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REPORTS

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ANNUAL GROUNDWATER MONITORING and PLUME DELINEATION REPORT G. L. ERWIN "A&B" FEDERAL NCT-2 TANK BATTERY LEA COUNTY, NEW MEXICO

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ENVIRONMENTAL BUREAU
OIL CONSERVATION DIVISION

Prepared for:

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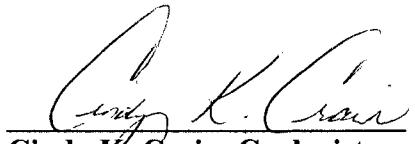

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Annual Groundwater Monitoring Report
G. L. Erwin "A&B" Federal NCT-2 Tank Battery
Lea County, New Mexico

1.0 INTRODUCTION

ChevronTexaco Exploration and Production (ChevronTexaco), as successor to Texaco Exploration and Production Inc. (Texaco) has retained Larson and Associates, Inc. (LA) to conduct chloride plume delineation, groundwater remediation and monitoring activities at the former location of the G. L. Erwin "A&B" Federal NCT-2 Tank Battery (Site). The Site is located approximately three (3) miles northeast of Jal, New Mexico, and is situated in the southwest quarter (NE/4) of the southeast quarter (SE/4), Section 35, Township 24 South, Range 37 East, Lea County, New Mexico. Figure 1 presents a Site location and topographic map.

2.0 BACKGROUND

Two monitoring wells (WMW and SWMW) were installed in 1997 by Environmental Spill Control, Inc., and five additional monitoring wells (MW-1 through MW-5) were installed by Highlander Environmental, Corp., in February 1998, in order to investigate soil and groundwater impacts at the Site. Details of the investigations were submitted to the New Mexico Oil Conservation Division (NMOCD) in a Subsurface Environmental Assessment Report dated March 1998.

In that report, Texaco proposed to implement a groundwater recovery program by installing a groundwater recovery well in the area of highest chloride impact, and sending the recovered fluid from this well to the G. L. Erwin Federal NCT-2 "A&B" Tank Battery. Groundwater monitoring, on a quarterly basis, was also proposed, with an annual report to be prepared and submitted yearly to the NMOCD.

The proposed activities were approved by the NMOCD in a letter dated June 19, 1998. In that letter, the NMOCD requested submittal of a work plan to delineate the downgradient extent of chloride impact. On November 18, 1998, a "Work Plan for Plume Delineation and Modification to

Proposed Groundwater Monitoring Schedule" was submitted to the NMOCD. In addition to the previously proposed Recovery Well, the work plan included installation of additional monitoring wells, in order to delineate the chloride plume at the Site. As requested by the NMOCD, the previously submitted groundwater-monitoring schedule was expanded to include the yearly sampling of all monitoring wells for benzene, toluene, ethylbenzene, and xylene (collectively referred to as BTEX). The proposed activities were approved by the NMOCD in a letter dated February 2, 1999, and included detailed directives for monitoring well installations and reporting requirements. A copy of the June 19, 1998, and February 2, 1999 letters are included in Appendix A.

3.0 CURRENT ACTIVITIES

3.1 Monitoring Wells and Recovery Well

On July 9 and 10, 1998, two monitoring wells (MW-6 and MW-7) and one recovery well (RW-1) were installed at the Site by Highlander Environmental (Highlander). Monitoring well MW-8 was installed by Highlander on January 14, 1999. From September 11 through 13, 2001, five additional monitoring wells (MW-9 through MW-13) were installed by Larson and Associates, Inc. (LA). Scarborough Drilling, Inc., located in Lamesa, Texas, drilled the nine wells from 70.7 to 80 feet below ground surface (bgs), using a truck mounted air rotary drilling rig. The monitoring wells were constructed with 2-inch diameter schedule 40 PVC casing and screen. The recovery well was constructed with 4-inch diameter schedule 40 PVC casing and screen. The well screen, approximately 15 feet in length, was placed in the borings with approximately 3 to 5 feet extending above the groundwater surface observed during drilling, and approximately 10 to 12 feet of the well screen was placed into groundwater. Monitoring well MW-8 was constructed with approximately 20 feet of screen. In each well, graded silica sand was placed in the annular space between the boring and screen to approximately two (2) feet above the screen. A layer of bentonite chips, approximately three (3) feet thick, was placed above the sand, and hydrated with potable water. The remainder of the annulus was filled with cement and bentonite grout to approximately 1-foot bgs. The monitoring

wells were secured with locking above-grade covers that were anchored in concrete pads measuring approximately 3' x 3' x 1'. The surface completion of the recovery well (RW-1) will be performed after approval by the New Mexico State Engineer (NMSE) to initiate remediation. Table 1 presents a summary of well drilling and installation details. Appendix B presents the well logs and well construction diagrams. Figure 2 presents the well locations.

3.2 Groundwater Monitoring

3.2.1 Groundwater Assessment

LA completed monitoring at the Site for the period of May 2002 through February 2003. Depth to groundwater measurements were collected from all monitoring wells (MW-1 through MW-13, WMW and SWMW), the recovery well (RW-1) and the water well (WW-1) at the western edge of the Site, on April 30, 2002, October 11, 2002, December 26, 2002 and February 17, 2003. Depth to groundwater ranged from 61.43 feet (MW-1) to 72.80 feet (MW-12) below top of casing (TOC) on the April 30 event, from 60.29 feet (MW-5) to 72.81 feet (MW-12) on October 11, from 60.29 feet (MW-5) to 72.82 feet (MW-12) on December 26, and from 60.30 feet (MW-5) to 72.82 feet (MW-12) on the February 17, 2003 event. Monitoring well MW-11 was consistently dry during each monitoring event. The groundwater gradient was approximately 0.013 feet per foot during each monitoring event. Groundwater flow at the Site has remained consistent, and radiates to the south, southeast and southwest from the tank battery. Well completion information is not available for WW-1 (installed solely for the purpose of providing water for the drilling rig); therefore, water levels from WW-1 may possibly provide skewed groundwater flow data. If so, the groundwater flow direction would not be affected, only the groundwater gradient at the western boundary of the Site. Table 2 provides a summary of depth to groundwater measurements. Figure 3 shows the groundwater gradient on October 11, 2002. Figure 4 shows the groundwater gradient on February 17, 2003.

Groundwater samples were collected on May 1, 2 and 3, 2002, from monitoring wells MW-1 through MW-9, MW-12, MW-13, W-MW, SW-MW, and water well WW-1. The groundwater samples were submitted under chain-of-custody control to TraceAnalysis, Inc., and analyzed for benzene, toluene, ethylbenzene, and xylene (collectively referred to as BTEX), anions and cations. Prior to sample collection, the wells were purged of a minimum of three (3) casing volumes of groundwater. The groundwater samples were collected using dedicated disposable PVC bailers. Table 3 presents a summary of the general chemistry analysis. Table 4 presents a summary of the BTEX analysis. Appendix C presents the laboratory report.

Referring to Table 3, chloride was above the WQCC standard of 250 milligrams per liter (mg/L) in groundwater from all sampled wells, except WW-1 (97.2 mg/L). Fluoride was above the WQCC standard of 1.6 mg/L in groundwater from the following wells:

- MW-2, 2.28 mg/L
- MW-3, 2.90 mg/L
- MW-6, 3.68 mg/L
- MW-7, 2.94 mg/L
- MW-8, 2.65 mg/L
- MW-9, 1.88 mg/L
- MW-13, 2.31 mg/L
- WW-1, 1.64 mg/L.

Referring to Table 4, benzene, toluene, ethylbenzene and xylene, were all below the test method detection limit for each well sampled.

On October 10, 11 and 14, 2002, groundwater samples were collected from all monitoring wells

(MW-1 through MW-13, WMW and SWMW), recovery well RW-1, and water well WW-1. A duplicate sample was also obtained from MW-4. Monitoring well MW-11 was dry. The groundwater samples were submitted under chain-of-custody control to Environmental Lab of Texas I, Ltd., and analyzed for anions, cations and total dissolved solids (TDS). Prior to sample collection, the wells were purged a minimum of three (3) casing volumes of groundwater. The groundwater samples were collected using dedicated disposable PVC bailers. Table 3 presents a summary of the general chemistry analysis. Appendix C presents the laboratory report.

Referring to Table 3, chloride concentrations exceeded the WQCC standard of 250 mg/L in all monitoring wells, except MW-1 (230 mg/L), and MW-10 (71 mg/L), and WW-1 (106.0 mg/L). The reported chloride concentration in RW-1 (1,150 mg/L) was also above the WQCC standard. The reported TDS concentrations exceeded the WQCC standard of 1,000 mg/L in all sampled wells, except MW-1, MW-10, WMW, and WW-1. Figure 5 presents an isopleth map of chloride concentrations during the October 2002 sampling event.

On December 27, 2002, groundwater samples were collected from all monitoring wells (MW-1 through MW-13, WMW and SWMW), recovery well RW-1, and water well WW-1. A duplicate sample was also obtained from WW-1. Monitoring well MW-11 was dry. The groundwater samples were submitted under chain-of-custody control to Environmental Lab of Texas I, Ltd., and analyzed for benzene, toluene, ethylbenzene, and xylene (collectively referred to as BTEX), anions, cations and TDS. Prior to sample collection, the wells were purged a minimum of three (3) casing volumes of groundwater. The groundwater samples were collected using dedicated disposable PVC bailers. Table 3 presents a summary of the general chemistry analysis. Table 4 presents a summary of the BTEX analysis. Appendix C presents the laboratory report.

Referring to Table 3, chloride was above the WQCC standard of 250 milligrams per liter (mg/L) in

groundwater from all sampled wells except MW-1, MW-10, and WW-1. TDS was above the WQCC standard (1,000 mg/L) in all sampled wells except MW-1, MW-10, WMW, and WW-1.

Referring to Table 4, benzene, toluene, ethylbenzene and xylene, were all below the test method detection limit for each well sampled.

On February 17 and 18, 2003, groundwater samples were collected from all monitoring wells (MW-1 through MW-13, WMW and SWMW), recovery well RW-1, and water well WW-1. A duplicate sample was also obtained from SWMW. Monitoring well MW-11 was dry. The groundwater samples were submitted under chain-of-custody control to Environmental Lab of Texas I, Ltd., and analyzed for anions, cations and total dissolved solids (TDS). Prior to sample collection, the wells were purged a minimum of three (3) casing volumes of groundwater. The groundwater samples were collected using dedicated disposable PVC bailers. Table 3 presents a summary of the general chemistry analysis. Appendix C presents the laboratory report.

Referring to Table 3, chloride was above the WQCC standard of 250 milligrams per liter (mg/L) in groundwater from all sampled wells except MW-1, MW-10, and WW-1. TDS was above the WQCC standard (1,000 mg/L) in all sampled wells except MW-1, MW-10, and WW-1. Figure 6 presents an isopleth map of chloride concentrations during the February 2002 sampling event.

3.2.2 Waste Management and Disposition

Purged groundwater from the sampling activities was disposed at an NMOCD permitted salt water disposal facility operated by Chapparel Services, Inc., located in Eunice, New Mexico. Approximately 91 gallons of purged groundwater was disposed following each sampling event, for a total of approximately 364 gallons.

3.3 Remediation System Installation and Start-up

Texaco submitted an application to the State of New Mexico, Office of the State Engineer (NMSE) for allocating water resources for remediation of the chlorides, subject to conditions. Upon approval of that application, ChevronTexaco will initiate chloride remediation in accordance with the conditions stipulated by the NMSE.

4.0 CONCLUSIONS

1. Depth to groundwater ranged from 61.43 feet (MW-1) to 72.80 feet (MW-12) below top of casing (TOC) on the April 30, 2002 monitoring event.
2. Depth to groundwater ranged from 60.29 feet (MW-5) to 72.81 feet (MW-12) below TOC on the October 11, 2002 monitoring event.
3. Depth to groundwater ranged from 60.29 feet (MW-5) to 72.82 feet (MW-12) below TOC on the December 26, 2002 monitoring event.
4. Depth to groundwater ranged from 60.30 feet (MW-5) to 72.82 feet (MW-12) below TOC on the February 17, 2003 monitoring event.
5. Monitoring well MW-11 was consistently dry during each monitoring event.
6. The groundwater gradient was approximately 0.013 feet per foot during each monitoring event.
7. Groundwater flow at the Site has remained consistent, and radiates to the south, southeast and southwest from the tank battery.
8. From the May 2002 sampling event, chloride concentrations were above the WQCC standard in groundwater from all sampled wells except WW-1. Fluoride was above the WQCC standard in MW-2, MW-3, MW-6, MW-7, MW-8, MW-9, MW-13 and WW-1.
9. From the May 2002 sampling event, BTEX constituents were all reported below the test method detection limit for each well sampled.

10. From the October 2002 sampling event, chloride concentrations were above the WQCC standard in groundwater from all sampled wells, except MW-1, MW-10 and WW-1. TDS concentrations exceeded the WQCC standard in groundwater from all sampled wells, except MW-1, MW-10, WMW and WW-1.
11. From the December 2002 sampling event, chloride was above the WQCC standard of 250 milligrams per liter (mg/L) in groundwater from all sampled wells except MW-1, MW-10, and WW-1. TDS was above the WQCC standard (1,000 mg/L) in all sampled wells except MW-1, MW-10, WMW, and WW-1.
12. From the December 2002 sampling event, BTEX constituents were below the test method detection limit for each well sampled.
13. From the February 2003 sampling event, chloride was above the WQCC standard of 250 milligrams per liter (mg/L) in groundwater from all sampled wells except MW-1, MW-10, and WW-1. TDS was above the WQCC standard (1,000 mg/L) in all sampled wells except MW-1, MW-10, and WW-1.

TABLES

Table 1: Summary of Monitoring and Recovery Well Drilling and Completion Details, Texaco Exploration and Production, Inc., G.L. Erwin Federal "A & B" NCT-2 Tank Battery SW/4, SE/4, Section 35, Township 24 South, Range 37 East Lea County, New Mexico

Well Number	Date Drilled	Drilled Depth Feet BGS	Well Diameter (Inches)	Ground Elevation Feet AMSL	Top-of-Casing Elevation, Feet AMSL	Well Depth Feet TOC	Screen Interval, Feet BGS
MW-1	02/02/98	87.05	2	3159.40	3161.69	87.70	55.07 - 84.68
MW-2	02/02/98	70.50	2	3157.40	3159.89	72.94	50.30 - 69.90
MW-3	02/02/98	71.00	2	3161.30	3164.08	73.26	50.48 - 70.08
MW-4	02/03/98	70.70	2	3162.90	3165.65	73.31	50.63 - 70.23
MW-5	02/03/98	70.41	2	3158.30	3160.75	73.10	50.34 - 69.94
MW-6	07/09/98	75.00	2	3161.88	3164.18	77.24	59.24 - 73.64
MW-7	07/10/98	70.20	2	3158.88	3162.06	73.45	55.04 - 69.6
MW-8	01/14/99	71.00	2	3157.04	3159.66	70.66	50.47 - 70.16
MW-9	09/11/01	73.00	2	3164.17	3167.07	70.39	55.42 - 70.00
MW-10	09/12/01	75.00	2	3168.04	3170.99	69.16	54.19 - 68.77
MW-11	09/12/01	76.00	2	3165.59	3168.24	72.78	57.81 - 72.39
MW-12	09/13/01	80.00	2	3149.44	3152.44	74.37	59.40 - 73.98
MW-13	09/13/01	72.00	2	3152.00	3154.92	67.90	52.93 - 67.51
West	-	-	2	3162.00	3164.44	70.43	-
Southwest	-	-	2	3161.50	3164.54	70.45	-
RW-1	07/10/98	73.40	4	3161.08	3163.44	76.30	52.88 - 67.48

Notes: All wells constructed with schedule 40 PVC screen and casing.

1. BGS: Depth in feet below ground surface
2. AMSL: Elevation in feet above mean sea level
3. TOC: Depth in feet from top-of-casing
4. –: No data available
5. RW: Recovery well

Table 2: Summary of Depth-to-Groundwater Measurements from Monitoring and Recovery Wells
Texaco Exploration and Production, Inc., G.L. Erwin Federal "A & B" NCT-2 Tank Battery
SW/4, SE/4, Section 35, Township 24 South, Range 37 East
Lea County, New Mexico

Date	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8	MW-9	MW-10	MW-11	MW-12	MW-13
08/22/97	--	--	--	--	--	--	--	--	--	--	--	--	--
02/04/98	64.15	61.33	65.18	63.94	60.33	--	--	--	--	--	--	--	--
01/14/99	--	--	--	--	--	--	--	--	--	--	--	--	--
02/03/99	--	--	--	--	--	--	--	68.21	--	--	--	--	--
10/19/00	--	--	--	63.80	60.25	--	--	--	--	--	--	--	--
02/07/01	61.40	61.45	65.22	63.78	60.58	68.00	67.25	68.30	--	--	--	--	--
04/30/02	61.43	61.47	65.11	63.72	62.27	68.10	67.50	68.42	63.65	70.35	DRY	72.80	66.97
10/11/02	61.43	61.46	65.14	63.74	60.29	68.04	67.53	68.30	63.59	70.49	DRY	72.81	66.38
12/26/02	61.43	61.52	65.15	63.74	60.29	68.03	67.53	68.30	63.59	70.50	DRY	72.82	66.37
02/17/03	61.42	61.53	65.15	63.74	60.30	68.03	67.53	68.30	63.60	70.50	DRY	72.82	66.37

Date	West	Southwest	RW-1	WW-1
08/22/97	62.58	63.25	--	--
02/04/98	62.50	63.21	--	--
01/14/99	--	--	50.85	--
02/03/99	--	--	--	--
10/19/00	62.37	63.06	62.33	--
02/07/01	62.43	63.10	--	--
04/30/02	62.37	63.06	62.28	70.21
10/11/02	62.35	62.72	62.27	69.71
12/26/02	62.34	62.70	62.26	69.70
02/17/03	62.34	62.70	62.26	69.70

Notes: All measurements are in feet from top-of-casing
1. --: No data available

Table 3: Summary of General Chemistry Analysis of Groundwater Samples from Monitoring Wells
Texaco Exploration and Production Inc., G.L. Erwin Federal "A & B" NCT-2 Tank Battery
SW/4, SE/4, Section 35, Township 24 South, Range 37 East
Lea County, New Mexico

Well Number	Sample Date	Carbonate mg/L	Bicarbonte mg/L	Chloride mg/L	Fluoride mg/L	Nitrate - N mg/L	Sulfate mg/L	Calcium mg/L	Magnesium mg/L	Potassium mg/L	Sodium mg/L	TDS mg/L	Hardness mg/L	Hydroxide mg/L
MW-1	08/22/97	--	--	--	--	--	--	--	--	--	--	--	--	--
	02/17/98	<2.0	220	233	--	--	92.0	--	--	--	--	812	276	--
	02/07/01	<1.0	136	440	2.1	2.8	70	15.7	55.8	11.4	115	1200	--	--
	05/03/02	<1.0	144	428	1.60	3.06	72.5	103.0	38.70	8.68	105.0	--	--	<1.0
	10/11/02	<0.10	155	230	---	---	109.0	69.3	24.80	7.45	125.0	737	---	<0.10
	12/27/02	<0.10	149	248	---	---	109.0	76.6	27.40	5.16	129.0	728	---	<0.10
	02/18/03	<0.10	147	213	---	---	114.0	59.1	21.40	5.06	116.0	713	---	<0.10
MW-2	08/22/97	--	--	--	--	--	--	--	--	--	--	--	--	--
	02/17/98	<2.0	360	423	--	--	141.0	--	--	--	--	1257	124	--
	02/07/01	<1.0	234	570	2.7	5.0	130	124	40.7	10.9	359	1500	--	--
	05/03/02	<1.0	262	349	2.28	5.36	148.0	21.0	6.18	8.52	315.0	--	--	<1.0
	10/11/02	10.00	250	337	---	---	176.0	18.1	4.92	7.49	329.0	1120	---	<0.10
	12/27/02	12.00	238	319	---	---	142.0	17.8	5.16	6.10	339.0	1110	---	<0.10
	02/18/03	<0.10	228	310	---	---	178.0	19.4	6.02	6.30	331.0	1070	---	<0.10
MW-3	08/22/97	--	--	--	--	--	--	--	--	--	--	--	--	--
	02/17/98	<2.0	410	983	--	--	173.0	--	--	--	--	2261	232	--
	02/07/01	8.0	278	890	3.4	7.3	200	56.7	18.7	20.4	648	2100	---	--
	05/02/02	<1.0	298	735	2.84	7.57	213.0	27.5	8.39	24.70	42.8	--	--	<1.0
	05/03/02	<1.0	146	767	2.90	7.39	207.0	37.9	11.50	25.50	28.2	--	--	<1.0
	10/11/02	<0.10	288	753	---	---	272.0	29.0	9.18	20.60	622.0	1960	---	<0.10
	12/27/02	<0.10	288	727	---	---	231.0	27.0	7.34	19.90	698.0	1950	---	<0.10
	02/18/03	<0.10	277	762	---	---	180.0	25.2	7.84	16.40	580.0	1950	---	<0.10

