than the flow rates used by reference method devices. The lower flow rate results in a greater deviation in accuracy at low concentrations of particulate matter where precision can be lost through the handling and weighing. At high particulate matter levels, the sampler produces results that are precise and comparable to reference method samplers according to the product literature. The PM<sub>2.5</sub> and PM<sub>10</sub> samples were captured on pre-weighed 47-millimeter diameter filters and stored at constant controlled relative humidity. Inter-Mountain Labs (IML) Air Science provided and weighed the filters.

The air samplers were hung about five feet above ground level at sites oriented upwind (south) and downwind (north) of the proposed mining area based on the year-round predominant wind direction at Austin-Bergstrom International Airport (See Figure 2-2). The sampler timers and pumps ran on solar charged batteries. Sets of six 24-hour PM<sub>2.5</sub> and PM<sub>10</sub> samples were scheduled at each site during each multi-day sampling event, nominally one sample every three days; however, due to a faulty air pump, four PM<sub>2.5</sub> samples were not collected during event 2, six PM<sub>10</sub> samples were not collected during event 3, and six PM<sub>2.5</sub> samples were not collected during event 4.

Quality control (QC) checks were conducted each time filters were installed or replaced and include checks for system leaks, checks of instrument flow rates, and checks of the samplers' real-time clocks and elapsed time indicators.

The air quality samples were submitted to IML for analysis of suspended particulate matter in the PM<sub>2.5</sub> and PM<sub>10</sub> size fractions. PM<sub>2.5</sub> and PM<sub>10</sub> size fractions were determined by dividing the mass of particulate matter captured on a given filter by the total volume of air sampled through the given filter. The PM<sub>2.5</sub> and PM<sub>10</sub> size fractions are reported in units of micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ), and the results for each sample are presented in Table 3-3. Laboratory reports of the PM<sub>2.5</sub> and PM<sub>10</sub> size fractions are included in Appendix B.

### **3.3 Task 3, Noise Monitoring**

To determine the existing noise environment, two rounds of short-term and long-term noise measurements were performed at representative sites located within the project study area (Figure 2-2).

The first round of noise measurements occurred from October 26-November 3, 2011. The second round of noise measurements occurred approximately five months later from March 20-30, 2012. All noise measurements were conducted during daytime hours from Monday through Friday. The purpose of the noise measurements was to determine existing or ambient daytime noise levels within the project area, including near existing sensitive receptor locations. Representative noise receptor sites were selected based on existing residential areas located near



the future mining activity areas and along potential heavy equipment haul routes. The noise receptor locations are described in more detail in Section 2.3.

A series of short-term (i.e., approximately 15-minute) existing noise measurements were conducted for each round of noise measurements. In addition, one continuous long-term (i.e., 4-hour) monitoring session was conducted on March 20, 2012 during the second round of noise monitoring. The intent of the long-term noise monitoring session was to measure existing longer-term noise levels that are less susceptible to short-term events such as airplane overflights and to serve as a comparison tool with short-term noise measurements conducted at the same location. The long-term noise monitoring session was performed near the Chaparral Crossing residential subdivision (site M1 on Figure 2-2) that is centrally located near the future TXI mining activity areas.

All noise measurements were performed according to applicable noise measurement standards and guidelines. In addition, all measurements were documented on field data sheets that are available in Appendix C of this report.

A Quest SoundPro DL-1 Type 1 precision sound level meter was used in the noise study. The sound level meter was mounted on a tripod, approximately five ft above ground surface and equipped with a windscreen during all measurements. The sound level meter was programmed using a “slow” response time mode to account for longer duration noise events and was calibrated using a Cirrus CR: 514 precision acoustic calibrator before and after each measurement session. Weather conditions during each monitoring period varied but generally consisted of clear to partly cloudy skies, no precipitation, and southerly winds at 5 to 10 miles per hour; however, other wind directions occurred during the monitoring period.



**Table 3-1. Groundwater Elevation Data**

<b>Well Owner</b>	<b>Well ID</b>	<b>TOC Elevation (ft msl)</b>	<b>Date</b>	<b>Depth to Water (ft TOC)</b>	<b>Groundwater Elevation (ft msl)</b>	<b>Ft of Water in Well</b>
Douglas Edgar	58522	414.64	10/19/2011	38.92	375.72	17.44
			11/29/2011	39.40	375.24	16.96
			1/5/2012	39.34	375.30	17.02
			2/15/2012	38.70	375.94	17.66
			3/27/2012	38.54	376.10	17.82
			5/7/2012	38.75	375.29	17.61
Sarah King	221049	420.80	10/19/2011	32.63	388.17	11.35
			11/30/2011	32.94	387.86	11.04
			1/5/2012	32.79	388.01	11.19
			2/15/2012	31.67	389.13	12.31
			3/27/2012	31.29	389.51	12.69
			5/8/2012	31.21	389.59	12.77
TXI	5852213	406.31	10/18/2011	29.84	376.47	6.54
			11/29/2011	29.66	376.65	6.72
			1/4/2012	29.30	377.01	7.08
			2/15/2012	28.62	377.69	7.76
			3/26/2012	28.40	377.91	7.98
			5/7/2012	27.96	378.35	8.42
Mansville Water Supply Company	5852314	409.22	10/18/2011	41.10	368.12	18.90
			11/30/2011	40.80	368.42	19.20
			1/5/2012	41.63	367.59	18.37
			2/16/2012	37.26	371.96	22.74
			3/26/2012	36.30	372.92	23.70
			5/7/2012	36.25	372.97	23.75
Austin Tree Farm	ATF Well 1	403.02	10/19/2011	28.92	374.10	21.66
			11/29/2011	28.48	374.54	22.10
			1/5/2012	28.16	374.86	22.42
			2/15/2012	26.81	376.21	23.77
			3/27/2012	26.33	376.69	24.25
			5/8/2012	27.17	375.85	23.41
Barb Buchheit	Buchheit	416.31	10/19/2011	26.15	390.16	4.60
			11/30/2011	26.21	390.10	4.54
			1/5/2012	26.52	389.79	4.23
			2/16/2012	25.96	390.35	4.79
			3/26/2012	25.33	390.98	5.42
			5/7/2012	25.33	390.98	5.42
TXI	Glass	N/A	10/18/2011	47.01	N/A	0.39
			11/29/2011	47.28	N/A	0.12
			2/15/2012	47.00	N/A	0.40
Dale Holweger	Holweger	411.53	10/19/2011	32.82	378.71	6.93
			11/30/2011	32.60	378.93	7.15
			1/5/2012	32.26	379.27	7.49
			2/16/2012	31.60	379.93	8.15
			3/27/2012	31.25	380.28	8.50
			5/8/2012	31.38	380.15	8.37



**Table 3-1. Groundwater Elevation Data (Continued)**

Well Owner	Well ID	TOC Elevation (ft msl)	Date	Depth to Water (ft TOC)	Groundwater Elevation (ft msl)	Ft of Water in Well
Native Tree Nursery	NTN Well 2	406.57	10/19/2011	33.82	372.75	6.95
			11/30/2011	31.80	374.77	8.97
			1/5/2012	31.38	375.19	9.39
			2/16/2012	31.58	374.99	9.19
			3/27/2012	30.42	376.15	10.35
			5/8/2012	30.33	376.24	10.44
Mary Wisian	Wisian Well 1	440.24	10/18/2011	50.39	389.85	14.83
			11/29/2011	50.56	389.68	14.54
			1/4/2012	50.64	389.60	14.46
			2/15/2012	50.06	390.18	15.04
			3/26/2012	49.33	390.91	15.77
			5/7/2012	49.54	390.70	15.56
Mary Wisian	Wisian Well 2	435.52	11/29/2011	45.50	390.02	16.68
			1/4/2012	45.54	389.98	16.64
			2/15/2012	45.20	390.32	16.98
			3/26/2012	44.90	390.62	17.28
			5/7/2012	44.83	390.69	17.35

ft - Feet.

ID - Identification.

msl - Mean sea level.

N/A - Not available.

NTN - Native Texas Nursery.

TOC - Top of casing.

TXI - Texas Industries Incorporated.