Table 3: Summary of General Chemistry Analysis of Groundwater Samples from Monitoring Wells
Texaco Exploration and Production Inc., G.L. Erwin Federal "A & B" NCT-2 Tank Battery
SW/4, SE/4, Section 35, Township 24 South, Range 37 East
Lea County, New Mexico

Well Number	Sample Date	Carbonate mg/L	Bicarbonte mg/L	Chloride mg/L	Fluoride mg/L	Nitrate - N mg/L	Sulfate mg/L	Calcium mg/L	Magnesium mg/L	Potassium mg/L	Sodium mg/L	TDS mg/L	Hardness mg/L	Hydroxide mg/L
MW-4	08/22/97	--	--	--	--	--	--	--	--	--	--	--	--	--
	02/17/98	<2.0	510	372	--	--	136.0	--	--	--	--	1268	---	--
	02/07/01	<1.0	286	1200	1.7	4.7	100	248	84.7	24	506	2600	--	--
	05/03/02	<1.0	250	868	1.00	4.72	163.0	137.0	48.40	40.70	441.0	--	--	<1.0
	10/14/02	<0.10	342	381	--	--	124.0	9.4	2.48	38.40	405.0	1220	--	<0.10
	12/27/02	<0.10	288	505	---	---	114.0	21.2	4.42	50.60	461.0	1450	---	<0.10
	02/18/03	<0.10	264	691	---	---	118.0	32.2	7.50	59.00	474.0	1610	---	<0.10
MW-5	08/22/97	--	--	--	--	--	--	--	--	--	--	--	--	--
	02/17/98	<2.0	360	408	--	--	151.0	--	--	--	--	1219	116	--
	02/07/01	<1.0	214	570	1.60	4.80	140.0	123.0	40.80	20.30	331.0	1500	--	--
	05/03/02	<1.0	238	335	0.96	5.36	162.0	37.3	11.10	27.30	287.0	--	--	<1.0
	10/11/02	<0.10	232	337	---	---	173.0	31.8	10.00	20.70	305.0	1100	---	<0.10
	12/27/02	<0.10	232	337	---	---	171.0	31.3	8.55	20.60	319.0	1210	---	<0.10
	02/18/03	<0.10	210	319	---	---	176.0	27.2	8.48	16.50	231.0	1110	---	<0.10
MW-6	02/07/01	<1.0	200	1800	3.3	5.4	140	323	108	18.8	657	3800	--	--
	05/02/02	<1.0	264	503	3.68	7.04	183.0	24.9	7.29	17.40	475.0	--	---	<1.0
	10/14/02	<0.10	262	620	--	--	206.0	18.6	5.34	17.50	556.0	1670	--	<0.10
	12/27/02	36.00	218	620	--	--	192.0	21.2	6.08	13.60	584.0	1650	---	<0.10
	02/18/03	16.00	238	638	---	---	298.0	22.1	6.43	11.80	524.0	1700	---	<0.10

Table 3: **Summary of General Chemistry Analysis of Groundwater Samples from Monitoring Wells**
Texaco Exploration and Production Inc., G.L. Erwin Federal "A & B" NCT-2 Tank Battery
SW/4, SE/4, Section 35, Township 24 South, Range 37 East
Lea County, New Mexico

Well Number	Sample Date	Carbonate mg/L	Bicarbonte mg/L	Chloride mg/L	Fluoride mg/L	Nitrate - N mg/L	Sulfate mg/L	Calcium mg/L	Magnesium mg/L	Potassium mg/L	Sodium mg/L	TDS mg/L	Hardness mg/L	Hydroxide mg/L
MW-7	02/07/01	<1.0	238	500	3.2	4.1	100	80.3	27.3	10.4	326	1300	--	--
	05/02/02	<1.0	244	466	2.94	4.18	106.0	46.6	17.00	8.42	307.0		---	<1.0
	10/11/02	<0.10	242	408	---	---	128.0	39.7	13.50	6.70	316.0	1120	---	<0.10
	12/27/02	<0.10	232	452	--	--	109.0	56.2	19.20	5.82	353.0	1220	---	<0.10
	02/17/03	<0.10	200	603	---	---	134.0	90.6	30.90	5.86	339.0	1440	---	<0.10
MW-8	02/07/01	20	240	900	3.2	6.6	160	79.4	24.5	12.7	604	2100	--	--
	05/02/02	<1.0	236	818	2.65	6.68	168.0	94.5	29.20	13.00	527.0	--	---	<1.0
	10/14/02	<0.10	250	842	---	---	194.0	52.4	20.40	10.80	597.0	1920	---	<0.10
	12/27/02	<0.10	233	833	---	---	173.0	59.8	20.00	8.64	627.0	2000	---	<0.10
	02/18/03	<0.10	213	833	---	---	185.0	53.0	17.60	7.13	489.0	1930	---	<0.10
MW-9	05/01/02	<1.0	142	439	1.88	3.26	106.0	98.8	35.80	9.93	188.0	---	---	<1.0
	10/14/02	<0.10	137	443	---	---	119.0	88.4	33.10	10.40	216.0	1240	---	<0.10
	12/27/02	<0.10	124	434	---	---	120.0	93.8	33.80	6.22	192.0	1080	---	<0.10
	02/18/03	<0.10	105	461	---	---	126.0	99.3	34.10	5.62	200.0	1190	---	<0.10
MW-10	10/14/02	<0.10	204	71	--	--	145.0	42.3	22.80	7.77	87.3	593	--	<0.10
	12/27/02	<0.10	196	70	---	---	149.0	68.4	23.10	7.69	92.8	529	---	<0.10
	02/18/03	<0.10	184	65	---	---	159.0	67.1	22.80	3.04	90.7	552	---	<0.10
MW-12	05/02/02	<1.0	88	1120	1.37	4.09	45.3	431.0	153.00	17.70	123.0	--	---	<1.0
	10/11/02	<0.10	93	1370	---	---	47.5	438.0	161.00	15.40	127.0	2860	---	<0.10
	12/27/02	<0.10	78	1520	---	---	49.3	507.0	181.00	14.10	151.0	3460	---	<0.10
	02/17/03	<0.10	68	1530	---	---	52.4	461.0	170.00	13.30	136.0	3980	---	<0.10

Table 3: **Summary of General Chemistry Analysis of Groundwater Samples from Monitoring Wells**
Texaco Exploration and Production Inc., G.L. Erwin Federal "A & B" NCT-2 Tank Battery
SW/4, SE/4, Section 35, Township 24 South, Range 37 East
Lea County, New Mexico

Well Number	Sample Date	Carbonate mg/L	Bicarbonte mg/L	Chloride mg/L	Fluoride mg/L	Nitrate - N mg/L	Sulfate mg/L	Calcium mg/L	Magnesium mg/L	Potassium mg/L	Sodium mg/L	TDS mg/L	Hardness mg/L	Hydroxide mg/L
MW-13	05/02/02	<1.0	122	277	2.31	4.38	131.0	125.0	44.30	10.20	65.6	--	---	<1.0
	10/11/02	<0.10	115	337	---	---	124.0	135.0	46.50	9.47	88.6	1210	---	<0.10
	12/27/02	<0.10	104	408	---	---	132.0	160.0	55.20	9.71	84.5	1260	---	<0.10
	02/17/03	<0.10	80	443	---	---	144.0	152.0	54.90	8.88	108.0	1370	---	<0.10
West	08/22/97	--	--	250	--	--	--	--	--	--	--	--	--	--
	02/17/98	<2.0	370	237	--	--	134.0	--	--	--	--	975	96	--
	02/07/01	<1.0	236	340	2.0	4.5	120	39.7	12.5	33.2	264	1000	--	--
	05/03/02	<1.0	214	329	1.39	4.36	116.0	41.9	11.90	40.90	234.0	--	---	<1.0
	10/14/02	<0.10	210	337	--	--	127.0	39.3	9.37	35.60	290.0	986	--	<0.10
	12/27/02	<0.10	198	337	---	---	134.0	43.1	12.50	33.20	263.0	997	--	<0.10
	02/18/03	<0.10	190	354	---	---	141.0	33.6	9.78	23.90	152.0	1010	---	<0.10
Southwest	08/22/97	--	--	3300	--	--	--	---	--	--	--	--	--	--
	02/17/98	<2.0	420	2170	--	--	255.0	--	--	--	--	4719	712	--
	02/07/01	<1.0	326	1900	2.2	5.0	350	197	59.1	---	1078	4100	--	--
	05/03/02	<1.0	272	1490	1.38	4.51	301.0	200.0	65.00	46.40	744.0	--	--	<1.0
	10/14/02	<0.10	330	1330	--	--	360.0	110.0	32.50	61.50	929.0	3020	--	<0.10
	12/27/02	<0.10	308	1280	---	---	319.0	107.0	31.90	66.80	980.0	3040	--	<0.10
	02/18/03	<0.10	289	1290	---	---	300.0	104.0	31.30	63.00	918.0	2910	---	<0.10

Table 3: **Summary of General Chemistry Analysis of Groundwater Samples from Monitoring Wells**
Texaco Exploration and Production Inc., G.L. Erwin Federal "A & B" NCT-2 Tank Battery
SW/4, SE/4, Section 35, Township 24 South, Range 37 East
Lea County, New Mexico

Well Number	Sample Date	Carbonate mg/L	Bicarbonte mg/L	Chloride mg/L	Fluoride mg/L	Nitrate - N mg/L	Sulfate mg/L	Calcium mg/L	Magnesium mg/L	Potassium mg/L	Sodium mg/L	TDS mg/L	Hardness mg/L	Hydroxide mg/L
RW-1	10/20/00	<1.0	330	1500	1.7	5.2	330	107	29.6	50	843	3200	--	--
	10/14/02	<0.10	327	1150	--	--	340.0	60.3	25.50	64.30	820.0	2720	--	<0.10
	12/27/02	<0.10	294	1300	--	--	330.0	123.0	40.30	56.80	933.0	3190	--	<0.10
	02/18/03	<0.10	300	1150	---	---	316.0	79.7	25.70	53.00	721.0	2690	---	<0.10
Dup.	02/07/01	<1.0	290	890	3.3	7.0	190	61	21.1	20.5	665	2200	--	--
	10/14/02	<0.10	358	372	--	--	116.0	8.8	2.38	37.40	409.0	1260	--	<0.10
	12/27/02	<0.10	158	115	--	--	139.0	55.5	23.00	4.94	94.4	594	--	<0.10
	02/18/03	<0.10	298	1310	---	---	299.0	108.0	32.20	58.30	812.0	3040	---	<0.10
WW-1	05/01/02	<1.0	172	97.2	1.64	4.05	137.0	51.4	23.40	8.23	84.9	---	---	<1.0
	10/10/02	<0.10	168	106.0	---	---	124.0	52.7	22.20	9.99	106.0	605	---	<0.10
	12/27/02	<0.10	157	111.0	--	--	134.0	55.0	22.50	5.30	96.0	572	--	<0.10
	02/18/03	<0.10	152	115	---	---	137.0	53.8	22.10	6.38	93.5	601	---	<0.10

Notes:

1. mg/L: Milligrams per liter
2. <: Concentration below test method detection limit
3. --: No data available
4. RW: Recovery well
5. Duplicate on 10/14/02 of MW-4
6. Duplicate on 02/18/03 of SWMW
7. All analyses prior to 10/14/02 conducted by TraceAnalysis, Inc., Lubbock, Texas
8. Analyses from 10/14/02 conducted by Environmental Lab of Texas I, Ltd, Odessa, Texas

Table 4: Summary of BTEX Analysis of Groundwater Samples
Texaco Exploration and Production, Inc., G.L. Erwin Federal "A & B" NCT-2 Tank Battery
SW/4, SE/4, Section 35, Township 24 South, Range 37 East
Lea County, New Mexico

Well Number	Sample Date	Benzene (mg/L)	Toluene (mg/L)	Ethyl benzene (mg/L)	m/p/o Xylene (mg/L)	Total BTEX (mg/L)
MW-1	05/03/02	<0.001	<0.001	<0.001	<0.001	<0.004
	12/27/02	<0.001	<0.001	<0.001	<0.002	<0.005
MW-2	05/03/02	<0.001	<0.001	<0.001	<0.001	<0.004
	12/27/02	<0.001	<0.001	<0.001	<0.002	<0.005
MW-3	05/02/02	<0.001	<0.001	<0.001	<0.001	<0.004
	12/27/02	<0.001	<0.001	<0.001	<0.002	<0.005
MW-4	05/03/02	<0.001	<0.001	<0.001	<0.001	<0.004
	12/27/02	<0.001	<0.001	<0.001	<0.002	<0.005
MW-5	05/03/02	<0.001	<0.001	<0.001	<0.001	<0.004
	12/27/02	<0.001	<0.001	<0.001	<0.002	<0.005
MW-6	05/02/02	<0.001	<0.001	<0.001	<0.001	<0.004
	12/27/02	<0.001	<0.001	<0.001	<0.002	<0.005
MW-7	05/02/02	<0.001	<0.001	<0.001	<0.001	<0.004
	12/27/02	<0.001	<0.001	<0.001	<0.002	<0.005
MW-8	05/02/02	<0.001	<0.001	<0.001	<0.001	<0.004
	12/27/02	<0.001	<0.001	<0.001	<0.002	<0.005
MW-9	05/01/02	<0.001	<0.001	<0.001	<0.001	<0.004
	12/27/02	<0.001	<0.001	<0.001	<0.002	<0.005
MW-10	12/27/02	<0.001	<0.001	<0.001	<0.002	<0.005
MW-12	05/02/02	<0.001	<0.001	<0.001	<0.001	<0.004
	12/27/02	<0.001	<0.001	<0.001	<0.002	<0.005
MW-13	05/02/02	<0.001	<0.001	<0.001	<0.001	<0.004
	12/27/02	<0.001	<0.001	<0.001	<0.002	<0.005
West WW	05/03/02	<0.001	<0.001	<0.001	<0.001	<0.004
	12/27/02	<0.001	<0.001	<0.001	<0.002	<0.005
SW WW	05/03/02	<0.001	<0.001	<0.001	<0.001	<0.004
	12/27/02	<0.001	<0.001	<0.001	<0.002	<0.005
RW-1	12/27/02	<0.001	<0.001	<0.001	<0.002	<0.005
WW-1	05/01/02	<0.001	<0.001	<0.001	<0.001	<0.004
	12/27/02	<0.001	<0.001	<0.001	<0.002	<0.005
Duplicate	05/02/02	<0.001	<0.001	<0.001	<0.001	<0.004
	12/27/02	<0.001	<0.001	<0.001	<0.002	<0.005

Notes: 2002 analyses performed by TraceAnalysis, Inc., Lubbock, Texas
2003 analyses performed by Environmental Lab of Texas I, Ltd., Odessa, Texas

1. mg/L: Concentration in milligrams per liter
2. <: Concentration below test method detection limit
3. ---: No data available
4. Duplicate sample 5/2/02 collected from MW-8
5. Duplicate sample 12/27/02 collected from WW-1

FIGURES

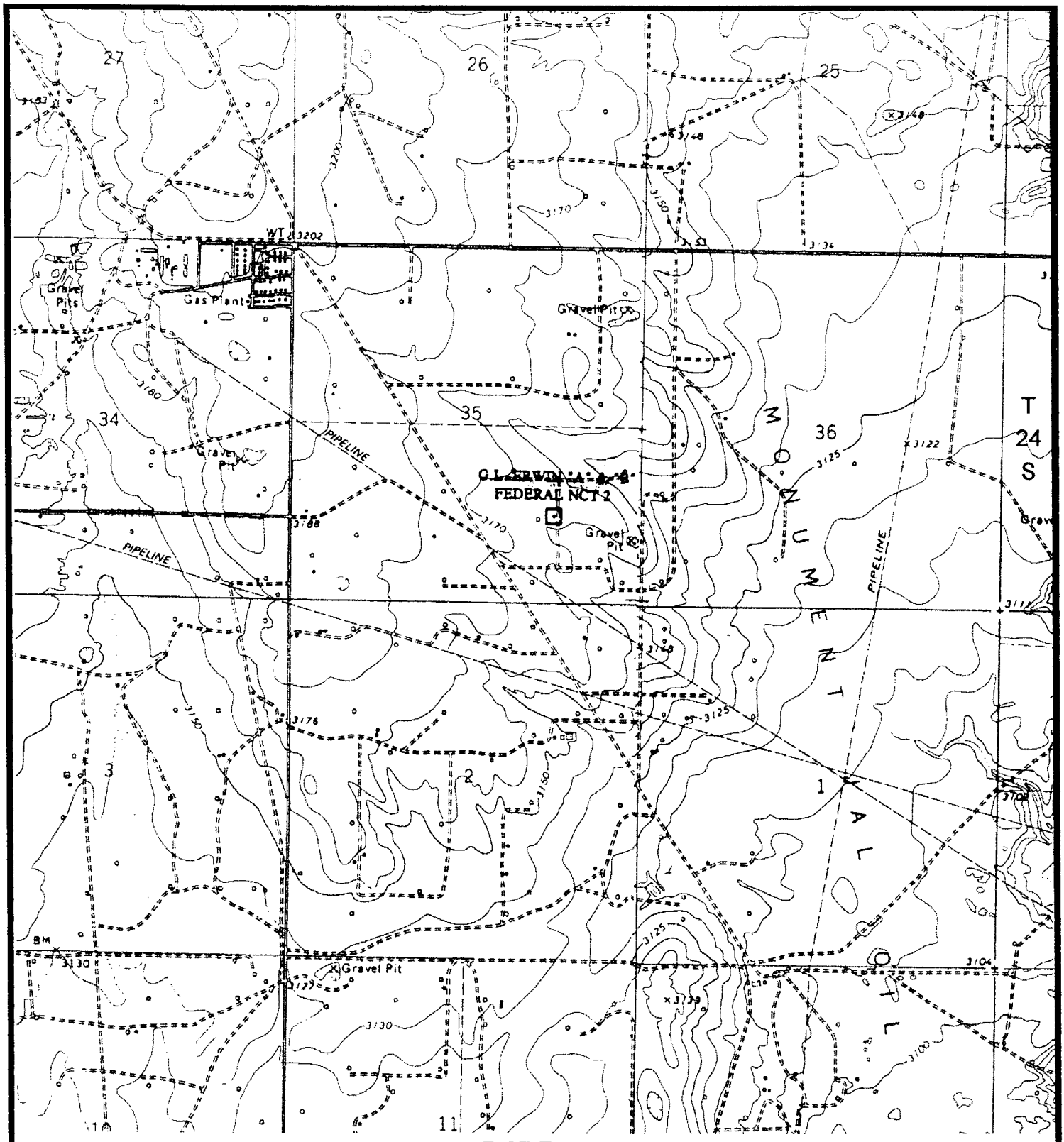


FIGURE #1

LEA COUNTY, NEW MEXICO

TEXACO EXPLORATION AND PRODUCTION, INC.

G.L. ERWIN WATER STATION and TANK BATTERY

SECTION 35, T24S, R37E

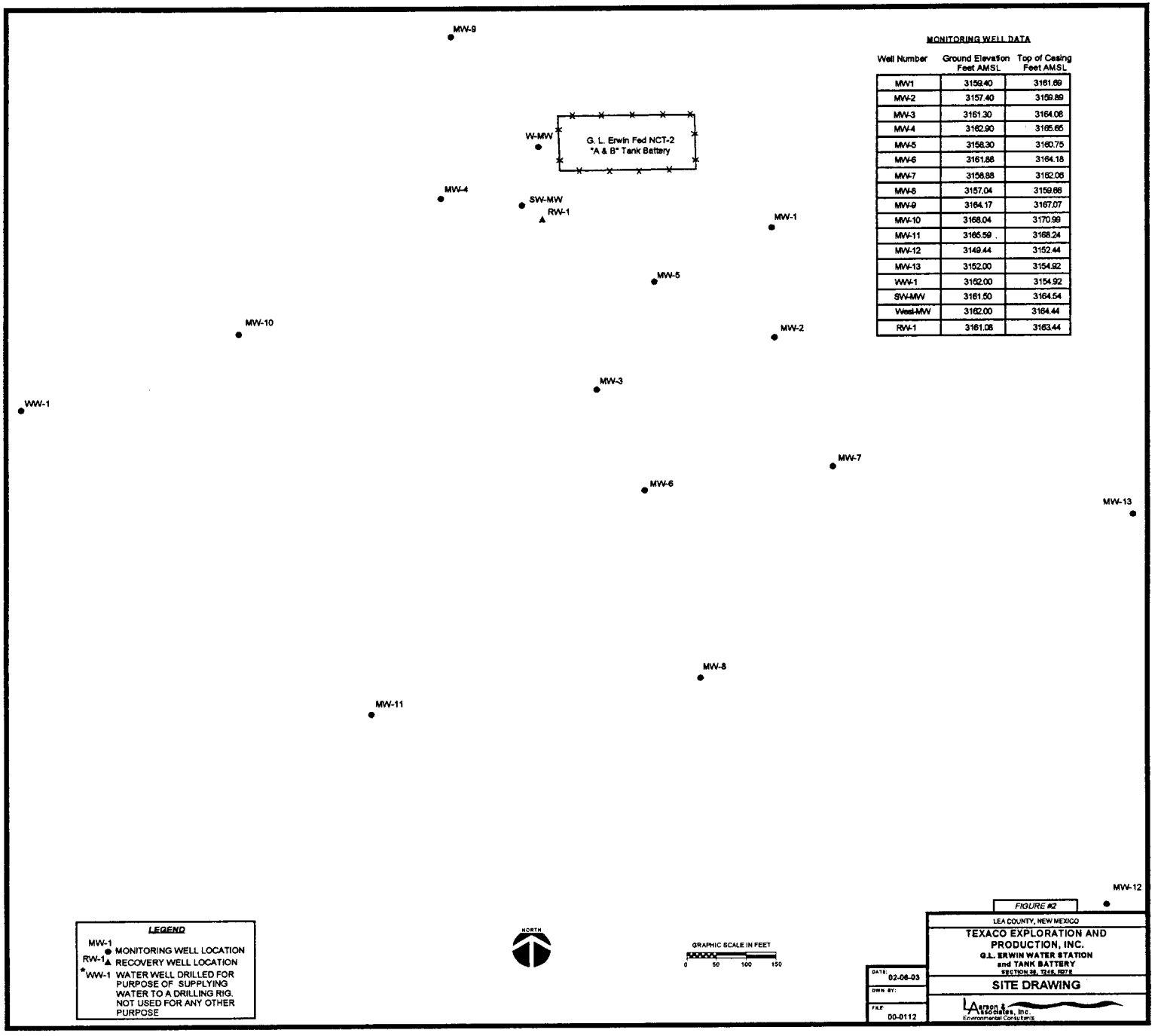
TOPOGRAPHIC MAP

TAKEN FROM U.S.G.S.
JAL NW and JAL NE, NM
7.5' QUADRANGLES

SCALE: 1"=2000'

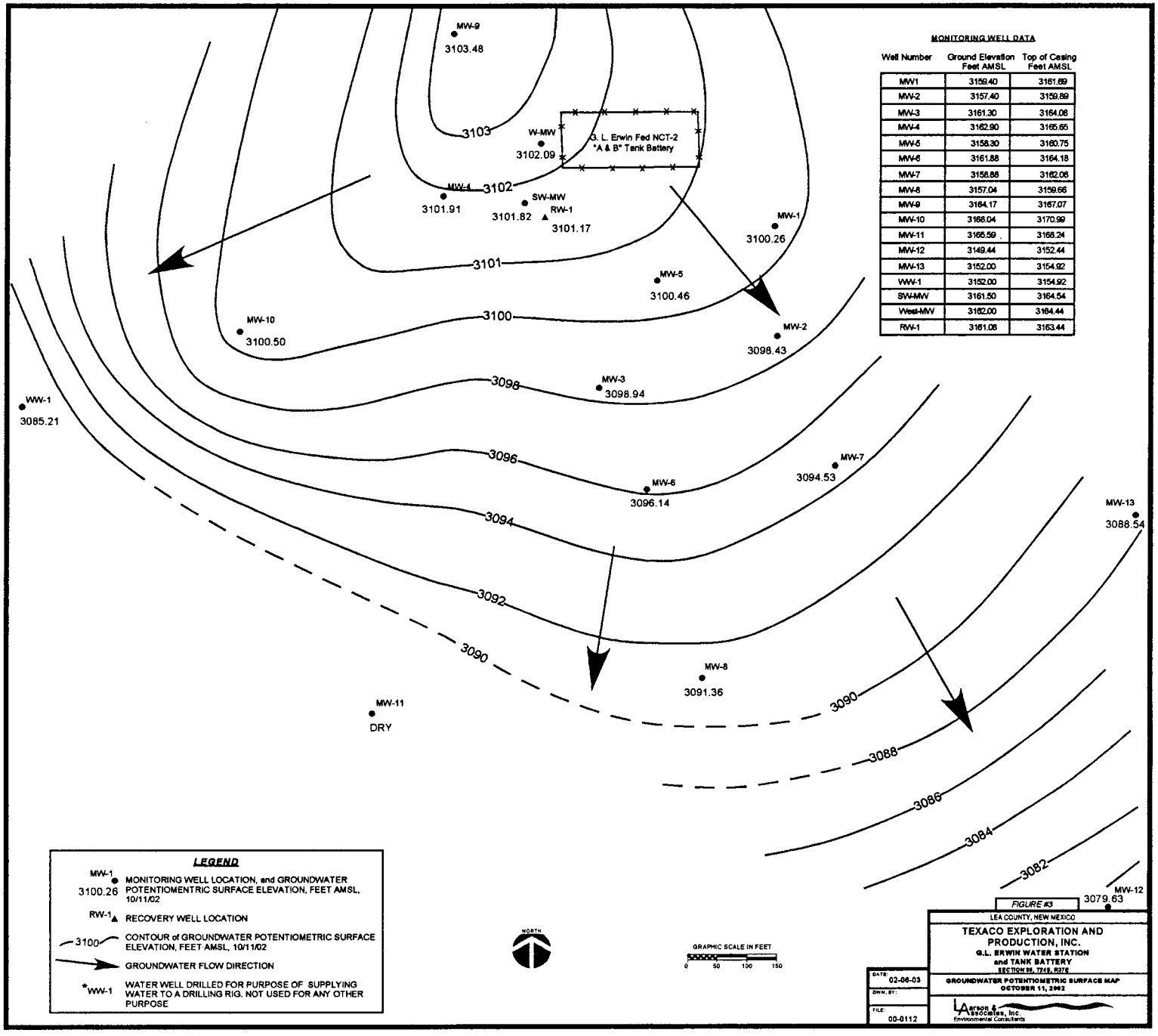
DATE: 2/06/03
NAME:
FILE: 00-0112

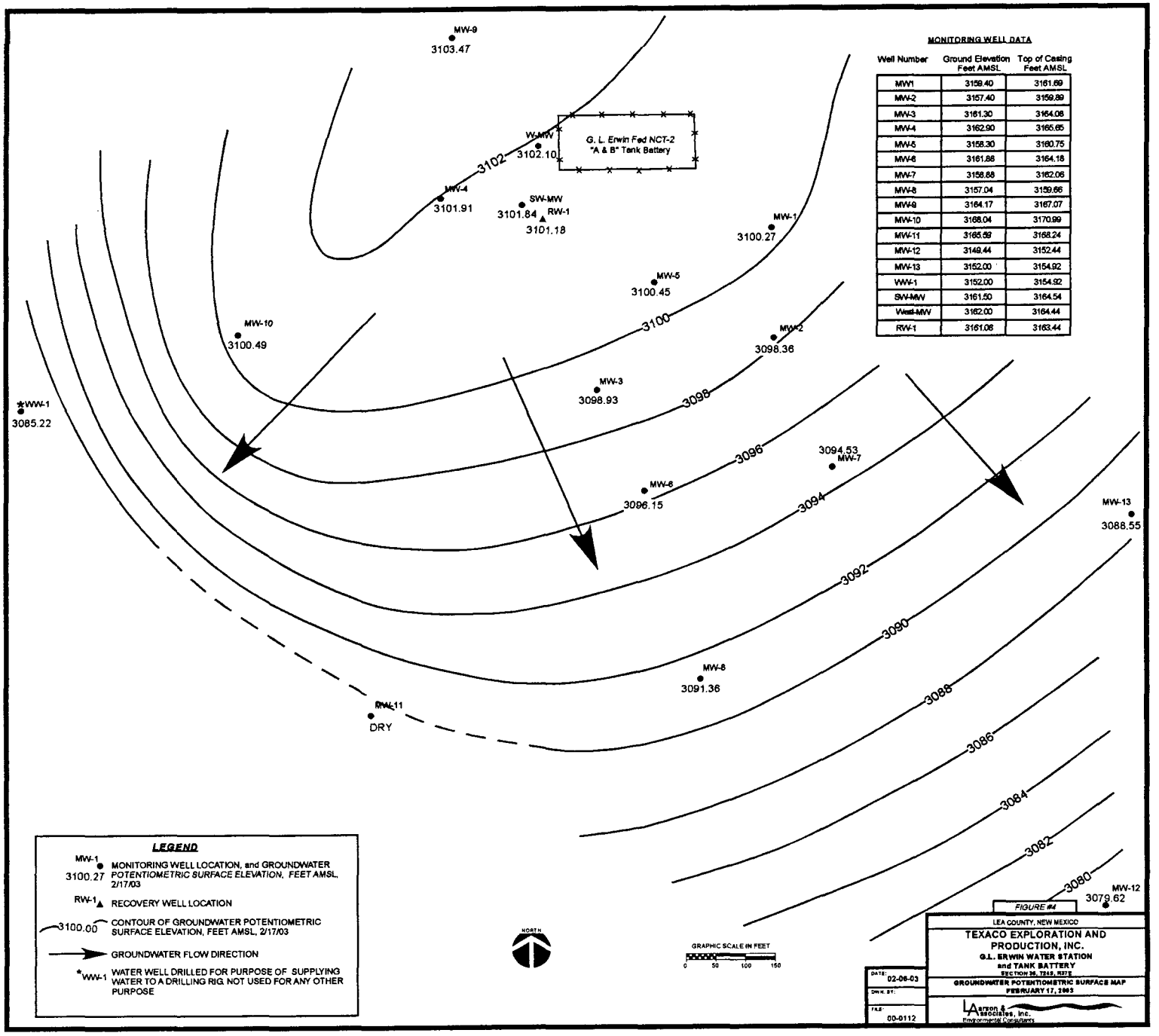
Larson & Associates, Inc.
Environmental Consultants

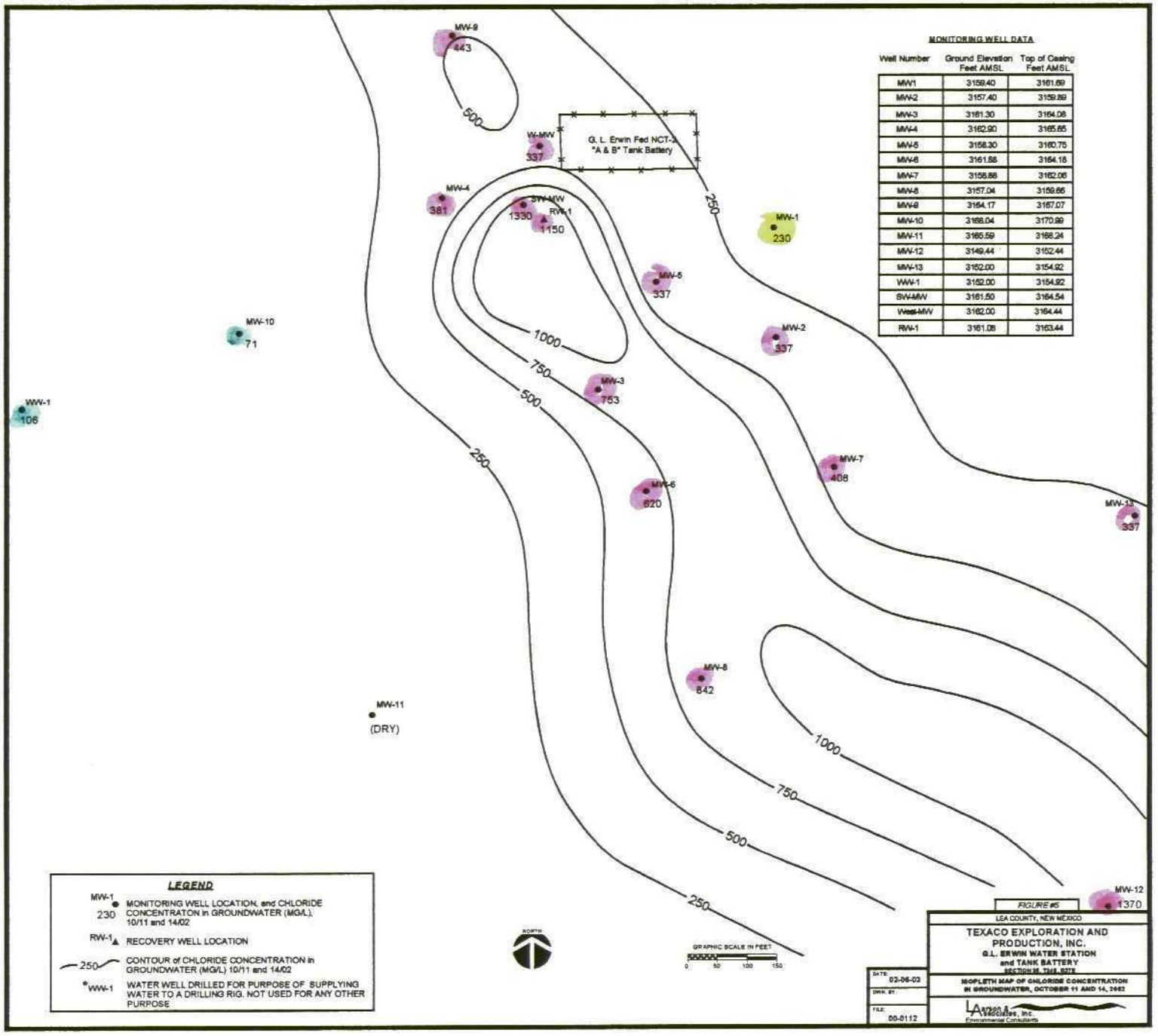


MONITORING WELL DATA

Well Number	Ground Elevation Feet AMSL	Top of Casing Feet AMSL
MW1	3159.40	3161.69
MW-2	3157.40	3159.89
MW-3	3161.30	3164.08
MW-4	3162.90	3165.65
MW-5	3158.30	3160.75
MW-6	3161.88	3164.18
MW-7	3158.88	3162.08
MW-8	3157.04	3159.66
MW-9	3164.17	3167.07
MW-10	3168.04	3170.99
MW-11	3165.59	3168.24
MW-12	3149.44	3152.44
MW-13	3152.00	3154.92
WW-1	3152.00	3154.92
SW-MW	3161.50	3164.54
West-MW	3162.00	3164.44
RW-1	3161.08	3163.44


MW-9
3103.48
3103
W-MW
3102.09
G. L. Erwin Fed NCT-2
"A & B" Tank Battery
MW-4
3102
3101.91
SW-MW
3101.82
RW-1
3101.17
MW-1
3100.26
3101
MW-5
3100.46
MW-10
3100.50
3100
MW-2
3098.43
3098
MW-3
3098.94
WW-1
3085.21
3096
MW-7
3094.53
MW-6
3096.14
3094
MW-13
3088.54
3092
3090
MW-8
3091.36
MW-11
DRY
3090
3088
3086
3084
3082
MW-12
3079.63
MONITORING WELL DATA
Well Number | Ground Elevation Feet AMSL | Top of Casing Feet AMSL
MW1 | 3159.40 | 3161.69
MW-2 | 3157.40 | 3159.89
MW-3 | 3161.30 | 3164.08
MW-4 | 3162.90 | 3165.65
MW-5 | 3158.30 | 3160.75
MW-6 | 3161.88 | 3164.18
MW-7 | 3158.88 | 3162.08
MW-8 | 3157.04 | 3159.66
MW-9 | 3164.17 | 3167.07
MW-10 | 3168.04 | 3170.99
MW-11 | 3165.59 | 3168.24
MW-12 | 3149.44 | 3152.44
MW-13 | 3152.00 | 3154.92
WW-1 | 3152.00 | 3154.92
SW-MW | 3161.50 | 3164.54
West-MW | 3162.00 | 3164.44
RW-1 | 3161.06 | 3163.44
LEGEND
MW-1 / 3100.26 MONITORING WELL LOCATION, and GROUNDWATER POTENTIOMENTRIC SURFACE ELEVATION, FEET AMSL, 10/11/02
RW-1 RECOVERY WELL LOCATION
3100 CONTOUR of GROUNDWATER POTENTIOMETRIC SURFACE ELEVATION, FEET AMSL, 10/11/02
GROUNDWATER FLOW DIRECTION
*WW-1 WATER WELL DRILLED FOR PURPOSE OF SUPPLYING WATER TO A DRILLING RIG. NOT USED FOR ANY OTHER PURPOSE
NORTH
GRAPHIC SCALE IN FEET
0 50 100 150
FIGURE #3
LEA COUNTY, NEW MEXICO
TEXACO EXPLORATION AND PRODUCTION, INC.
G.L. ERWIN WATER STATION and TANK BATTERY
SECTION 35, T24S, R37E
GROUNDWATER POTENTIOMETRIC SURFACE MAP
OCTOBER 11, 2002
DATE: 02-06-03
DWN. BY:
FILE: 00-0112
Larson & Associates, Inc.
Environmental Consultants


MW-9
3103.47
G. L. Erwin Fed NCT-2
"A & B" Tank Battery
W-MW
3102.10
3102
MW-4
3101.91
SW-MW
3101.84
RW-1
3101.18
MW-1
3100.27
MW-5
3100.45
3100
MW-10
3100.49
MW-2
3098.36
MW-3
3098.93
3098
*WW-1
3085.22
3096
3094.53
MW-7
MW-6
3096.15
3094
MW-13
3088.55
3092
3090
MW-8
3091.36
3088
MW-11
DRY
3086
3084
3082
3080
MW-12
3079.62
MONITORING WELL DATA
Well Number | Ground Elevation Feet AMSL | Top of Casing Feet AMSL
MW1 | 3159.40 | 3161.69
MW-2 | 3157.40 | 3159.89
MW-3 | 3161.30 | 3164.08
MW-4 | 3162.90 | 3165.65
MW-5 | 3158.30 | 3160.75
MW-6 | 3161.88 | 3164.18
MW-7 | 3158.88 | 3162.06
MW-8 | 3157.04 | 3159.66
MW-9 | 3164.17 | 3167.07
MW-10 | 3168.04 | 3170.99
MW-11 | 3165.69 | 3168.24
MW-12 | 3149.44 | 3152.44
MW-13 | 3152.00 | 3154.92
WW-1 | 3152.00 | 3154.92
SW-MW | 3161.50 | 3164.54
West-MW | 3162.00 | 3164.44
RW-1 | 3161.08 | 3163.44
LEGEND
MW-1 3100.27 MONITORING WELL LOCATION, and GROUNDWATER POTENTIOMETRIC SURFACE ELEVATION, FEET AMSL, 2/17/03
RW-1 RECOVERY WELL LOCATION
3100.00 CONTOUR OF GROUNDWATER POTENTIOMETRIC SURFACE ELEVATION, FEET AMSL, 2/17/03
GROUNDWATER FLOW DIRECTION
*WW-1 WATER WELL DRILLED FOR PURPOSE OF SUPPLYING WATER TO A DRILLING RIG. NOT USED FOR ANY OTHER PURPOSE
NORTH
GRAPHIC SCALE IN FEET
0 50 100 150
FIGURE #4
LEA COUNTY, NEW MEXICO
TEXACO EXPLORATION AND PRODUCTION, INC.
G.L. ERWIN WATER STATION and TANK BATTERY
SECTION 36, T21S, R37E
GROUNDWATER POTENTIOMETRIC SURFACE MAP
FEBRUARY 17, 2003
DATE: 02-06-03
DWN. BY:
FILE: 00-0112
Larson & Associates, Inc.
Environmental Consultants



MONITORING WELL DATA

Well Number	Ground Elevation Feet AMSL	Top of Casing Feet AMSL
MW1	3159.40	3161.69
MW-2	3157.40	3159.89
MW-3	3161.30	3164.08
MW-4	3162.90	3165.65
MW-5	3158.30	3160.75
MW-6	3161.58	3164.18
MW-7	3158.88	3162.06
MW-8	3157.04	3159.66
MW-9	3164.17	3167.07
MW-10	3168.04	3170.99
MW-11	3166.59	3168.24
MW-12	3149.44	3152.44
MW-13	3152.00	3154.92
WW-1	3152.00	3154.92
SW-MW	3161.50	3164.54
West-MW	3162.00	3164.44
RW-1	3161.08	3163.44

LEGEND

- MW-1 / 230 — MONITORING WELL LOCATION, and CHLORIDE CONCENTRATON in GROUNDWATER (MG/L), 10/11 and 14/02
- RW-1 ▲ — RECOVERY WELL LOCATION
- 250 — CONTOUR of CHLORIDE CONCENTRATION in GROUNDWATER (MG/L) 10/11 and 14/02
- *WW-1 — WATER WELL DRILLED FOR PURPOSE OF SUPPLYING WATER TO A DRILLING RIG. NOT USED FOR ANY OTHER PURPOSE

FIGURE #5

LEA COUNTY, NEW MEXICO

TEXACO EXPLORATION AND PRODUCTION, INC.