Table 3-2. Groundwater Analytical Data

Well ID	Sample ID	Well Owner	Sampling Event	Date	Calcium (mg/L)	Magnesium (mg/L)	Potassium (mg/L)	Sodium (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (mg/L)	Sulfate (mg/L)	Bicarbonate (mg/L)	Carbonate (mg/L)	Ammonia (mg/L)	TSS (mg/L)	TDS (mg/L) <sup>1</sup>	Note
ATF 1	CRCP-ATF1-010	ATF	1	10/19/2011	194	46.2	3.48	43.2	71.3	0.245	6.87	148	478	< 2	< 0.020	< 1.0	986	
ATF 1	CRCP-ATF1-020	ATF	2	11/29/2011	203	45.0	3.57	46.3	79.4	0.230	6.46	170	490	< 2	< 0.020	< 1.0	1039	
ATF 1	CRCP-ATF1-030	ATF	3	1/5/2012	220	47.3	4.01	53.2	81.3	0.200	6.76	171	544	< 2	< 0.020	< 1.1	1123	
ATF 1	CRCP-ATF1-040	ATF	4	2/15/2012	210	46.0	4.42	54.1	83.0	0.224	6.68	184	515	< 2	< 0.020	< 1.1	1099	
ATF 1	CRCP-ATF1-050	ATF	5	3/27/2012	222	46.8	4.49	57.4	83.6	0.140	4.86	175	496	< 2	< 0.020	1.7	1087	
ATF 1	CRCP-ATF1-060	ATF	6	5/8/2012	201	41.2	3.58	50.2	65.2	0.360	8.91	143	461	< 2	0.073	2.3	967	
5852314	CRCP-5852314-010	MWS	1	10/18/2011	137	39.9	2.22	81.2	61.0	0.235	10.8	188	364	< 2	< 0.020	< 1.1	875	
5852314	CRCP-5852314-020	MWS	2	11/30/2011	140	40.7	2.16	86.1	60.9	0.241	11.2	190	356	< 2	< 0.020	< 1.1	878	
5852314	CRCP-5852314-030	MWS	3	1/4/2012	138	36.8	2.21	88.4	52.2	0.300	11.1	187	364	< 2	< 0.020	1.7	871	
5852314	CRCP-5852314-040	MWS	4	2/16/2012	134	38.9	2.12	94.5	63.8	0.259	11.0	207	349	< 2	< 0.020	2.1	891	
5852314	CRCP-5852314-050	MWS	5	3/26/2012	139	40.7	1.98	85.8	53.3	0.170	10.7	192	368	< 2	< 0.020	2.3	883	
5852314	CRCP-5852314-060	MWS	6	5/7/2012	154	42.5	2.53	79.4	61.3	0.245	10.3E	192	353	< 2	< 0.020	1.2	887	
NTNW2	CRCP-NTNW2-010	NTN	1	10/19/2011	175	56.5	2.24	41.7	39.6	0.246	24.3	266	382	< 2	< 0.020	< 1.1	965	
NTNW2	CRCP-NTNW2-011	NTN	1	10/19/2011	178	57.6	2.24	41.9	34.3	0.298	24.6	271	375	< 2	< 0.020	< 1.1	960	Field Duplicate
NTNW2	CRCP-NTNW2-020	NTN	2	11/30/2011	192	62.2	2.31	46.2	41.3	0.264	17.9 E	302	340	< 2	< 0.020	< 1.0	988	
NTNW2	CRCP-NTNW2-020	NTN	2	11/30/2011	NA	NA	NA	NA	NA	NA	27.0 H	NA	NA	NA	NA	NA	NC	Re-ran Nitrate Sample
NTNW2	CRCP-NTNW2-021	NTN	2	11/30/2011	193	63.3	2.28	46.5	41.4	0.270	17.9 E	299	341	< 2	< 0.020	< 1.0	987	Field Duplicate
NTNW2	CRCP-NTNW2-021	NTN	2	11/30/2011	NA	NA	NA	NA	NA	NA	26.7 H	NA	NA	NA	NA	NA	NC	Re-ran Nitrate Sample
NTNW2	CRCP-NTNW2-030	NTN	3	1/5/2012	202	61.4	2.32	47.3	37.4	0.290	28.2	322	367	< 2	< 0.020	< 1.0	1041	
NTNW2	CRCP-NTNW2-031	NTN	3	1/5/2012	204	62.5	2.35	46.7	37.9	0.280	27.9	326	358	< 2	< 0.020	< 1.0	1038	Field Duplicate
NTNW2	CRCP-NTNW2-040	NTN	4	2/16/2012	202	63.8	2.42	52.6	44.9	0.348	34.7	364	337	< 2	0.027	< 1.0	1069	
NTNW2	CRCP-NTNW2-041	NTN	4	2/16/2012	196	63.5	2.43	55.4	44.9	0.346	30.4	365	342	< 2	< 0.020	< 1.0	1069	Field Duplicate
NTNW2	CRCP-NTNW2-050	NTN	5	3/27/2012	216	68.4	2.33	48.4	35.6	0.200	29.4	389	336	< 2	< 0.020	< 1.1	1098	
NTNW2	CRCP-NTNW2-051	NTN	5	3/27/2012	221	69.4	2.43	48.8	35.2	0.190	29.4	385	356	< 2	< 0.020	< 1.0	1118	Field Duplicate
NTNW2	CRCP-NTNW2-060	NTN	6	5/8/2012	233	76.7	2.51	44.2	37.5	0.420	31.1	406	347	< 2	0.020	< 1.0	1149	