G.L. ERWIN WATER STATION and TANK BATTERY

SECTION 36, T18S, R37E

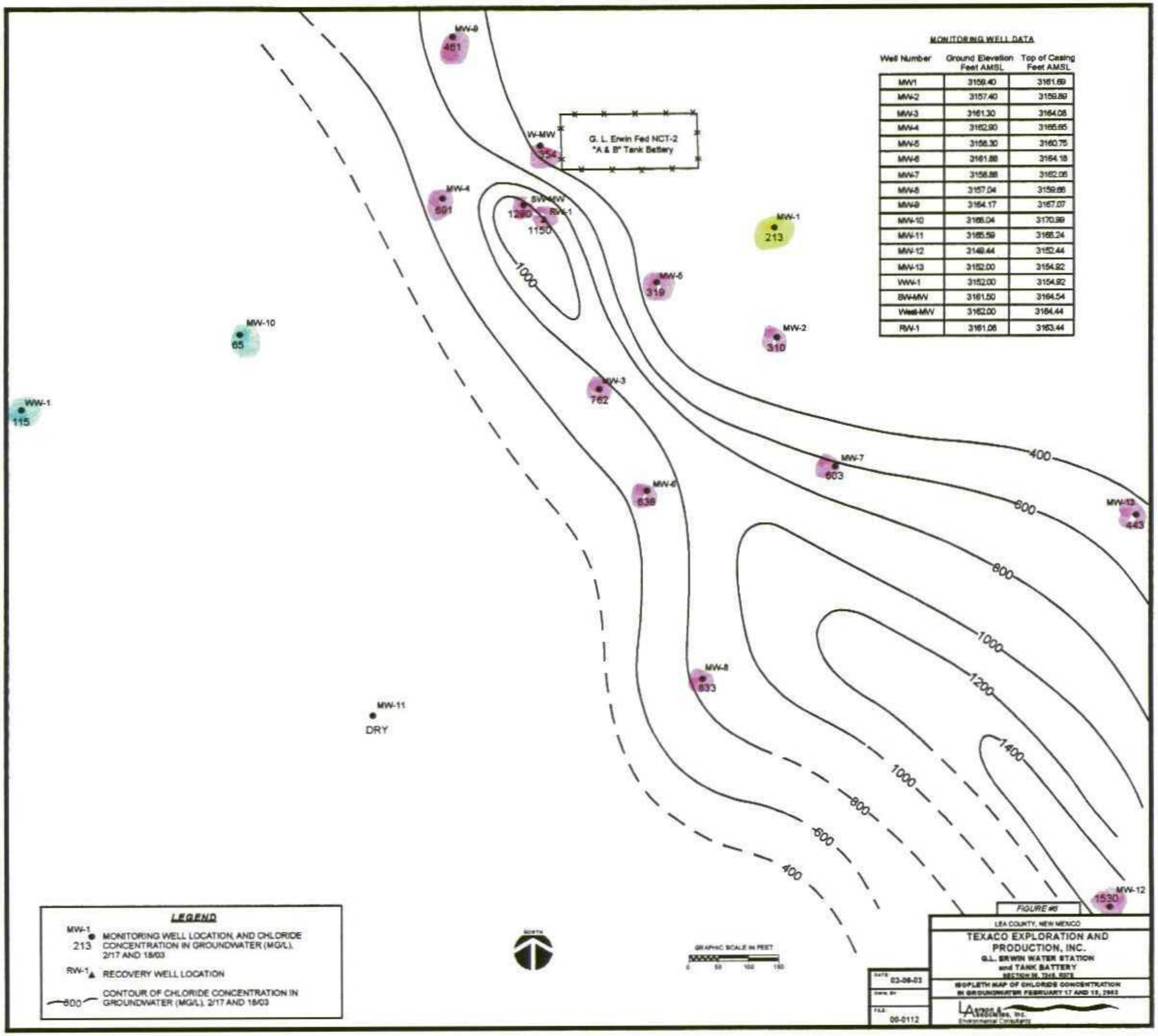
ISOPLETH MAP OF CHLORIDE CONCENTRATION IN GROUNDWATER, OCTOBER 11 AND 14, 2002

DATE: 02-06-03

DWN. BY:

FILE: 00-0112

LAnson & Associates, Inc. Environmental Consultants



MONITORING WELL DATA

Well Number	Ground Elevation Feet AMSL	Top of Casing Feet AMSL
MW1	3159.40	3161.69
MW-2	3157.40	3159.89
MW-3	3161.30	3164.08
MW-4	3162.90	3165.65
MW-5	3158.30	3160.75
MW-6	3161.88	3164.18
MW-7	3158.88	3162.06
MW-8	3157.04	3159.66
MW-9	3164.17	3167.07
MW-10	3168.04	3170.99
MW-11	3165.59	3168.24
MW-12	3149.44	3152.44
MW-13	3152.00	3154.92
WW-1	3152.00	3154.92
SW-MW	3161.50	3164.54
West-MW	3162.00	3164.44
RW-1	3161.06	3163.44

APPENDIX A

NMOCD Correspondence

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION
2040 S. PACHECO
SANTA FE, NEW MEXICO 87505
(505) 827-7131

June 19, 1998

CERTIFIED MAIL
RETURN RECEIPT NO. Z-235-437-301

Mr. Rodney Bailey
Texaco E&P Inc.
205 E. Bender
Hobbs, New Mexico 88240

RE: G. L. ERWIN "A&B" FEDERAL NCT-2 TANK BATTERY
LEA COUNTY, NEW MEXICO

Dear Mr. Bailey:

The New Mexico Oil Conservation Division (OCD) has reviewed Texaco Exploration & Production's (TEXACO) March 31, 1998 "SUBSURFACE ENVIRONMENTAL ASSESSMENT REPORT, TEXACO EXPLORATION AND PRODUCTION, INC., G.L. ERWIN FEDERAL NCT-2 "A&B" TANK BATTERY, LEA COUNTY, NEW MEXICO". This document, which was submitted on behalf of TEXACO by their consultant Highlander Environmental Corp., contains the results of TEXACO's investigation of the extent of ground water contamination related to an unlined emergency pit at the G.L. Erwin "A&B" Federal NCT-2 tank battery located in Unit O, Section 35, T24S, R37E NMPM, Lea County, New Mexico. The document also contains TEXACO's work plan for remediation of contaminated ground water.

The above referenced remediation work plan is approved with the following conditions:

1. TEXACO will submit a work plan to complete the downgradient extent of contamination related to TEXACO's activities. The work plan will be submitted to the OCD Santa Fe Office by July 31, 1998 with a copy provided to the OCD Hobbs District Office.

2. In addition to the proposed water quality monitoring, TEXACO will sample and analyze ground water from all monitor wells for benzene, toluene, ethylbenzene and xylene (BTEX) on an annual basis using EPA approved methods and quality assurance/quality control (QA/QC).

Ant -6 B

3. All wastes generated will be disposed of at an OCD approved facility.

4. TEXACO will notify the OCD at least 1 week in advance of all scheduled activities such that the OCD has the opportunity to witness the events and split samples.

Please be advised that OCD approval does not relieve TEXACO of liability should the work plan fail to adequately remediate or monitor contamination related to TEXACO's activities, or if contamination exists which is outside the scope of the work plan. In addition, OCD approval does not relieve TEXACO of responsibility for compliance with any other federal, state or local laws and regulations.

If you have any questions, please contact me at (505) 827-7154.

Sincerely,

William C. Olson
Hydrologist
Environmental Bureau

xc: Wayne Price, OCD Hobbs Office
Mark J. Larson, Highlander Environmental Corp.

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION
2040 S. PACHECO
SANTA FE, NEW MEXICO 87505
(505) 827-7131

February 2, 1999

CERTIFIED MAIL
RETURN RECEIPT NO. Z-274-520-612

Mr. Rodney Bailey
Texaco E&P Inc.
205 E. Bender
Hobbs, New Mexico 88240

RE: G.L. ERWIN "A&B" FEDERAL NCT-2 TANK BATTERY
LEA COUNTY, NEW MEXICO

Dear Mr. Bailey:

The New Mexico Oil Conservation Division (OCD) has reviewed Texaco Exploration & Development's (Texaco) November 18, 1998 "WORK PLAN FOR PLUME DELINEATION AND MODIFICATION TO PROPOSED GROUNDWATER MONITORING SCHEDULE, TEXACO EXPLORATION AND PRODUCTION, INC., G.L. ERWIN "A&B" FEDERAL NCT-2 TANK BATTERY, LEA COUNTY, NEW MEXICO". This document which was submitted on behalf of Texaco by their consultant Highlander Environmental Corp. contains the Texaco's proposed work plan for additional investigation of the extent of ground water contamination related to the G.L. Irwin "A&B" Federal NCT-2 Tank Battery located in Unit O, Section 35, T24S, R37E NMPM, Lea County, New Mexico. The document also contains Texaco's proposed modifications to the site ground water monitoring plan.

The above referenced investigation work plan and proposed ground water monitoring plan modifications are **approved** with the following conditions:

1. Texaco will complete the new monitor wells as follows:

   a. An appropriately sized gravel pack will be set in the annulus around the well screen from the bottom of the hole to 2-3 feet above the top of the well screen.

Apt -6 C

b. A 2-3 foot bentonite plug will be placed above the gravel pack.

c. The remainder of the hole will be grouted to the surface with cement containing 3-5% bentonite.

d. A concrete pad and locking well cover will be placed at the surface.

e. The well will be developed after construction using EPA approved procedures.

2. No less than 48 hours after the wells are developed, ground water from all monitor wells at each site will be purged, sampled and analyzed for concentrations of major cations and anions, total dissolved solids (TDS) EPA approved methods and quality assurance/quality control (QA/QC).

3 All wastes generated during the investigation will be disposed of at an OCD approved facility.

4. Texaco will submit the results of the additional investigations to the OCD in the annual report. The report will include the following investigative information:

a. A description of the investigation activities which occurred including conclusions and recommendations.

b. A geologic/lithologic log and well completion diagram for each monitor well.

c. A water table map showing the location of the pit, monitor wells, recovery wells and any other pertinent site features as well as the direction and magnitude of the hydraulic gradient created using the water table elevation from each monitor well.

d. Summary tables of all past and present ground water quality sampling results and copies of all recent laboratory analytical data sheets and associated QA/QC data.

e. The disposition of all wastes generated.

Please be advised that OCD approval does not relieve Texaco of liability should the investigation actions fail to adequately define the extent of contamination related to Texaco's activities, or if contamination exists which is outside the scope of the work plan. In addition, OCD approval does not relieve Texaco of responsibility for compliance with any other federal, state or local laws and regulations.

If you have any questions, please contact me at (505) 827-7154.

Sincerely,

William C. Olson
Hydrologist
Environmental Bureau

xc: Chris Williams, OCD Hobbs District Office
Mark J. Larson, Highlander Environmental Corp.

APPENDIX B

Boring Logs and Well Construction Records

Client: Texaco E&P

Project: G. L. Erwin

Project No: 0-0112

Location: SW/4, SE/4, Sec. 35, T24S, R37E, Lea Co., NM

Log: MW-6

Geologist: Mark J. Larson

Page: 1 of 1

SUBSURFACE PROFILE				SAMPLE			PID Measurement (PPM) 10 30 50	Well Detail	Notes
Depth	Symbol	Description	Elev.	Number	Type	Recovery			Well Secured with Locking Above-Grade Cover
0		***Silt*** 7.5 YR 6/3, light brown, dry, unconsolidated with caliche nodules.	3160						1.0 - 48.0' bgs Cement-bentonite grout
5									
10		***Caliche*** 10 YR 8/1 to 8/2, white to very pale brown, interbedded with sand.	3152						
			3150						
15		***Sand*** 5 YR 6/4, light reddish brown, very fine grained quartz sand, dry, unconsolidated, with minor caliche nodules.							
20									0.0 - 59.25' bgs 2" Sch. 40 PVC Riser (Threaded)
25									
		Caliche 10 YR 8/1 to 8/2, white to very pale brown, indurated, hard.							
30									
35		***Sand*** 7.5 YR 6/6 to 7/6, reddish yellow, very fine grained quartz sand, dry, unconsolidated.							
40									
45									
50									48.0 - 57.0' bgs Bentonite pellets
55			3107						59.24 - 74.24' bgs 2" Sch. 40 Screen 0.02" Slot (Threaded)
60		***Gravelly Sand*** 5 YR 6/6 to 5/6, reddish yellow to yellowish red, very fine to coarse grained quartz sand with interbedded gravel, poorly sorted, rounded, dry, unconsolidated.							
65									W. L. = 65.5' bgs (7/29/98)
70									57.0 - 75.0' bgs 8/16 graded silica sand
			3091						
75			3089						Sch. 40 PVC Cap (Threaded
		Mudstone 2.5 YR 4/6, red, silty.							
80		***TD: 75'***							

Drilling Method: Air Rotary

Date Drilled: 7/9/98

Well Size: 2"

TOC Elevation: 3164.18

Checked by: CKC

Drilled by: Scarborough Drilling

Client: Texaco E&P

Project: G. L. Erwin

Project No: 0-0112

Location: SW/4, SE/4, Sec. 35, T24S, R37E, Lea Co., NM

Log: MW-7

Geologist: Mark J. Larson

Page: 1 of 1

SUBSURFACE PROFILE				SAMPLE			PID Measurement (PPM) 10 30 50	Well Detail	Notes
Depth	Symbol	Description	Elev.	Number	Type	Recovery			Well Secured with Locking Above-Grade Cover
0		***Silt*** 10 YR 4/3 to 5/3, brown, very fine grained quartz sand, dry, with caliche inclusions.	3157						1.0 - 50.0' bgs Cement-bentonite grout
10		***Caliche*** 10 YR 6/3 to 7/3, light reddish brown to pink, indurated, massive, hard, interbedded with very fine grained quartz sand.							
20		***Sand*** 10 YR 7/6 to 7/4, reddish yellow to pink, very fine grained quartz sand, moderately well sorted, dry, unconsolidated, becomes 7.5 YR 7/3 to 7/4, pink below 15'. Well sorted, dry, unconsolidated.							0.0 - 55.04' bgs 2" Sch. 40 PVC Riser (Threaded)
50			3109						50.0 to 53.0' bgs Bentonite pellets
55		***Sandstone*** 2.5 YR 4/6 to 5/6, red, very fine grained quartz sand, massive, hard.	3105						55.04 - 70.2' bgs 2" Sch. 40 Screen 0.02" Slot (Threaded)
60									W. L. = 63.75' bgs (7/29/98)
65		***Sand*** 2.5 YR 5/6 to 5/4, red to dark red, very fine to medium grained quartz sand, moderately well sorted, round. Gravelly at 65 to 67'.	3097						53.0 to 70.7' bgs 8/16 graded silica sand
70			3093						Sch. 40 PVC Cap (Threaded
75									
80		***Mudstone*** 2.5 YR 4/6, red, moist, hard.							
85		***TD: 70.7'***							
90									

Drilling Method: Air Rotary

Date Drilled: 7/10/98

Well Size: 2"

TOC Elevation: 3162.06

Checked by: CKC

Drilled by: Scarborough Drilling

Client: Texaco E&P

Project: G. L. Erwin

Project No: 0-0112

Location: SW/4, SE/4, Sec. 35, T24S, R37E, Lea Co., NM

Log: RW-1

Geologist: Mark J. Larson

Page: 1 of 1

SUBSURFACE PROFILE				SAMPLE			PID Measurement (PPM) 10 30 50	Well Detail	Notes
Depth	Symbol	Description	Elev.	Number	Type	Recovery			Well Secured with Locking Above-Grade Cover
5		***Silt*** 7.5 YR 6/3, light brown, unconsolidated, dry, with caliche inclusions.	3156						1.0 - 46.0' bgs Cement-bentonite grout
10		***Caliche*** 10 YR 8/1 to 8/2, white to very pale brown, indurated, interbedded with very fine grained quartz sand.							
15									
20		***Sand*** 7.5 YR 7/3 to 7/4, pink, very fine grained quartz sand, moderately well sorted, dry, unconsolidated.							0.0 - 52.88' bgs 2" Sch. 40 PVC Riser (Threaded)
25									
30									
35									
40									
45									46.0 to 51.0 bgs Bentonite pellets
50			3113						
55		***Sandstone*** 2.5 YR 4/6 to 5/6, red, very fine grained quartz sand, massive, hard.							52.88 - 73.40' bgs 2" Sch. 40 Screen 0.02" Slot (Threaded)
60		***Sand*** 7.5 YR 7/3 to 7/4, pink, very fine grained quartz sand, well sorted, dry, unconsolidated. Upper 3' interbedded with sandstone.	3102						W. L. = 59.75' bgs (7/29/98)
65			3096						51.0 to 73.4' bgs 8/16 graded silica sand
70			3091						Sch. 40 PVC Cap (Threaded
75		***Sandstone***							
80		***Gravelly Sand*** 2.5 YR 4/6, red, very fine to coarse grained quartz sand, poorly sorted.							
85									
90		***Mudstone*** 2.5 YR 4/6, red, silty, moist, hard.							
95									

Drilling Method: Air Rotary

Date Drilled: 7/10/98

Well Size: 4"

TOC Elevation: 3163.44

Checked by: CKC

Drilled by: Scarborough Drilling

Project No: 997

Well ID: MW-8

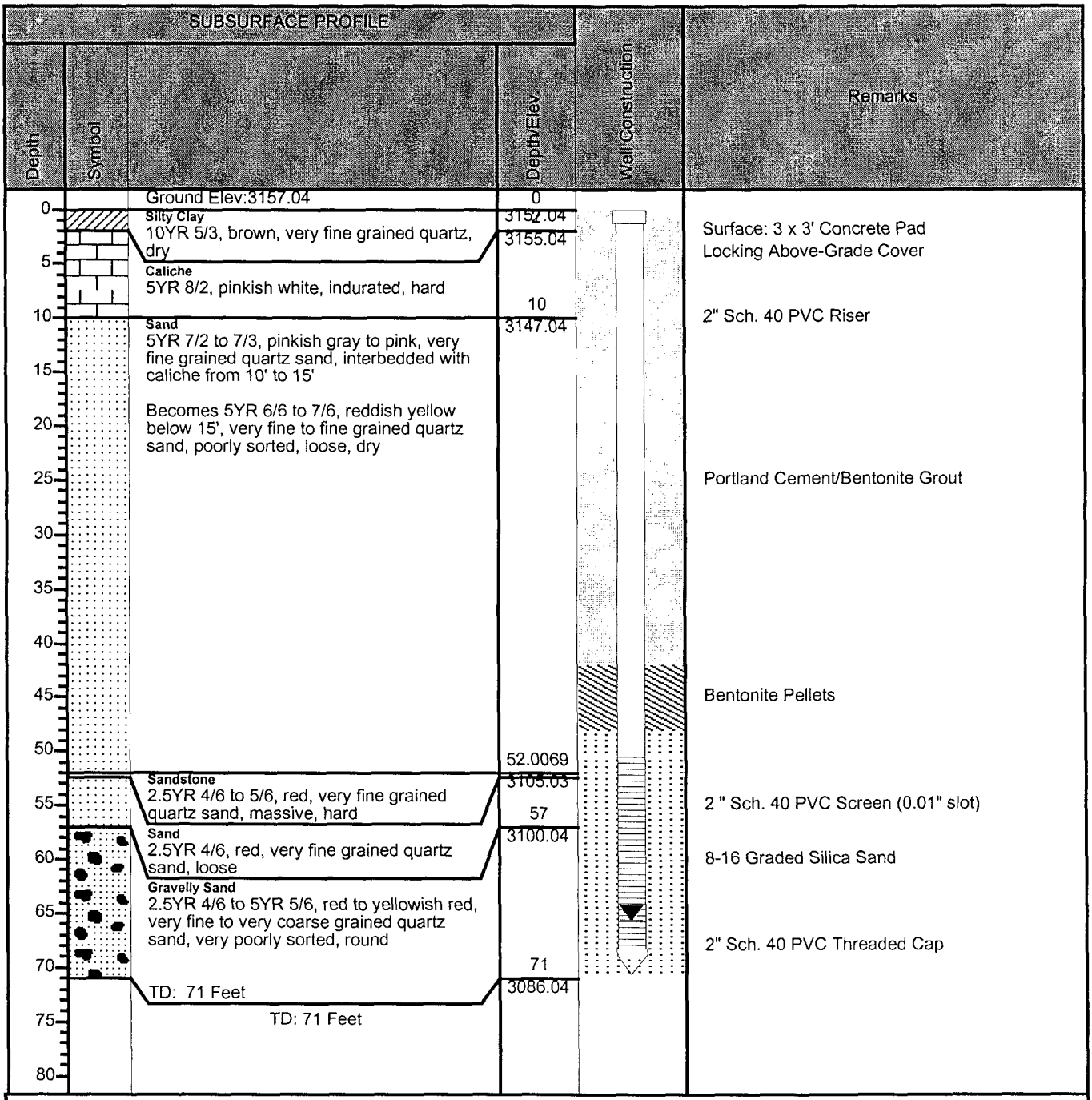
Project: G. L. Erwin Tank Battery

Client: Texaco Exploration and Production, Inc.

Enclosure: 1

Location: Lea County, New Mexico

Engineer: MJL



Drilled By: Scarborough Drilling, Inc.

Drill Method: Rotary (air)

Drill Date: 14-Jan-99

Highlander Environmental Corp.
1910 N. Big Spring Street
Midland, Texas
(915) 682-4559

Hole Size: 5"

Datum: Geodetic

Sheet: 1 of 1

Client: Texaco E&P

Project: G. L. Erwin

Project No: 0-0112

Location: SW/4, SE/4, Sec. 35, T24S, R37E, Lea Co., NM

Log: MW-9

Geologist: Mark J. Larson

Page: 1 of 1

Depth	Description	Elev.	Number	Type	Recovery	PID Measurement (PPM) 10 30 50	Well Detail	Notes
0	***Silty Sand*** 10 YR 5/3, brown, very fine grained quartz sand, dry loose.	3160						1.0 - 47.5 bgs Cement-bentonite grout
10	***Caliche*** 10 YR 8/3 very pale brown, indurated, hard.							
20	***Sand*** 10 YR 7/6 to 7/4, reddish yellow to pink, very fine to fine grained quartz sand, poorly sorted, rounded, loose, dry.							0.0 - 55.42 bgs 2" Sch. 40 PVC Riser (Threaded)
50		3112						47.5 to 52.5' bgs Bentonite pellets
55	***Chert*** 2.5 YR 4/4 to 5/4, weak to dusky red, very hard.							55.42 to 70.30' bgs 2" Sch. 40 Screen 0.02" Slot (Threaded)
60								W. L. = 63.65' bgs (4/30/02)
65	***Sand*** 10 YR 7/6 to 7/4, reddish yellow to pink, very fine grained quartz sand, poorly sorted, dry.	3100						52.5 to 70.30' bgs 8/16 graded silica sand
70		3097						Sch. 40 PVC Cap (Threaded)
		3094						
75	***Gravel*** 5 YR 5/6, yellowish red, fine to very coarse grained quartz sand.							
85	***Shale*** 10 YR 7/1 to 2.5 YR 4/6, light gray to red, moist, firm.							
90	***TD: 73'***							
95								

Drilling Method: Air Rotary

Date Drilled: 9/11/01

Well Size: 2"

Larson and Associates, Inc.
507 North Marienfeld St., Ste. 202
Midland, Texas 79701
(915) 687-0901

TOC Elevation: 3167.07

Checked by: CKC

Drilled by: Scarborough Drilling

Client: Texaco E&P

Project: G. L. Erwin

Project No: 0-0112

Location: SW/4, SE/4, Sec. 35, T24S, R37E, Lea Co., NM

Log: MW-10

Geologist: Mark J. Larson

Page: 1 of 1

SUBSURFACE PROFILE

Depth	Description	Elev.
5	***Silty Sand*** 10 YR 5/3, brown, very fine grained quartz sand, dry loose.	3160
10		
15	***Caliche*** 10 YR 8/3 very pale brown, indurated, hard.	
20	***Sand*** 10 YR 7/6 to 7/4, reddish yellow to pink, very fine to fine grained quartz sand, poorly sorted, rounded, loose, dry, interbedded with thin sandstone units, moderately well cemented.	
25		
30		
35		
40		
45		
50		3117
55	***Chert*** 2.5 YR 4/4 to 5/4, weak to dusky red, very hard, silicious.	3113
60		
65		3106
70	***Sand*** 10 YR 7/6 to 7/4, reddish yellow to pink, very fine to fine grained quartz sand, poorly sorted, dry.	3101
75		3098
80		3096
85	***Gravel*** 5 YR 5/6, yellowish red, fine to very coarse grained quartz sand.	
90		
95	***Sand*** 5 YR 5/6, yellowish red, very fine to medium grained quartz sand, poorly sorted, dry.	
100		
105		
110		
115		
120		

SAMPLE

Number	Type	Recovery

PID Measurement (PPM): 10 30 50

Well Detail

Notes

Well Secured with Locking Above-Grade Cover

1.0 - 48' bgs
Cement-bentonite grout

0.0 - 54.19' bgs
2" Sch. 40 PVC Riser
(Threaded)

48.0 to 52.0' bgs
Bentonite pellets

54.19 to 69.16' bgs
2" Sch. 40 Screen 0.02"
Slot (Threaded)

W. L. = 67.35' bgs (4/30/02)

Sch. 40 PVC Cap
54.19 to 75.0' bgs
8/16 graded silica sand

Drilling Method: Air Rotary

Date Drilled: 9/12/01

Well Size: 2"

Larson and Associates, Inc.
507 North Marienfeld St., Ste. 202
Midland, Texas 79701
(915) 687-0901

TOC Elevation: 3170.99

Checked by: CKC

Drilled by: Scarborough Drilling

Client: Texaco E&P

Project: G. L. Erwin

Project No: 0-0112

Location: SW/4, SE/4, Sec. 35, T24S, R37E, Lea Co., NM

Log: MW-11

Geologist: Mark J. Larson

Page: 1 of 1

Depth	Description	Elev.	Number	Type	Recovery	PID Measurement (PPM) 10 30 50	Well Detail	Notes
0	***Silty Sand*** 10 YR 5/3, brown, very fine grained quartz sand, poorly sorted, dry.							1.0 - 51.0' bgs Cement-bentonite grout
10		3157						
15	***Caliche*** 10 YR 8/3 very pale brown, indurated, hard.							
20	***Sand*** 10 YR 7/6 to 7/4, reddish yellow to pink, very fine to fine grained quartz sand, poorly sorted, dry, very soft. Interbedded with thin units of moderately cemented sandstone.							0.0 - 57.81' bgs 2" Sch. 40 PVC Riser (Threaded)
50								51.0 to 55.0' bgs Bentonite pellets
55		3112						
60	***Chert*** 2.5 YR 4/4 to 5/4, weak to dusky red, very hard, silicious.	3109 3106						57.81 to 72.39' bgs 2" Sch. 40 Screen 0.02" Slot (Threaded)
65								55.0 to 72.78' bgs 8/16 graded silica sand
70	***Sand*** 10 YR 7/6 to 7/4, reddish yellow to pink, very fine to fine grained quartz sand, poorly sorted, dry.	3098						
75		3092						Sch. 40 PVC Cap (Threaded)
80	***Gravel*** 5 YR 5/6, yellowish red, fine to very coarse grained quartz sand.							
90								
95	***Shale*** 2.5 YR 4/6, red, silty, very fine grained quartz sand, firm..							
100								
105	***TD: 76'***							
110								

Drilling Method: Air Rotary

Date Drilled: 9/12/01

Well Size: 2"

Larson and Associates, Inc.
507 North Marienfeld St., Ste. 202
Midland, Texas 79701
(915) 687-0901

TOC Elevation: 3168.24

Checked by: CKC

Drilled by: Scarborough Drilling

Client: Texaco E&P

Project: G. L. Erwin

Project No: 0-0112

Location: SW/4, SE/4, Sec. 35, T24S, R37E, Lea Co., NM

Log: MW-12

Geologist: Mark J. Larson

Page: 1 of 1

SUBSURFACE PROFILE

Depth	Symbol	Description	Elev.
0		***Silty Sand*** 10 YR 5/3, brown, very fine grained quartz sand, poorly sorted, dry.	3142
10		***Caliche*** 10 YR 8/3 very pale brown, indurated, hard.	
20		***Sand*** 10 YR 7/6 to 7/4, reddish yellow to pink, very fine to fine grained quartz sand, poorly sorted, dry, very soft. Interbedded with thin units of moderately cemented sandstone.	
60			3092
60		***Chert*** 2.5 YR 4/4 to 5/4, weak to dusky red, very hard, silicious.	3089
70			3082
70		***Sand*** 10 YR 7/6 to 7/4, reddish yellow to pink, very fine to fine grained quartz sand, poorly sorted, dry.	
80			3072
80		***Gravel*** 5 YR 5/6, yellowish red, fine to very coarse grained quartz sand.	
100		***Shale*** 2.5 YR 4/6, red, silty, very fine grained quartz sand, firm..	
110		***TD: 80'***	

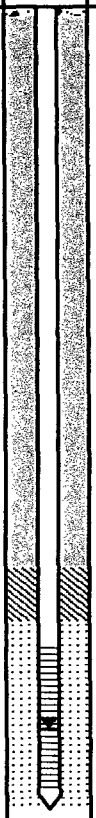
SAMPLE

Number	Type	Recovery

PID Measurement (PPM)

10 30 50

Well Detail



Notes

Well Secured with Locking Above-Grade Cover

1.0 - 52.0' bgs
Cement-bentonite grout

0.0 - 59.4' bgs
2" Sch. 40 PVC Riser
(Threaded)

52.0 to 57.0' bgs
Bentonite pellets

59.4 to 73.98' bgs
2" Sch. 40 Screen 0.02"
Slot (Threaded)
W. L. 66.85' bgs (4/30/02)

57.0 to 74.37' bgs
8/16 graded silica sand

Sch. 40 PVC Cap
(Threaded)

Drilling Method: Air Rotary

Date Drilled: 9/13/01

Well Size: 2"

Larson and Associates, Inc.
507 North Marienfeld St., Ste. 202
Midland, Texas 79701
(915) 687-0901

TOC Elevation: 3152.44

Checked by: CKC

Drilled by: Scarborough Drilling

Client: Texaco E&P

Project: G. L. Erwin

Project No: 0-0112

Location: SW/4, SE/4, Sec. 35, T24S, R37E, Lea Co., NM

Log: MW-13

Geologist: Mark J. Larson

Page: 1 of 1

SUBSURFACE PROFILE				SAMPLE			PID Measurement (PPM)		Notes
Depth	Symbol	Description	Elev.	Number	Type	Recovery	10 30 50	Well Detail	Well Secured with Locking Above-Grade Cover
0		***Silty Sand*** 10 YR 5/3, brown, very fine grained quartz sand, poorly sorted, dry.							1.0 - 45.0' bgs Cement-bentonite grout
10			3144						
		Caliche 10 YR 8/3 very pale brown, indurated, hard.							
20		***Sand*** 10 YR 7/6 to 7/4, reddish yellow to pink, very fine to fine grained quartz sand, poorly sorted, dry, very soft. Interbedded with thin units of moderately cemented sandstone.							0.0 -52.93 bgs 2" Sch. 40 PVC Riser (Threaded)
40									49.0 to 52.93' bgs Bentonite pellets
50									52.93 to 67.51' bgs 2" Sch. 40 Screen 0.02" Slot (Threaded)
60			3095						
		Gravel 10 YR 7/6 to 7/4, reddish yellow to pink, very coarse grained quartz sand, loose, poorly sorted.	3092						W. L. 63.97' bgs (4/30/02)
70			3083						49.0 to 67.9' bgs 8/16 graded silica sand
		Shale 2.5 YR 4/6, red, silty, very fine grained quartz sand, firm..							Sch. 40 PVC Cap (Threaded)
80		***TD: 72'***							
90									
100									
110									

Drilling Method: Air Rotary

Date Drilled: 9/13/01

Well Size: 2"

Larson and Associates, Inc.
507 North Marienfeld St., Ste. 202
Midland, Texas 79701
(915) 687-0901

TOC Elevation: 3154.92

Checked by: CKC

Drilled by: Scarborough Drilling

APPENDIX C

Laboratory Analyses and Chain of Custody Documentation

TRACEANALYSIS, INC.

6701 Aberdeen Avenue, Suite 9 Lubbock, Texas 79424 800•378•1296 806•794•1296 FAX 806•794•1298
155 McCutcheon, Suite H El Paso, Texas 79932 888•588•3443 915•585•3443 FAX 915•585•4944
E-Mail: lab@traceanalysis.com

Analytical and Quality Control Report

Mark Larson
Larson & Associates, Inc.
P.O. Box 50685
Midland, Tx. 79710

Report Date: May 22, 2002

Order ID Number: A02050316

Project Number: 0-0112
Project Name: G.L. Erwin - Texaco
Project Location: Eunice, NM

Enclosed are the Analytical Results and Quality Control Data Reports for the following samples submitted to Trace-Analysis, Inc.

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
196272	WW-1	Water	5/1/02	11:49	5/3/02
196273	MW-9	Water	5/1/02	14:37	5/3/02

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed. Note: the RDL is equal to MQL for all organic analytes including TPH.
The test results contained within this report meet all requirements of LAC 33:I unless otherwise noted.

Dr. Blair Leftwich, Director

Analytical Report

Sample: 196272 - WW-1

Analysis: Alkalinity | Analytical Method: E 310.1 | QC Batch: QC20403 | Date Analyzed: 5/15/02
Analyst: RS | Preparation Method: N/A | Prep Batch: PB19479 | Date Prepared: 5/15/02

Param	Flag	Result	Units	Dilution	RDL
Hydroxide Alkalinity		<1.0	mg/L as CaCo3	1	1
Carbonate Alkalinity		<1.0	mg/L as CaCo3	1	1
Bicarbonate Alkalinity		172	mg/L as CaCo3	1	1
Total Alkalinity		172	mg/L as CaCo3	1	1

Sample: 196272 - WW-1

Analysis: BTEX | Analytical Method: S 8021B | QC Batch: QC20069 | Date Analyzed: 5/3/02
Analyst: CG | Preparation Method: S 5030B | Prep Batch: PB19236 | Date Prepared: 5/3/02

Param	Flag	Result	Units	Dilution	RDL
Benzene		<0.001	mg/L	1	0.001
Toluene		<0.001	mg/L	1	0.001
Ethylbenzene		<0.001	mg/L	1	0.001
M,P,O-Xylene		<0.001	mg/L	1	0.001
Total BTEX		<0.001	mg/L	1	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT	[1]	0.0539	mg/L	1	0.10	53	70 - 130
4-BFB	[2]	0.0547	mg/L	1	0.10	54	70 - 130

Sample: 196272 - WW-1

Analysis: Ion Chromatography (IC) | Analytical Method: E 300.0 | QC Batch: QC20140 | Date Analyzed: 5/3/02
Analyst: JSW | Preparation Method: N/A | Prep Batch: PB19295 | Date Prepared: 5/3/02

Param	Flag	Result	Units	Dilution	RDL
Chloride		97.2	mg/L	5	1
Fluoride		1.64	mg/L	5	0.20
Nitrate-N	[3]	4.05	mg/L	5	0.20
Sulfate	[4]	137	mg/L	5	1

Sample: 196272 - WW-1

Analysis: Salts | Analytical Method: E 200.7 | QC Batch: QC20514 | Date Analyzed: 5/20/02
Analyst: BC | Preparation Method: S 3005A | Prep Batch: PB19311 | Date Prepared: 5/8/02

[1]Low surrogate recovery due to matrix interference, ICV, CCV, CCV shows the emthod to be in control.
[2]Low surrogate recovery due to matrix interference, ICV, CCV, CCV shows the emthod to be in control.
[3]Sample 196272 was received on the last day of hold time for Nitrate, but could not be ran on the IC before time expired. Matrix spikes RPD = 0. %EA = 95.
[4]Matrix spikes RPD =1. %EA=57.