NTNW2	CRCP-NTNW2-061	NTN	6	5/8/2012	242	81.0	2.53	44.2	37.7	0.430	30.5	395	343	< 2	< 0.020	< 1.0	1145	Field Duplicate
Holweger	CRCP-Holweger-013	Holweger	1	10/19/2011	117	19.7	2.03	41.3	32.2	0.301	21.6	31.4	310	< 2	< 0.020	< 1.1	556	MS/MSD
Holweger	CRCP-Holweger-023	Holweger	2	11/30/2011	114	18.3	1.88	45.2	32.6	0.286	20.7	34.1	300	< 2	< 0.020	< 1.1	548	MS/MSD
Holweger	CRCP-Holweger-033	Holweger	3	1/5/2012	112	16.8	2.00	40.2	20.6	0.296	17.8	27.0	311	< 2	< 0.020	< 1.1	532	MS/MSD
Holweger	CRCP-Holweger-043	Holweger	4	2/16/2012	105	15.5	1.99	44.0	17.7	0.296	16.5	26.1	289	< 2	< 0.020	< 1.0	501	MS/MSD
Holweger	CRCP-Holweger-053	Holweger	5	3/27/2012	105	15.3	1.98	37.5	11.8	0.430	15.2	23.8	314	< 2	< 0.020	< 1.0	511	MS/MSD
Holweger	CRCP-Holweger-063	Holweger	6	5/8/2012	113	16.5	1.94	31.9	11.9	0.390	16.1	21.1	287	< 2	< 0.020	< 1.0	485	MS/MSD
5852213	CRCP-5852213-010	TXI	1	10/18/2011	130	24.8	4.68	31.9	27.8	0.293	0.07	7.11	460	< 2	6.35	60	688	
5852213	CRCP-5852213-020	TXI	2	11/29/2011	133	21.2	4.70	28.9	19.8	0.360	<0.050	9.84	420	< 2	3.57	18.2	639	
5852213	CRCP-5852213-030	TXI	3	1/4/2012	128	20.2	4.35	30.0	16.5	0.39	<0.050	28.4	404	< 2	1.90	25.4	633	
5852213	CRCP-5852213-040	TXI	4	2/15/2012	129	20.1	6.01	25.5	15.6	0.239	<0.010	34.1	527	< 2	1.52	73.7	759	
5852213	CRCP-5852213-050	TXI	5	3/26/2012	150	23.2	4.41	25.5	15.2	0.230	<0.100	37.4	425	< 2	0.909	5.9	683	
5852213	CRCP-5852213-060	TXI	6	5/7/2012	150	23.6	4.62	22.6	18.5	0.332	0.025	14.6	455	< 2	1.22	7.0	691	
221049	CRCP-221049-010	King	1	10/19/2011	99.0	12.3	1.83	29.0	13.3	0.267	13.6	17.9	286	< 2	< 0.020	4.8	461	
221049	CRCP-221049-020	King	2	11/30/2011	106	13.1	2.01	29.4	13.7	0.266	11.3 E	17.8	285	< 2	< 0.020	11.2	469	
221049	CRCP-221049-020	King	2	11/30/2011	NA	NA	NA	NA	NA	NA	14.2 H	NA	NA	NA	NA	NA	NC	Re-ran Nitrate Sample
221049	CRCP-221049-030	King	3	1/5/2012	104	11.9	1.90	30.3	11.1	0.265	13.1	16.4	320	< 2	< 0.020	17.9	498	
221049	CRCP-221049-040	King	4	2/15/2012	92.7	10.9	1.80	30.0	14.2	0.264	13.6	18.5	290	< 2	< 0.020	7.1	460	
221049	CRCP-221049-050	King	5	3/27/2012	102	11.5	1.88	30.5	10.2	0.180	12.9	14.9	268	< 2	< 0.020	3.8	441	
221049	CRCP-221049-060	King	6	5/8/2012	106	12.2	1.83	25.8	10.2	0.430	13.3	15.2	267	< 2	< 0.020	2.9	440	
Glass	CRCP-Glass-010	TXI	1	10/18/2011	3040	73.2	22.1	58.3	18.6	0.232	10.5	32.5	882	< 2	3.54	3120	4127	
58522	CRCP-58522-010	Edgar	1	10/19/2011	117	37.5	2.02	69.5	89.5	0.262	4.27	77.3	382	< 2	< 0.020	3.4	775	
58522	CRCP-58522-020	Edgar	2	11/29/2011	122	36.2	2.00	73.9	87.8	0.320	3.88	81.0	374	< 2	< 0.020	< 1.0	779	
58522	CRCP-58522-030	Edgar	3	1/5/2012	124	36.9	2.23	71.1	88.2	0.277	3.73	81.3	378	< 2	< 0.020	< 1.0	784	
58522	CRCP-58522-040	Edgar	4	2/15/2012	111	32.1	1.98	73.8	99.6	0.253	3.36	81.2	259	< 2	< 0.020	1.9	661	
58522	CRCP-58522-050	Edgar	5	3/27/2012	120	33.1	2.14	75.2	92.1	0.200	2.42	76.1	335	< 2	< 0.020	3.8	736	
58522	CRCP-58522-060	Edgar	6	5/7/2012	121	32.9	1.84	70.7	93.5	0.268	2.71	76.7	345	< 2	< 0.020	1.1	744	