Param	Flag	Result	Units	Dilution	RDL
Dissolved Calcium		51.4	mg/L	1	0.50
Dissolved Magnesium		23.4	mg/L	1	0.50
Dissolved Potassium		8.23	mg/L	1	0.50
Dissolved Sodium		84.9	mg/L	1	0.50

Sample: 196273 - MW-9

Analysis: Alkalinity Analytical Method: E 310.1 QC Batch: QC20403 Date Analyzed: 5/15/02
Analyst: RS Preparation Method: N/A Prep Batch: PB19479 Date Prepared: 5/15/02

Param	Flag	Result	Units	Dilution	RDL
Hydroxide Alkalinity		<1.0	mg/L as CaCo3	1	1
Carbonate Alkalinity		<1.0	mg/L as CaCo3	1	1
Bicarbonate Alkalinity		142	mg/L as CaCo3	1	1
Total Alkalinity		142	mg/L as CaCo3	1	1

Sample: 196273 - MW-9

Analysis: BTEX Analytical Method: S 8021B QC Batch: QC20069 Date Analyzed: 5/3/02
Analyst: CG Preparation Method: S 5030B Prep Batch: PB19236 Date Prepared: 5/3/02

Param	Flag	Result	Units	Dilution	RDL
Benzene		<0.001	mg/L	1	0.001
Toluene		<0.001	mg/L	1	0.001
Ethylbenzene		<0.001	mg/L	1	0.001
M,P,O-Xylene		<0.001	mg/L	1	0.001
Total BTEX		<0.001	mg/L	1	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT	[5]	0.0506	mg/L	1	0.10	50	70 - 130
4-BFB	[6]	0.0518	mg/L	1	0.10	51	70 - 130

Sample: 196273 - MW-9

Analysis: Ion Chromatography (IC) Analytical Method: E 300.0 QC Batch: QC20140 Date Analyzed: 5/3/02
Analyst: JSW Preparation Method: N/A Prep Batch: PB19295 Date Prepared: 5/3/02

Param	Flag	Result	Units	Dilution	RDL
Chloride		439	mg/L	50	1
Fluoride		1.88	mg/L	5	0.20
Nitrate-N	[7]	3.26	mg/L	5	0.20
Sulfate	[8]	106	mg/L	5	1

[5]Low surrogate recovery due to matrix interference, ICV, CCV, CCV shows the emthod to be in control.
[6]Low surrogate recovery due to matrix interference, ICV, CCV, CCV shows the emthod to be in control.
[7]Matrix spikes RPD = 0. %EA = 95.
[8]Matrix spikes RPD =1. %EA=57.

Sample: 196273 - MW-9

Analysis:	Salts	Analytical Method:	E 200.7	QC Batch:	QC20514	Date Analyzed:	5/20/02
Analyst:	BC	Preparation Method:	S 3005A	Prep Batch:	PB19311	Date Prepared:	5/8/02

Param	Flag	Result	Units	Dilution	RDL
Dissolved Calcium		98.8	mg/L	1	0.50
Dissolved Magnesium		35.8	mg/L	1	0.50
Dissolved Potassium		9.93	mg/L	1	0.50
Dissolved Sodium		188	mg/L	1	0.50

Quality Control Report
Method Blank

Method Blank

QCBatch: QC20069

Param	Flag	Results	Units	Reporting Limit
Benzene		<0.001	mg/L	0.001
Toluene		<0.001	mg/L	0.001
Ethylbenzene		<0.001	mg/L	0.001
M,P,O-Xylene		<0.001	mg/L	0.001
Total BTEX		<0.001	mg/L	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.0974	mg/L	1	0.10	97	70 - 130
4-BFB		0.101	mg/L	1	0.10	101	70 - 130

Method Blank

QCBatch: QC20140

Param	Flag	Results	Units	Reporting Limit
Chloride		<2.0	mg/L	1
Fluoride		<0.2	mg/L	0.20
Nitrate-N		<0.2	mg/L	0.20
Sulfate		<2.0	mg/L	1

Method Blank

QCBatch: QC20403

Param	Flag	Results	Units	Reporting Limit
Hydroxide Alkalinity		<1.0	mg/L as CaCo3	1
Carbonate Alkalinity		<1.0	mg/L as CaCo3	1
Bicarbonate Alkalinity		<4.0	mg/L as CaCo3	1
Total Alkalinity		<4.0	mg/L as CaCo3	1

Method Blank

QCBatch: QC20514

Param	Flag	Results	Units	Reporting Limit
Dissolved Calcium		<0.5	mg/L	0.50
Dissolved Magnesium		<0.5	mg/L	0.50
Dissolved Potassium		<0.5	mg/L	0.50
Dissolved Sodium		<0.5	mg/L	0.50

Quality Control Report
Duplicate Samples

Duplicate

QCBatch: QC20403

Param	Flag	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Hydroxide Alkalinity		<1.0	<1.0	mg/L as CaCo3	1	0	9.2
Carbonate Alkalinity		<1.0	<1.0	mg/L as CaCo3	1	0	9.2
Bicarbonate Alkalinity		124	122	mg/L as CaCo3	1	1	9.2
Total Alkalinity		124	122	mg/L as CaCo3	1	1	9.2

Quality Control Report
Lab Control Spikes and Duplicate Spikes

Laboratory Control Spikes

QCBatch: QC20069

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
MTBE	0.0956	0.0968	mg/L	1	0.10	<0.001	96	1	70 - 130	20
Benzene	0.0997	0.101	mg/L	1	0.10	<0.001	100	1	70 - 130	20
Toluene	0.100	0.0994	mg/L	1	0.10	<0.001	100	1	70 - 130	20
Ethylbenzene	0.102	0.101	mg/L	1	0.10	<0.001	102	1	70 - 130	20
M,P,O-Xylene	0.306	0.304	mg/L	1	0.30	<0.001	102	1	70 - 130	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	LCSD Result	Units	Dilution	Spike Amount	LCS % Rec	LCSD % Rec	Recovery Limits
TFT	0.0961	0.0965	mg/L	1	0.10	96	96	70 - 130
4-BFB	0.0964	0.0962	mg/L	1	0.10	96	96	70 - 130

Laboratory Control Spikes

QCBatch: QC20140

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
Chloride	11.93	11.95	mg/L	1	12.50	<2.0	95	0	90 - 110	20
Sulfate	12.27	12.32	mg/L	1	12.50	<2.0	98	0	90 - 110	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spikes

QCBatch: QC20514

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
Dissolved Calcium	100	99.9	mg/L	1	100	<0.5	100	0	75 - 125	20

Continued ...

... *Continued*

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
Dissolved Magnesium	99.0	101	mg/L	1	100	<0.5	99	2	75 - 125	20
Dissolved Potassium	95.7	96.7	mg/L	1	100	<0.5	95	1	75 - 125	20
Dissolved Sodium	98.6	102	mg/L	1	100	<0.5	98	3	75 - 125	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Quality Control Report
Matrix Spikes and Duplicate Spikes

Matrix Spikes

QCBatch: QC20140

Param	MS Result	MSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
Chloride	1584.7	1583.79	mg/L	1	6.25	398	18987	0	48 - 127	20
Fluoride	243.23	233.16	mg/L	1	1.25	<1.00	19458	4	82 - 101	20
Sulfate	[9] 6519	[10] 6603	mg/L	1	1250	5802	57	11	59 - 121	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spikes

QCBatch: QC20514

Param	MS Result	MSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
Dissolved Calcium	151	158	mg/L	1	100	51.4	99	6	75 - 125	20
Dissolved Magnesium	121	126	mg/L	1	100	23.4	97	4	75 - 125	20
Dissolved Potassium	105	110	mg/L	1	100	8.23	96	5	75 - 125	20
Dissolved Sodium	189	200	mg/L	1	100	84.9	104	10	75 - 125	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Quality Control Report
Continuing Calibration Verification Standards

CCV (1)

QCBatch: QC20069

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
MTBE		mg/L	0.10	0.0972	97	85 - 115	5/3/02
Benzene		mg/L	0.10	0.106	106	85 - 115	5/3/02
Toluene		mg/L	0.10	0.104	104	85 - 115	5/3/02

Continued ...

[9]Matrix spike %Ea low due to matrix difficulties. Sulfate LCS spikes show method to be in control.
[10]Matrix spike %Ea low due to matrix difficulties. Sulfate LCS spikes show method to be in control.

... Continued

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Ethylbenzene		mg/L	0.10	0.105	105	85 - 115	5/3/02
M,P,O-Xylene		mg/L	0.30	0.313	104	85 - 115	5/3/02

CCV (2)

QCBatch: QC20069

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
MTBE		mg/L	0.10	0.103	103	85 - 115	5/3/02
Benzene		mg/L	0.10	0.114	114	85 - 115	5/3/02
Toluene		mg/L	0.10	0.111	111	85 - 115	5/3/02
Ethylbenzene		mg/L	0.10	0.113	113	85 - 115	5/3/02
M,P,O-Xylene		mg/L	0.30	0.328	109	85 - 115	5/3/02

ICV (1)

QCBatch: QC20069

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
MTBE		mg/L	0.10	0.096	96	85 - 115	5/3/02
Benzene		mg/L	0.10	0.0998	100	85 - 115	5/3/02
Toluene		mg/L	0.10	0.0997	100	85 - 115	5/3/02
Ethylbenzene		mg/L	0.10	0.102	102	85 - 115	5/3/02
M,P,O-Xylene		mg/L	0.30	0.306	102	85 - 115	5/3/02

CCV (1)

QCBatch: QC20140

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/L	12.50	11.98	95	90 - 110	5/3/02
Sulfate		mg/L	12.50	12.48	99	90 - 110	5/3/02

ICV (1)

QCBatch: QC20140

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/L	12.50	12.04	96	90 - 110	5/3/02
Sulfate		mg/L	12.50	12.50	100	90 - 110	5/3/02

CCV (1) QCBatch: QC20403

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Hydroxide Alkalinity		mg/L as CaCo3	0	<1.0	0	90 - 110	5/15/02
Carbonate Alkalinity		mg/L as CaCo3	0	220	0	90 - 110	5/15/02
Bicarbonate Alkalinity		mg/L as CaCo3	0	26	0	90 - 110	5/15/02
Total Alkalinity		mg/L as CaCo3	250	246	98	90 - 110	5/15/02

ICV (1) QCBatch: QC20403

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Hydroxide Alkalinity		mg/L as CaCo3	0	<1.0	0	90 - 110	5/15/02
Carbonate Alkalinity		mg/L as CaCo3	0	224	0	90 - 110	5/15/02
Bicarbonate Alkalinity		mg/L as CaCo3	0	16	0	90 - 110	5/15/02
Total Alkalinity		mg/L as CaCo3	250	240	96	90 - 110	5/15/02

CCV (1) QCBatch: QC20514

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Dissolved Calcium		mg/L	25	26.3	105	90 - 110	5/20/02
Dissolved Magnesium		mg/L	25	25.9	103	90 - 110	5/20/02
Dissolved Potassium		mg/L	25	25.7	102	90 - 110	5/20/02
Dissolved Sodium		mg/L	25	26.1	104	90 - 110	5/20/02

ICV (1) QCBatch: QC20514

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Dissolved Calcium		mg/L	25	25.4	101	95 - 105	5/20/02
Dissolved Magnesium		mg/L	25	25.4	101	95 - 105	5/20/02
Dissolved Potassium		mg/L	25	24.1	96	95 - 105	5/20/02
Dissolved Sodium		mg/L	25	25.1	100	95 - 105	5/20/02

196272-73

6701 Aberdeen Avenue, Ste. 9
Lubbock, Texas 79424
Tel (806) 794-1296
Fax (806) 794-1298
1 (800) 378-1296

TraceAnalysis, Inc.

155 McCutcheon, Suite H
El Paso, Texas 79932
Tel (915) 585-3443
Fax (915) 585-4944
1 (888) 588-3443

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

LAB Order ID # A0205031G

Company Name: Larson and Associates Inc. Phone #: (915) 687-0901

Address: (Street, City, Zip) 507 N. Marienfield, Suite 202 Midland, Tx. 79701 Fax #: (915) 687-0456

Contact Person: Mark Larson mobil - (915) 556-8656

Invoice to: (If different from above)

Project #: 0-0112 Project Name: G Erwin - Texaco

Project Location: Eunice N.M. Sampler Signature: Ryan Reese

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCl	HNO_3	H_2SO_4	NaOH	ICE	NONE	SAMPLING: DATE	TIME
196272	MW-1	4		X				X					X	5-1-02	11:49
73	MW-9	4		X				X					X	5-1-02	2:31

ANALYSIS REQUEST

(Circle or Specify Method No.)

MTBE 8021B/602	BTEX 8021B/602	TPH 418.1/TX1005	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg 6010B/200.7	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	TCLP Pesticides	RCI	GC/MS Vol. 8260B/624	GC/MS Semi. Vol. 8270C/625	PCB's 8082/608	Pesticides 8081A/608	BOD, TSS, pH	Anions, Cations					Turn Around Time if different from standard	Hold
	X														X						
	X														X						

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Ryan Reese	5-2-02	8:10	Helen Shelton	5/02/02	8:10
Helen Shelton	5/02/02	1830	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received at Laboratory by: Vicki Perez	Date: 5-3-02	Time: 10:10

Submittal of samples constitutes agreement to Terms and Conditions listed on reverse side of C.O.C. & samples HS

ORIGINAL COPY

LAB USE ONLY

Intact (Y) / N

Headspace Y (N)

Temp -2 °

Log-in Review

REMARKS:

5/22 P

☐ Check If Special Reporting Limits Are Needed

Carrier # Greyhound GLI 163-566-7990

TRACEANALYSIS, INC.

6701 Aberdeen Avenue, Suite 9 Lubbock, Texas 79424 800•378•1296 806•794•1296 FAX 806•794•1298
155 McCutcheon, Suite H El Paso, Texas 79932 888•588•3443 915•585•3443 FAX 915•585•4944
E-Mail: lab@traceanalysis.com

Analytical and Quality Control Report

Mark Larson
Larson & Associates, Inc.
P.O. Box 50685
Midland, Tx. 79710

Report Date: May 23, 2002

Order ID Number: A02050413

Project Number: 00-0112
Project Name: G.L. Enwin
Project Location: Lea County, NM

Enclosed are the Analytical Results and Quality Control Data Reports for the following samples submitted to Trace-Analysis, Inc.

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
196347	MW-13	Water	5/2/02	11:00	5/4/02
196348	MW-12	Water	5/2/02	11:55	5/4/02
196349	MW-8	Water	5/2/02	12:38	5/4/02
196350	MW-7	Water	5/2/02	13:30	5/4/02
196351	MW-6	Water	5/2/02	14:25	5/4/02
196352	MW-3	Water	5/2/02	15:30	5/4/02
196353	Dup-1	Water	5/2/02	:	5/4/02

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed. Note: the RDL is equal to MQL for all organic analytes including TPH.
The test results contained within this report meet all requirements of LAC 33:I unless otherwise noted.

Dr. Blair Leftwich, Director

Analytical Report

Sample: 196347 - MW-13

Analysis: Alkalinity | Analytical Method: E 310.1 | QC Batch: QC20403 | Date Analyzed: 5/15/02
Analyst: RS | Preparation Method: N/A | Prep Batch: PB19479 | Date Prepared: 5/15/02

Param	Flag	Result	Units	Dilution	RDL
Hydroxide Alkalinity		<1.0	mg/L as CaCo3	1	1
Carbonate Alkalinity		<1.0	mg/L as CaCo3	1	1
Bicarbonate Alkalinity		122	mg/L as CaCo3	1	1
Total Alkalinity		122	mg/L as CaCo3	1	1

Sample: 196347 - MW-13

Analysis: BTEX | Analytical Method: S 8021B | QC Batch: QC20134 | Date Analyzed: 5/6/02
Analyst: CG | Preparation Method: S 5030B | Prep Batch: PB19291 | Date Prepared: 5/6/02

Param	Flag	Result	Units	Dilution	RDL
Benzene		<0.001	mg/L	1	0.001
Toluene		<0.001	mg/L	1	0.001
Ethylbenzene		<0.001	mg/L	1	0.001
M,P,O-Xylene		<0.001	mg/L	1	0.001
Total BTEX		<0.001	mg/L	1	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.0885	mg/L	1	0.10	88	70 - 130
4-BFB		0.0879	mg/L	1	0.10	88	70 - 130

Sample: 196347 - MW-13

Analysis: Ion Chromatography (IC) | Analytical Method: E 300.0 | QC Batch: QC20438 | Date Analyzed: 5/13/02
Analyst: JSW/RS | Preparation Method: N/A | Prep Batch: PB19529 | Date Prepared: 5/13/02

Param	Flag	Result	Units	Dilution	RDL
Chloride		277	mg/L	1	1
Fluoride		2.31	mg/L	1	0.20
Nitrate-N		4.38	mg/L	1	0.20
Sulfate		131	mg/L	1	1

Sample: 196347 - MW-13

Analysis: Salts | Analytical Method: E 200.7 | QC Batch: QC20513 | Date Analyzed: 5/20/02
Analyst: BC | Preparation Method: S 3005A | Prep Batch: PB19311 | Date Prepared: 5/8/02

Param	Flag	Result	Units	Dilution	RDL
Dissolved Calcium		125	mg/L	1	0.50
Dissolved Magnesium		44.3	mg/L	1	0.50
Dissolved Potassium		10.2	mg/L	1	0.50

Continued ...

... *Continued* Sample: 196347 Analysis: Salts

Param	Flag	Result	Units	Dilution	RDL
Dissolved Sodium		65.6	mg/L	1	0.50

Sample: 196348 - MW-12

Analysis: Alkalinity Analytical Method: E 310.1 QC Batch: QC20402 Date Analyzed: 5/15/02
Analyst: RS Preparation Method: N/A Prep Batch: PB19480 Date Prepared: 5/15/02

Param	Flag	Result	Units	Dilution	RDL
Hydroxide Alkalinity		<1.0	mg/L as CaCo3	1	1
Carbonate Alkalinity		<1.0	mg/L as CaCo3	1	1
Bicarbonate Alkalinity		88	mg/L as CaCo3	1	1
Total Alkalinity		88	mg/L as CaCo3	1	1

Sample: 196348 - MW-12

Analysis: BTEX Analytical Method: S 8021B QC Batch: QC20134 Date Analyzed: 5/6/02
Analyst: CG Preparation Method: S 5030B Prep Batch: PB19291 Date Prepared: 5/6/02

Param	Flag	Result	Units	Dilution	RDL
Benzene		<0.001	mg/L	1	0.001
Toluene		<0.001	mg/L	1	0.001
Ethylbenzene		<0.001	mg/L	1	0.001
M,P,O-Xylene		<0.001	mg/L	1	0.001
Total BTEX		<0.001	mg/L	1	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.0752	mg/L	1	0.10	75	70 - 130
4-BFB		0.0759	mg/L	1	0.10	76	70 - 130

Sample: 196348 - MW-12

Analysis: Ion Chromatography (IC) Analytical Method: E 300.0 QC Batch: QC20438 Date Analyzed: 5/13/02
Analyst: JSW/RS Preparation Method: N/A Prep Batch: PB19529 Date Prepared: 5/13/02

Param	Flag	Result	Units	Dilution	RDL
Chloride	[1]	1120	mg/L	1	1
Fluoride	[2]	1.37	mg/L	1	0.20
Nitrate-N	[3]	4.09	mg/L	1	0.20
Sulfate	[4]	45.3	mg/L	1	1

Sample: 196348 - MW-12

Analysis: Salts Analytical Method: E 200.7 QC Batch: QC20513 Date Analyzed: 5/20/02
Analyst: BC Preparation Method: S 3005A Prep Batch: PB19311 Date Prepared: 5/8/02

[1]CCV 1 %IA: 91; CCV2 %IA: 91; Matrix Spike RPD: 0; Matrix Spikes %EA: 90; LCS Spikes RPD: 0; LCS Spikes %EA: 91.
[2]CCV 1 %IA: 97; CCV 2 %IA: 95; Matrix Spike RPD: 1; Matrix Spike %EA: 90; LCS Spike RPD: 1; LCS Spike %EA: 95.
[3]CCV 1 %IA: 94; CCV 2 %IA: 94; Matrix Spike RPD: 0; Matrix Spike %EA: 91; LCS Spike RPD: 1; LCS Spike %EA: 94.
[4]CCV 1 %IA: 96; CCV 2 %IA: 94; Matrix Spike RPD: 1; Matrix Spike %EA: 92; LCS Spike RPD: 1; LCS Spike %EA: 94.

Param	Flag	Result	Units	Dilution	RDL
Dissolved Calcium		431	mg/L	1	0.50
Dissolved Magnesium		153	mg/L	1	0.50
Dissolved Potassium		17.7	mg/L	1	0.50
Dissolved Sodium		123	mg/L	1	0.50

Sample: 196349 - MW-8

Analysis: Alkalinity | Analytical Method: E 310.1 | QC Batch: QC20402 | Date Analyzed: 5/15/02
Analyst: RS | Preparation Method: N/A | Prep Batch: PB19480 | Date Prepared: 5/15/02

Param	Flag	Result	Units	Dilution	RDL
Hydroxide Alkalinity		<1.0	mg/L as CaCo3	1	1
Carbonate Alkalinity		<1.0	mg/L as CaCo3	1	1
Bicarbonate Alkalinity		236	mg/L as CaCo3	1	1
Total Alkalinity		236	mg/L as CaCo3	1	1

Sample: 196349 - MW-8

Analysis: BTEX | Analytical Method: S 8021B | QC Batch: QC20134 | Date Analyzed: 5/6/02
Analyst: CG | Preparation Method: S 5030B | Prep Batch: PB19291 | Date Prepared: 5/6/02

Param	Flag	Result	Units	Dilution	RDL
Benzene		<0.001	mg/L	1	0.001
Toluene		<0.001	mg/L	1	0.001
Ethylbenzene		<0.001	mg/L	1	0.001
M,P,O-Xylene		<0.001	mg/L	1	0.001
Total BTEX		<0.001	mg/L	1	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.0962	mg/L	1	0.10	96	70 - 130
4-BFB		0.0936	mg/L	1	0.10	94	70 - 130

Sample: 196349 - MW-8

Analysis: Ion Chromatography (IC) | Analytical Method: E 300.0 | QC Batch: QC20450 | Date Analyzed: 5/13/02
Analyst: JSW/RS | Preparation Method: N/A | Prep Batch: PB19530 | Date Prepared: 5/13/02

Param	Flag	Result	Units	Dilution	RDL
Chloride		818	mg/L	1	1
Fluoride		2.65	mg/L	1	0.20
Nitrate-N		6.68	mg/L	1	0.20
Sulfate		168	mg/L	1	1

Sample: 196349 - MW-8

Analysis: Salts | Analytical Method: E 200.7 | QC Batch: QC20513 | Date Analyzed: 5/20/02
Analyst: BC | Preparation Method: S 3005A | Prep Batch: PB19311 | Date Prepared: 5/8/02

Param	Flag	Result	Units	Dilution	RDL
Dissolved Calcium		94.5	mg/L	1	0.50
Dissolved Magnesium		29.2	mg/L	1	0.50
Dissolved Potassium		13.0	mg/L	1	0.50
Dissolved Sodium		527	mg/L	1	0.50

Sample: 196350 - MW-7

Analysis: Alkalinity Analytical Method: E 310.1 QC Batch: QC20402 Date Analyzed: 5/15/02
Analyst: RS Preparation Method: N/A Prep Batch: PB19480 Date Prepared: 5/15/02

Param	Flag	Result	Units	Dilution	RDL
Hydroxide Alkalinity		<1.0	mg/L as CaCo3	1	1
Carbonate Alkalinity		<1.0	mg/L as CaCo3	1	1
Bicarbonate Alkalinity		244	mg/L as CaCo3	1	1
Total Alkalinity		244	mg/L as CaCo3	1	1

Sample: 196350 - MW-7

Analysis: BTEX Analytical Method: S 8021B QC Batch: QC20134 Date Analyzed: 5/6/02
Analyst: CG Preparation Method: S 5030B Prep Batch: PB19291 Date Prepared: 5/6/02

Param	Flag	Result	Units	Dilution	RDL
Benzene		<0.001	mg/L	1	0.001
Toluene		<0.001	mg/L	1	0.001
Ethylbenzene		<0.001	mg/L	1	0.001
M,P,O-Xylene		<0.001	mg/L	1	0.001
Total BTEX		<0.001	mg/L	1	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.0954	mg/L	1	0.10	95	70 - 130
4-BFB		0.097	mg/L	1	0.10	97	70 - 130

Sample: 196350 - MW-7

Analysis: Ion Chromatography (IC) Analytical Method: E 300.0 QC Batch: QC20450 Date Analyzed: 5/13/02
Analyst: JSW/RS Preparation Method: N/A Prep Batch: PB19530 Date Prepared: 5/13/02

Param	Flag	Result	Units	Dilution	RDL
Chloride		466	mg/L	1	1
Fluoride		2.94	mg/L	1	0.20
Nitrate-N		4.18	mg/L	1	0.20
Sulfate		106	mg/L	1	1

Sample: 196350 - MW-7

Analysis: Salts Analytical Method: E 200.7 QC Batch: QC20513 Date Analyzed: 5/20/02
Analyst: BC Preparation Method: S 3005A Prep Batch: PB19311 Date Prepared: 5/8/02

Param	Flag	Result	Units	Dilution	RDL
Dissolved Calcium		46.6	mg/L	1	0.50
Dissolved Magnesium		17.0	mg/L	1	0.50
Dissolved Potassium		8.42	mg/L	1	0.50
Dissolved Sodium		307	mg/L	1	0.50

Sample: 196351 - MW-6

Analysis: Alkalinity | Analytical Method: E 310.1 | QC Batch: QC20402 | Date Analyzed: 5/15/02
Analyst: RS | Preparation Method: N/A | Prep Batch: PB19480 | Date Prepared: 5/15/02

Param	Flag	Result	Units	Dilution	RDL
Hydroxide Alkalinity		<1.0	mg/L as CaCo3	1	1
Carbonate Alkalinity		<1.0	mg/L as CaCo3	1	1
Bicarbonate Alkalinity		264	mg/L as CaCo3	1	1
Total Alkalinity		264	mg/L as CaCo3	1	1

Sample: 196351 - MW-6

Analysis: BTEX | Analytical Method: S 8021B | QC Batch: QC20134 | Date Analyzed: 5/6/02
Analyst: CG | Preparation Method: S 5030B | Prep Batch: PB19291 | Date Prepared: 5/6/02

Param	Flag	Result	Units	Dilution	RDL
Benzene		<0.001	mg/L	1	0.001
Toluene		<0.001	mg/L	1	0.001
Ethylbenzene		<0.001	mg/L	1	0.001
M,P,O-Xylene		<0.001	mg/L	1	0.001
Total BTEX		<0.001	mg/L	1	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.0959	mg/L	1	0.10	96	70 - 130
4-BFB		0.0966	mg/L	1	0.10	97	70 - 130

Sample: 196351 - MW-6

Analysis: Ion Chromatography (IC) | Analytical Method: E 300.0 | QC Batch: QC20450 | Date Analyzed: 5/13/02
Analyst: JSW/RS | Preparation Method: N/A | Prep Batch: PB19530 | Date Prepared: 5/13/02

Param	Flag	Result	Units	Dilution	RDL
Chloride		503	mg/L	1	1
Fluoride	[5]	3.68	mg/L	5	0.20
Nitrate-N	[6]	7.04	mg/L	5	0.20
Sulfate	[7]	183	mg/L	5	1

[5]CCV 1 %IA: 95; CCV 2 %IA: 96; Matrix Spik RPD: 1; Matrix Spike %EA: 88; LCS Spike RPD: 2; LCS Spike %EA: 94.
[6]CCV 1 %IA: 98; CCV 2 %IA: 98; Matrix Spik RPD: 1; Matrix Spike %EA: 95; LCS Spike RPD: 1; LCS Spike %EA: 99.
[7]CCV 1 %IA: 94; CCV 2 %IA: 95; Matrix Spik RPD: 0; Matrix Spike %EA: 91; LCS Spike RPD: 1; LCS Spike %EA: 95.

Sample: 196351 - MW-6

Analysis:	Salts	Analytical Method:	E 200.7	QC Batch:	QC20513	Date Analyzed:	5/20/02
Analyst:	BC	Preparation Method:	S 3005A	Prep Batch:	PB19311	Date Prepared:	5/8/02

Param	Flag	Result	Units	Dilution	RDL
Dissolved Calcium		24.9	mg/L	1	0.50
Dissolved Magnesium		7.29	mg/L	1	0.50
Dissolved Potassium		17.4	mg/L	1	0.50
Dissolved Sodium		475	mg/L	1	0.50

Sample: 196352 - MW-3

Analysis:	Alkalinity	Analytical Method:	E 310.1	QC Batch:	QC20402	Date Analyzed:	5/15/02
Analyst:	RS	Preparation Method:	N/A	Prep Batch:	PB19480	Date Prepared:	5/15/02

Param	Flag	Result	Units	Dilution	RDL
Hydroxide Alkalinity		<1.0	mg/L as CaCo3	1	1
Carbonate Alkalinity		<1.0	mg/L as CaCo3	1	1
Bicarbonate Alkalinity		298	mg/L as CaCo3	1	1
Total Alkalinity		298	mg/L as CaCo3	1	1

Sample: 196352 - MW-3

Analysis:	BTEX	Analytical Method:	S 8021B	QC Batch:	QC20134	Date Analyzed:	5/6/02
Analyst:	CG	Preparation Method:	S 5030B	Prep Batch:	PB19291	Date Prepared:	5/6/02

Param	Flag	Result	Units	Dilution	RDL
Benzene		<0.001	mg/L	1	0.001
Toluene		<0.001	mg/L	1	0.001
Ethylbenzene		<0.001	mg/L	1	0.001
M,P,O-Xylene		<0.001	mg/L	1	0.001
Total BTEX		<0.001	mg/L	1	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.0998	mg/L	1	0.10	100	70 - 130
4-BFB		0.101	mg/L	1	0.10	101	70 - 130

Sample: 196352 - MW-3

Analysis:	Ion Chromatography (IC)	Analytical Method:	E 300.0	QC Batch:	QC20448	Date Analyzed:	5/13/02
Analyst:	JSW	Preparation Method:	N/A	Prep Batch:	PB19525	Date Prepared:	5/13/02

Param	Flag	Result	Units	Dilution	RDL
Chloride		735	mg/L	50	1
Fluoride		2.84	mg/L	5	0.20
Nitrate-N		7.57	mg/L	5	0.20
Sulfate		213	mg/L	5	1

Sample: 196352 - MW-3

Analysis:	Salts	Analytical Method:	E 200.7	QC Batch:	QC20513	Date Analyzed:	5/20/02
Analyst:	BC	Preparation Method:	S 3005A	Prep Batch:	PB19311	Date Prepared:	5/8/02

Param	Flag	Result	Units	Dilution	RDL
Dissolved Calcium		27.5	mg/L	1	0.50
Dissolved Magnesium		8.39	mg/L	1	0.50
Dissolved Potassium		24.7	mg/L	1	0.50
Dissolved Sodium		42.8	mg/L	1	0.50

Sample: 196353 - Dup-1

Analysis:	BTEX	Analytical Method:	S 8021B	QC Batch:	QC20134	Date Analyzed:	5/6/02
Analyst:	CG	Preparation Method:	S 5030B	Prep Batch:	PB19291	Date Prepared:	5/6/02

Param	Flag	Result	Units	Dilution	RDL
Benzene		<0.001	mg/L	1	0.001
Toluene		<0.001	mg/L	1	0.001
Ethylbenzene		<0.001	mg/L	1	0.001
M,P,O-Xylene		<0.001	mg/L	1	0.001
Total BTEX		<0.001	mg/L	1	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.0952	mg/L	1	0.10	95	70 - 130
4-BFB		0.0946	mg/L	1	0.10	95	70 - 130

Quality Control Report
Method Blank

Method Blank

QCBatch: QC20134

Param	Flag	Results	Units	Reporting Limit
Benzene		<0.001	mg/L	0.001
Toluene		<0.001	mg/L	0.001
Ethylbenzene		<0.001	mg/L	0.001
M,P,O-Xylene		<0.001	mg/L	0.001
Total BTEX		<0.001	mg/L	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.0946	mg/L	1	0.10	95	70 - 130
4-BFB		0.0943	mg/L	1	0.10	94	70 - 130

Method Blank

QCBatch: QC20402

Param	Flag	Results	Units	Reporting Limit
Hydroxide Alkalinity		<1.0	mg/L as CaCo3	1
Carbonate Alkalinity		<1.0	mg/L as CaCo3	1
Bicarbonate Alkalinity		<4.0	mg/L as CaCo3	1
Total Alkalinity		<4.0	mg/L as CaCo3	1

Method Blank

QCBatch: QC20403

Param	Flag	Results	Units	Reporting Limit
Hydroxide Alkalinity		<1.0	mg/L as CaCo3	1
Carbonate Alkalinity		<1.0	mg/L as CaCo3	1
Bicarbonate Alkalinity		<4.0	mg/L as CaCo3	1
Total Alkalinity		<4.0	mg/L as CaCo3	1

Method Blank

QCBatch: QC20438

Param	Flag	Results	Units	Reporting Limit
Chloride		<1.0	mg/L	1
Fluoride		<0.2	mg/L	0.20
Nitrate-N		<0.2	mg/L	0.20
Sulfate		<1.0	mg/L	1

Method Blank QCBatch: QC20448

Param	Flag	Results	Units	Reporting Limit
Chloride		<1.0	mg/L	1
Fluoride		<0.2	mg/L	0.20
Nitrate-N		<0.2	mg/L	0.20
Sulfate		<1.0	mg/L	1

Method Blank QCBatch: QC20450

Param	Flag	Results	Units	Reporting Limit
Chloride		<1.0	mg/L	1
Fluoride		<0.2	mg/L	0.20
Nitrate-N		<0.2	mg/L	0.20
Sulfate		<1.0	mg/L	1

Method Blank QCBatch: QC20513

Param	Flag	Results	Units	Reporting Limit
Dissolved Calcium		<0.5	mg/L	0.50
Dissolved Magnesium		<0.5	mg/L	0.50
Dissolved Potassium		<0.5	mg/L	0.50
Dissolved Sodium		<0.5	mg/L	0.50

Quality Control Report
Duplicate Samples

Duplicate QCBatch: QC20402

Param	Flag	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Hydroxide Alkalinity		<1.0	<1.0	mg/L as CaCo3	1	0	9.2
Carbonate Alkalinity		<1.0	<1.0	mg/L as CaCo3	1	0	9.2
Bicarbonate Alkalinity		602	606	mg/L as CaCo3	1	0	9.2
Total Alkalinity		602	606	mg/L as CaCo3	1	0	9.2

Duplicate QCBatch: QC20403

Param	Flag	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Hydroxide Alkalinity		<1.0	<1.0	mg/L as CaCo3	1	0	9.2
Carbonate Alkalinity		<1.0	<1.0	mg/L as CaCo3	1	0	9.2
Bicarbonate Alkalinity		124	122	mg/L as CaCo3	1	1	9.2

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Param	Flag	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Total Alkalinity		124	122	mg/L as CaCo3	1	1	9.2

Quality Control Report
Lab Control Spikes and Duplicate Spikes

Laboratory Control Spikes

QCBatch: QC20134

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
MTBE	0.0978	0.0951	mg/L	1	0.10	<0.001	98	3	70 - 130	20
Benzene	0.103	0.0993	mg/L	1	0.10	<0.001	103	4	70 - 130	20
Toluene	0.102	0.0986	mg/L	1	0.10	<0.001	102	3	70 - 130	20
Ethylbenzene	0.102	0.0994	mg/L	1	0.10	<0.001	102	2	70 - 130	20
M,P,O-Xylene	0.306	0.296	mg/L	1	0.30	<0.001	102	3	70 - 130	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	LCSD Result	Units	Dilution	Spike Amount	LCS % Rec	LCSD % Rec	Recovery Limits
TFT	0.0974	0.0952	mg/L	1	0.10	97	95	70 - 130
4-BFB	0.0958	0.0944	mg/L	1	0.10	96	94	70 - 130

Laboratory Control Spikes

QCBatch: QC20438

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
Chloride	11.36	11.31	mg/L	1	12.50	<1.0	90	0	90 - 110	20
Fluoride	2.39	2.44	mg/L	1	2.50	<0.2	95	2	90 - 110	20
Nitrate-N	2.37	2.36	mg/L	1	2.50	<0.2	94	0	90 - 110	20
Sulfate	11.94	12.04	mg/L	1	12.50	<1.0	95	0	90 - 110	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spikes

QCBatch: QC20448

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
Chloride	11.38	11.39	mg/L	1	12.50	<1.0	91	0	90 - 110	20
Fluoride	2.34	2.38	mg/L	1	2.50	<0.2	93	1	90 - 110	20
Nitrate-N	2.34	2.34	mg/L	1	2.50	<0.2	93	0	90 - 110	20
Sulfate	11.85	11.91	mg/L	1	12.50	<1.0	94	0	90 - 110	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spikes

QCBatch: QC20450

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
Chloride	11.35	11.36	mg/L	1	12.50	<1.0	90	0	90 - 110	20
Fluoride	2.37	2.35	mg/L	1	2.50	<0.2	94	0	90 - 110	20
Nitrate-N	2.35	2.37	mg/L	1	2.50	<0.2	94	0	90 - 110	20
Sulfate	11.77	11.84	mg/L	1	12.50	<1.0	94	0	90 - 110	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spikes

QCBatch: QC20513

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
Dissolved Calcium	100	99.9	mg/L	1	100	<0.5	100	0	75 - 125	20
Dissolved Magnesium	99.0	101	mg/L	1	100	<0.5	99	2	75 - 125	20
Dissolved Potassium	95.7	96.7	mg/L	1	100	<0.5	95	1	75 - 125	20
Dissolved Sodium	98.6	102	mg/L	1	100	<0.5	98	3	75 - 125	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Quality Control Report
Matrix Spikes and Duplicate Spikes

Matrix Spikes

QCBatch: QC20438

Param	MS Result	MSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
Chloride	2250	2242	mg/L	1	1250	1120	90	0	48 - 127	20
Fluoride	216	231	mg/L	1	250	1.37	85	6	82 - 101	20
Nitrate-N	245	245	mg/L	1	250	4.09	96	0	87 - 100	20
Sulfate	1241	1244	mg/L	1	1250	45.3	95	0	59 - 121	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spikes

QCBatch: QC20448

Param	MS Result	MSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
Chloride	1306.92	1306.87	mg/L	1	625	735	91	0	48 - 127	20
Fluoride	114.65	116.09	mg/L	1	125	2.84	89	1	82 - 101	20
Nitrate-N	127.69	128.40	mg/L	1	125	7.57	96	0	87 - 100	20
Sulfate	790.71	792.29	mg/L	1	625	213	92	0	59 - 121	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spikes

QCBatch: QC20450

Param	MS Result	MSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
Chloride	1065	1068	mg/L	1	625	503	89	0	48 - 127	20
Fluoride	117	116	mg/L	1	125	3.68	89	0	82 - 101	20
Nitrate-N	127	126	mg/L	1	125	7.04	90	0	87 - 100	20
Sulfate	745	740	mg/L	1	625	183	92	0	59 - 121	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spikes

QCBatch: QC20513

Param	MS Result	MSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
Dissolved Calcium	238	228	mg/L	1	100	125	113	9	75 - 125	20
Dissolved Magnesium	150	137	mg/L	1	100	44.3	105	13	75 - 125	20
Dissolved Potassium	110	101	mg/L	1	100	10.2	99	9	75 - 125	20
Dissolved Sodium	178	164	mg/L	1	100	65.6	112	13	75 - 125	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Quality Control Report
Continuing Calibration Verification Standards

CCV (1)

QCBatch: QC20134

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
MTBE		mg/L	0.10	0.0936	94	85 - 115	5/6/02
Benzene		mg/L	0.10	0.0981	98	85 - 115	5/6/02
Toluene		mg/L	0.10	0.0976	98	85 - 115	5/6/02
Ethylbenzene		mg/L	0.10	0.0975	98	85 - 115	5/6/02
M,P,O-Xylene		mg/L	0.30	0.290	97	85 - 115	5/6/02

CCV (2)

QCBatch: QC20134

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
MTBE		mg/L	0.10	0.0952	95	85 - 115	5/6/02
Benzene		mg/L	0.10	0.1	100	85 - 115	5/6/02
Toluene		mg/L	0.10	0.0978	97	85 - 115	5/6/02
Ethylbenzene		mg/L	0.10	0.0972	97	85 - 115	5/6/02
M,P,O-Xylene		mg/L	0.30	0.29	96	85 - 115	5/6/02

ICV (1)

QCBatch: QC20134

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
MTBE		mg/L	0.10	0.0969	97	85 - 115	5/6/02
Benzene		mg/L	0.10	0.103	103	85 - 115	5/6/02
Toluene		mg/L	0.10	0.102	102	85 - 115	5/6/02
Ethylbenzene		mg/L	0.10	0.100	100	85 - 115	5/6/02
M,P,O-Xylene		mg/L	0.30	0.298	99	85 - 115	5/6/02

CCV (1) QCBatch: QC20402

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Hydroxide Alkalinity		mg/L as CaCo3	0	<1.0	0	90 - 110	5/15/02
Carbonate Alkalinity		mg/L as CaCo3	0	224	0	90 - 110	5/15/02
Bicarbonate Alkalinity		mg/L as CaCo3	0	26	0	90 - 110	5/15/02
Total Alkalinity		mg/L as CaCo3	250	250	100	90 - 110	5/15/02

ICV (1) QCBatch: QC20402

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Hydroxide Alkalinity		mg/L as CaCo3	0	<1.0	0	90 - 110	5/15/02
Carbonate Alkalinity		mg/L as CaCo3	0	220	0	90 - 110	5/15/02
Bicarbonate Alkalinity		mg/L as CaCo3	0	26	0	90 - 110	5/15/02
Total Alkalinity		mg/L as CaCo3	250	246	98	90 - 110	5/15/02

CCV (1) QCBatch: QC20403

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Hydroxide Alkalinity		mg/L as CaCo3	0	<1.0	0	90 - 110	5/15/02
Carbonate Alkalinity		mg/L as CaCo3	0	220	0	90 - 110	5/15/02
Bicarbonate Alkalinity		mg/L as CaCo3	0	26	0	90 - 110	5/15/02
Total Alkalinity		mg/L as CaCo3	250	246	98	90 - 110	5/15/02

ICV (1) QCBatch: QC20403

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Hydroxide Alkalinity		mg/L as CaCo3	0	<1.0	0	90 - 110	5/15/02
Carbonate Alkalinity		mg/L as CaCo3	0	224	0	90 - 110	5/15/02

Continued ...