Table 3-2. Groundwater Analytical Data (Continued)

Well ID	Sample ID	Well Owner	Sampling Event	Date	Calcium (mg/L)	Magnesium (mg/L)	Potassium (mg/L)	Sodium (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (mg/L)	Sulfate (mg/L)	Bicarbonate (mg/L)	Carbonate (mg/L)	Ammonia (mg/L)	TSS (mg/L)	TDS (mg/L) <sup>1</sup>	Note
Wisian W1	CRCP-Wisian W1-010	Wisian	1	10/18/2011	87.0	11.0	2.64	56.8	18.5	0.238	8.62	27.2	308	< 2	< 0.020	2.3	513	
Wisian W1	CRCP-Wisian W1-015	Wisian	1	10/18/2011	< 0.200	< 0.200	< 0.200	< 0.600	< 1.00	< 0.010	< 0.010	< 1.00	2	< 2	< 0.020	NA	NC	Equipment Blank Sample
Wisian W1	CRCP-Wisian W1-020	Wisian	2	11/29/2011	91.4	10.8	2.65	62.8	14.5	0.300	8.80	24.2	305	< 2	< 0.020	< 1.0	511	
Wisian W1	CRCP-Wisian W1-025	Wisian	2	11/29/2011	3.72	< 0.200	< 0.200	< 0.600	< 5.00	< 0.050	0.225	< 5.00	2	< 2	< 0.020	2.9	NC	Equipment Blank Sample
Wisian W1	CRCP-Wisian W1-030	Wisian	3	1/4/2012	86.6	10.1	2.61	66.1	13.8	0.330	8.78	24.8	356	< 2	< 0.020	1.5	562	
Wisian W1	CRCP-Wisian W1-035	Wisian	3	1/4/2012	0.696	< 0.200	< 0.200	< 0.600	< 0.500	< 0.050	<0.050	< 5.00	<20	<20	< 0.020	NA	NC	Equipment Blank Sample
Wisian W1	CRCP-Wisian W1-040	Wisian	4	2/15/2012	90.2	10.8	2.89	63.1	19.2	0.240	8.87	27.5	327	< 2	< 0.020	2.4	543	
Wisian W1	CRCP-Wisian W1-045	Wisian	4	2/15/2012	0.346	< 0.200	< 0.200	< 0.600	< 1.00	0.059	0.025	< 1.00	3	< 2	< 0.020	NA	NC	Equipment Blank Sample
Wisian W1	CRCP-Wisian W1-050	Wisian	5	3/26/2012	89.5	10.1	3.04	54.0	12.7	0.410	8.03	21.2	300	< 2	< 0.020	< 1.0	493	
Wisian W1	CRCP-Wisian W1-055	Wisian	5	3/26/2012	0.241	<0.200	<0.200	<0.600	< 10.0	<0.100	<0.100	< 10.0	<20	<20	< 0.020	NA	NC	Equipment Blank Sample
Wisian W1	CRCP-Wisian W1-060	Wisian	6	5/7/2012	92.2	10.8	2.79	53.9	17.3	0.236	8.38 E	27.5	310	< 2	< 0.020	< 1.0	517	
Wisian W1	CRCP-Wisian W1-060	Wisian	6	5/7/2012	NA	NA	NA	NA	NA	NA	8.88 H	NA	NA	NA	NA	NA	NC	Re-ran Nitrate Sample
Wisian W1	CRCP-Wisian W1-065	Wisian	6	5/7/2012	0.665	< 0.200	0.545	< 0.600	< 1.00	< 0.010	0.080	< 1.00	3	< 2	< 0.020	NA	NC	Equipment Blank Sample
Wisian W2	CRCP-Wisian W2-020	Wisian	2	11/29/2011	95.7	12.0	2.51	106	12.2	0.140	9.93	30.0	391	< 2	< 0.020	1.6	651	
Wisian W2	CRCP-Wisian W2-030	Wisian	3	1/4/2012	88.3	10.7	2.41	109	11.6	<0.050	9.07	31.2	455	< 2	< 0.020	< 1.1	710	
Wisian W2	CRCP-Wisian W2-040	Wisian	4	2/15/2012	83.9	10.2	2.46	115	14.2	0.142	12.5	36.2	400	< 2	< 0.020	1.8	664	
Wisian W2	CRCP-Wisian W2-050	Wisian	5	3/26/2012	90.7	10.8	2.47	118	10.6	0.110	11.3	27.9	418	< 2	< 0.020	< 1.0	681	
Wisian W2	CRCP-Wisian W2-060	Wisian	6	5/7/2012	99.4	12.2	2.72	102	15.3	0.120	10.3 E	33.3	403	< 2	< 0.020	< 1.0	670	
Wisian W2	CRCP-Wisian W2-060	Wisian	6	5/7/2012	NA	NA	NA	NA	NA	NA	12.3 H	NA	NA	NA	NA	NA	NC	Re-ran Nitrate Sample
Buchheit	CRCP-Buchert-010	Buchheit	1	10/19/2011	122	12.8	2.39	55.2	36.8	0.373	4.56	76.0	319	< 2	< 0.020	< 1.0	624	
Buchheit	CRCP-Buchert-020	Buchheit	2	11/30/2011	117	12.4	2.30	58.1	37.0	0.382	4.70	78.2	311	< 2	< 0.020	< 1.0	618	
Buchheit	CRCP-Buchert-030	Buchheit	3	1/5/2012	128	12.8	2.54	57.4	31.8	0.389	4.26	80.3	363	< 2	< 0.020	< 1.0	678	
Buchheit	CRCP-Buchert-040	Buchheit	4	2/16/2012	120	11.4	2.39	61.5	37.6	0.381	4.02	84.3	312	< 2	< 0.020	< 1.1	631	
Buchheit	CRCP-Buchert-050	Buchheit	5	3/26/2012	132	12.3	2.40	56.4	37.3	0.28	3.73	77.2	327	< 2	< 0.020	< 1.0	647	
Buchheit	CRCP-Buchert-060	Buchheit	6	5/7/2012	139	13.0	2.59	53.6	39.9	0.37	3.84	85.2	310	< 2	0.045	1.2	645	

< Result is below the practical quantitation limit and is considered estimated.

<sup>1</sup> TDS computed as sum of dissolved-ion concentration.

ATF - Austin Tree Farm.  
CRCP - Colorado River Corridor Plan.  
E - Value above quantitation range.  
H - Holding time exceeded.  
ID - Identification.  
mg/L - Milligrams per liter.  
MS/MD - Matrix spike/matric spike duplicate.  
MWS - Manville Water Supply Corporation  
NA - Not Analyzed.  
NC - Not Calculated.  
NTN - Native Texas Nursery.  
TDS - Total Dissolved Solids.  
TXI - Texas Industries Incorporated.