... Continued

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Bicarbonate Alkalinity		mg/L as CaCo3	0	16	0	90 - 110	5/15/02
Total Alkalinity		mg/L as CaCo3	250	240	96	90 - 110	5/15/02

CCV (1)

QCBatch: QC20438

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/L	12.50	11.32	90	90 - 110	5/13/02
Fluoride		mg/L	2.50	2.43	97	90 - 110	5/13/02
Nitrate-N		mg/L	2.50	2.36	94	90 - 110	5/13/02
Sulfate		mg/L	12.50	11.96	95	90 - 110	5/13/02

ICV (1)

QCBatch: QC20438

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/L	12.50	11.30	90	90 - 110	5/13/02
Fluoride		mg/L	2.50	2.42	96	90 - 110	5/13/02
Nitrate-N		mg/L	2.50	2.35	94	90 - 110	5/13/02
Sulfate		mg/L	12.50	12.09	96	90 - 110	5/13/02

CCV (1)

QCBatch: QC20448

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/L	12.50	11.43	91	90 - 110	5/13/02
Fluoride		mg/L	2.50	2.39	95	90 - 110	5/13/02
Nitrate-N		mg/L	2.50	2.37	94	90 - 110	5/13/02
Sulfate		mg/L	12.50	11.82	94	90 - 110	5/13/02

ICV (1)

QCBatch: QC20448

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/L	12.50	11.38	91	90 - 110	5/13/02
Fluoride		mg/L	2.50	2.38	95	90 - 110	5/13/02
Nitrate-N		mg/L	2.50	2.36	94	90 - 110	5/13/02
Sulfate		mg/L	12.50	11.77	94	90 - 110	5/13/02

CCV (1)

QCBatch: QC20450

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/L	12.50	11.38	91	90 - 110	5/13/02
Fluoride		mg/L	2.50	2.38	95	90 - 110	5/13/02
Nitrate-N		mg/L	2.50	2.36	94	90 - 110	5/13/02
Sulfate		mg/L	12.50	11.77	94	90 - 110	5/13/02

ICV (1)

QCBatch: QC20450

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/L	12.50	11.32	90	90 - 110	5/13/02
Fluoride		mg/L	2.50	2.43	97	90 - 110	5/13/02
Nitrate-N		mg/L	2.50	2.36	94	90 - 110	5/13/02
Sulfate		mg/L	12.50	11.96	95	90 - 110	5/13/02

CCV (1)

QCBatch: QC20513

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Dissolved Calcium		mg/L	25	26.3	105	90 - 110	5/20/02
Dissolved Magnesium		mg/L	25	25.9	103	90 - 110	5/20/02
Dissolved Potassium		mg/L	25	25.7	102	90 - 110	5/20/02
Dissolved Sodium		mg/L	25	26.1	104	90 - 110	5/20/02

ICV (1)

QCBatch: QC20513

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Dissolved Calcium		mg/L	25	25.4	101	95 - 105	5/20/02
Dissolved Magnesium		mg/L	25	25.4	101	95 - 105	5/20/02
Dissolved Potassium		mg/L	25	24.1	96	95 - 105	5/20/02
Dissolved Sodium		mg/L	25	25.1	100	95 - 105	5/20/02

19[redacted]47[redacted]3

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Fax (806) 794-1298
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TraceAnalysis, Inc.

155 McCutcheon, Suite H
El Paso, Texas 79932
Tel (915) 585-3443
Fax (915) 585-4944
1 (888) 588-3443

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

LAB Order ID # A0205O413

Company Name: Larson and Associates Inc. Phone #: (915) 687-0901

Address: (Street, City, Zip) 507 N. Marienfeld, Suite 202 Midland TX 79701 Fax #: (915) 687-0456

Contact Person: Mark Larson (915) 556-8656

Invoice to: (If different from above)

Project #: 0-0112 Project Name: Texaco GL-Erwin

Project Location: Eunice N.M. Sampler Signature: [signature]

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCl	HNO_3	H_2SO_4	NaOH	ICE	NONE	SAMPLING: DATE	TIME
190347	MW-13	4		X				X					X	5-02-02	11:00
48	MW-12	4		↓				↓					↓		11:55
49	MW-8	4		↓				↓					↓		12:38
50	MW-7	4		↓				↓					↓		1:30
51	MW-6	4		↓				↓					↓		2:25
52	MW-3	4		↓				↓					↓		3:30
53	Dup. -1	2		↓				↓					↓		—

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB #	MTBE 8021B/602	BTEX 8021B/602	TPH 418.1/TX1005	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg 6010B/200.7	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	TCLP Pesticides	RCI	GC/MS Vol. 8260B/624	GC/MS Semi. Vol. 8270C/625	PCB's 8082/608	Pesticides 8081A/608	BOD, TSS, pH	Anions, Cations	alk	Ca K Mg Na	Turn Around Time if different from standard	Hold
190347		X														X				
48		↓														X				
49		↓														X				
50		↓														X				
51		↓														X				
52		↓														X				
53		↓																		

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
[signature]	5-3-02	8:23	Helen Shelton	5/03/02	8:27AM
Helen Shelton	5/03/02	1830			
			Received at Laboratory by: Vicki [signature]	5-4-02	10:00

LAB USE ONLY
Intact (Y) / N
Headspace Y / N
Temp 2 °
Log-in Review MA

REMARKS:
5/24 FIP

☐ Check If Special Reporting Limits Are Needed

Carrier # Greyhound 1635446780 3

26 samples

Submittal of samples constitutes agreement to Terms and Conditions listed on reverse side of C.O.C.

ORIGINAL COPY

TRACEANALYSIS, INC.

6701 Aberdeen Avenue, Suite 9 Lubbock, Texas 79424 800•378•1296 806•794•1296 FAX 806•794•1298
155 McCutcheon, Suite H El Paso, Texas 79932 888•588•3443 915•585•3443 FAX 915•585•4944
E-Mail: lab@traceanalysis.com

Analytical and Quality Control Report

Mark Larson
Larson & Associates, Inc.
P.O. Box 50685
Midland, Tx. 79710

Report Date: May 23, 2002

Order ID Number: A02050412

Project Number: 00-0112
Project Name: G.L. Enwin
Project Location: Lea County, NM

Enclosed are the Analytical Results and Quality Control Data Reports for the following samples submitted to Trace-Analysis, Inc.

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
196340	MW-1	Water	5/3/02	1:22	5/4/02
196341	MW-2	Water	5/3/02	12:50	5/4/02
196342	MW-3	Water	5/3/02	11:45	5/4/02
196343	MW-4	Water	5/3/02	11:13	5/4/02
196344	MW-5	Water	5/3/02	14:05	5/4/02
196345	West MW	Water	5/3/02	9:58	5/4/02
196346	Southwest-MW	Water	5/3/02	10:44	5/4/02

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed. Note: the RDL is equal to MQL for all organic analytes including TPH.
The test results contained within this report meet all requirements of LAC 33:I unless otherwise noted.

Dr. Blair Leftwich, Director

Analytical Report

Sample: 196340 - MW-1

Analysis: Alkalinity | Analytical Method: E 310.1 | QC Batch: QC20403 | Date Analyzed: 5/15/02
Analyst: RS | Preparation Method: N/A | Prep Batch: PB19479 | Date Prepared: 5/15/02

Param	Flag	Result	Units	Dilution	RDL
Hydroxide Alkalinity		<1.0	mg/L as CaCo3	1	1
Carbonate Alkalinity		<1.0	mg/L as CaCo3	1	1
Bicarbonate Alkalinity		144	mg/L as CaCo3	1	1
Total Alkalinity		144	mg/L as CaCo3	1	1

Sample: 196340 - MW-1

Analysis: BTEX | Analytical Method: S 8021B | QC Batch: QC20104 | Date Analyzed: 5/6/02
Analyst: CG | Preparation Method: S 5030B | Prep Batch: PB19267 | Date Prepared: 5/6/02

Param	Flag	Result	Units	Dilution	RDL
Benzene		<0.001	mg/L	1	0.001
Toluene		<0.001	mg/L	1	0.001
Ethylbenzene		<0.001	mg/L	1	0.001
M,P,O-Xylene		<0.001	mg/L	1	0.001
Total BTEX		<0.001	mg/L	1	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.0977	mg/L	1	0.10	97	70 - 130
4-BFB		0.0929	mg/L	1	0.10	93	70 - 130

Sample: 196340 - MW-1

Analysis: Ion Chromatography (IC) | Analytical Method: E 300.0 | QC Batch: QC20436 | Date Analyzed: 5/13/02
Analyst: JSW | Preparation Method: N/A | Prep Batch: PB19523 | Date Prepared: 5/13/02

Param	Flag	Result	Units	Dilution	RDL
Chloride		428	mg/L	10	1
Fluoride		1.60	mg/L	5	0.20
Nitrate-N		3.06	mg/L	5	0.20
Sulfate		72.5	mg/L	5	1

Sample: 196340 - MW-1

Analysis: Salts | Analytical Method: E 200.7 | QC Batch: QC20514 | Date Analyzed: 5/20/02
Analyst: BC | Preparation Method: S 3005A | Prep Batch: PB19311 | Date Prepared: 5/8/02

Param	Flag	Result	Units	Dilution	RDL
Dissolved Calcium		103	mg/L	1	0.50
Dissolved Magnesium		38.7	mg/L	1	0.50
Dissolved Potassium		8.68	mg/L	1	0.50

Continued ...

... *Continued* Sample: 196340 Analysis: Salts

Param	Flag	Result	Units	Dilution	RDL
Dissolved Sodium		105	mg/L	1	0.50

Sample: 196341 - MW-2

Analysis: Alkalinity Analytical Method: E 310.1 QC Batch: QC20403 Date Analyzed: 5/15/02
Analyst: RS Preparation Method: N/A Prep Batch: PB19479 Date Prepared: 5/15/02

Param	Flag	Result	Units	Dilution	RDL
Hydroxide Alkalinity		<1.0	mg/L as CaCo3	1	1
Carbonate Alkalinity		<1.0	mg/L as CaCo3	1	1
Bicarbonate Alkalinity		262	mg/L as CaCo3	1	1
Total Alkalinity		262	mg/L as CaCo3	1	1

Sample: 196341 - MW-2

Analysis: BTEX Analytical Method: S 8021B QC Batch: QC20134 Date Analyzed: 5/6/02
Analyst: CG Preparation Method: S 5030B Prep Batch: PB19291 Date Prepared: 5/6/02

Param	Flag	Result	Units	Dilution	RDL
Benzene		<0.001	mg/L	1	0.001
Toluene		<0.001	mg/L	1	0.001
Ethylbenzene		<0.001	mg/L	1	0.001
M,P,O-Xylene		<0.001	mg/L	1	0.001
Total BTEX		<0.001	mg/L	1	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.105	mg/L	1	0.10	105	70 - 130
4-BFB		0.101	mg/L	1	0.10	101	70 - 130

Sample: 196341 - MW-2

Analysis: Ion Chromatography (IC) Analytical Method: E 300.0 QC Batch: QC20436 Date Analyzed: 5/13/02
Analyst: JSW Preparation Method: N/A Prep Batch: PB19523 Date Prepared: 5/13/02

Param	Flag	Result	Units	Dilution	RDL
Chloride		349	mg/L	10	1
Fluoride		2.28	mg/L	5	0.20
Nitrate-N		5.36	mg/L	5	0.20
Sulfate		148	mg/L	5	1

Sample: 196341 - MW-2

Analysis: Salts Analytical Method: E 200.7 QC Batch: QC20514 Date Analyzed: 5/20/02
Analyst: BC Preparation Method: S 3005A Prep Batch: PB19311 Date Prepared: 5/8/02

Param	Flag	Result	Units	Dilution	RDL
Dissolved Calcium		21.0	mg/L	1	0.50

Continued ...

... Continued Sample: 196341 Analysis: Salts

Param	Flag	Result	Units	Dilution	RDL
Dissolved Magnesium		6.18	mg/L	1	0.50
Dissolved Potassium		8.52	mg/L	1	0.50
Dissolved Sodium		315	mg/L	1	0.50

Sample: 196342 - MW-3

Analysis: Alkalinity Analytical Method: E 310.1 QC Batch: QC20403 Date Analyzed: 5/15/02
Analyst: RS Preparation Method: N/A Prep Batch: PB19479 Date Prepared: 5/15/02

Param	Flag	Result	Units	Dilution	RDL
Hydroxide Alkalinity		<1.0	mg/L as CaCo3	1	1
Carbonate Alkalinity		<1.0	mg/L as CaCo3	1	1
Bicarbonate Alkalinity		146	mg/L as CaCo3	1	1
Total Alkalinity		146	mg/L as CaCo3	1	1

Sample: 196342 - MW-3

Analysis: BTEX Analytical Method: S 8021B QC Batch: QC20134 Date Analyzed: 5/6/02
Analyst: CG Preparation Method: S 5030B Prep Batch: PB19291 Date Prepared: 5/6/02

Param	Flag	Result	Units	Dilution	RDL
Benzene		<0.001	mg/L	1	0.001
Toluene		<0.001	mg/L	1	0.001
Ethylbenzene		<0.001	mg/L	1	0.001
M,P,O-Xylene		<0.001	mg/L	1	0.001
Total BTEX		<0.001	mg/L	1	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.0964	mg/L	1	0.10	96	70 - 130
4-BFB		0.0957	mg/L	1	0.10	96	70 - 130

Sample: 196342 - MW-3

Analysis: Ion Chromatography (IC) Analytical Method: E 300.0 QC Batch: QC20436 Date Analyzed: 5/13/02
Analyst: JSW Preparation Method: N/A Prep Batch: PB19523 Date Prepared: 5/13/02

Param	Flag	Result	Units	Dilution	RDL
Bromide		< 10	mg/L	50	0.20
Chloride		767	mg/L	50	1
Fluoride		2.90	mg/L	5	0.20
Nitrate-N		7.39	mg/L	5	0.20
Sulfate		207	mg/L	5	1

Sample: 196342 - MW-3

Analysis: Salts Analytical Method: E 200.7 QC Batch: QC20514 Date Analyzed: 5/20/02
Analyst: BC Preparation Method: S 3005A Prep Batch: PB19311 Date Prepared: 5/8/02

Param	Flag	Result	Units	Dilution	RDL
Dissolved Calcium		37.9	mg/L	1	0.50
Dissolved Magnesium		11.5	mg/L	1	0.50
Dissolved Potassium		25.5	mg/L	1	0.50
Dissolved Sodium		28.2	mg/L	1	0.50

Sample: 196343 - MW-4

Analysis: Alkalinity Analytical Method: E 310.1 QC Batch: QC20403 Date Analyzed: 5/15/02
Analyst: RS Preparation Method: N/A Prep Batch: PB19479 Date Prepared: 5/15/02

Param	Flag	Result	Units	Dilution	RDL
Hydroxide Alkalinity		<1.0	mg/L as CaCo3	1	1
Carbonate Alkalinity		<1.0	mg/L as CaCo3	1	1
Bicarbonate Alkalinity		250	mg/L as CaCo3	1	1
Total Alkalinity		250	mg/L as CaCo3	1	1

Sample: 196343 - MW-4

Analysis: BTEX Analytical Method: S 8021B QC Batch: QC20134 Date Analyzed: 5/6/02
Analyst: CG Preparation Method: S 5030B Prep Batch: PB19291 Date Prepared: 5/6/02

Param	Flag	Result	Units	Dilution	RDL
Benzene		<0.001	mg/L	1	0.001
Toluene		<0.001	mg/L	1	0.001
Ethylbenzene		<0.001	mg/L	1	0.001
M,P,O-Xylene		<0.001	mg/L	1	0.001
Total BTEX		<0.001	mg/L	1	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.0989	mg/L	1	0.10	99	70 - 130
4-BFB		0.0999	mg/L	1	0.10	100	70 - 130

Sample: 196343 - MW-4

Analysis: Ion Chromatography (IC) Analytical Method: E 300.0 QC Batch: QC20439 Date Analyzed: 5/13/02
Analyst: JSW Preparation Method: N/A Prep Batch: PB19521 Date Prepared: 5/13/02

Param	Flag	Result	Units	Dilution	RDL
Chloride		868	mg/L	50	1
Fluoride		1.00	mg/L	5	0.20
Nitrate-N		4.72	mg/L	5	0.20
Sulfate		163	mg/L	5	1

Sample: 196343 - MW-4

Analysis: Salts Analytical Method: E 200.7 QC Batch: QC20514 Date Analyzed: 5/20/02
Analyst: BC Preparation Method: S 3005A Prep Batch: PB19311 Date Prepared: 5/8/02

Param	Flag	Result	Units	Dilution	RDL
Dissolved Calcium		137	mg/L	1	0.50
Dissolved Magnesium		48.4	mg/L	1	0.50
Dissolved Potassium		40.7	mg/L	1	0.50
Dissolved Sodium		441	mg/L	1	0.50

Sample: 196344 - MW-5

Analysis: Alkalinity Analytical Method: E 310.1 QC Batch: QC20403 Date Analyzed: 5/15/02
Analyst: RS Preparation Method: N/A Prep Batch: PB19479 Date Prepared: 5/15/02

Param	Flag	Result	Units	Dilution	RDL
Hydroxide Alkalinity		<1.0	mg/L as CaCo3	1	1
Carbonate Alkalinity		<1.0	mg/L as CaCo3	1	1
Bicarbonate Alkalinity		238	mg/L as CaCo3	1	1
Total Alkalinity		238	mg/L as CaCo3	1	1

Sample: 196344 - MW-5

Analysis: BTEX Analytical Method: S 8021B QC Batch: QC20134 Date Analyzed: 5/6/02
Analyst: CG Preparation Method: S 5030B Prep Batch: PB19291 Date Prepared: 5/6/02

Param	Flag	Result	Units	Dilution	RDL
Benzene		<0.001	mg/L	1	0.001
Toluene		<0.001	mg/L	1	0.001
Ethylbenzene		<0.001	mg/L	1	0.001
M,P,O-Xylene		<0.001	mg/L	1	0.001
Total BTEX		<0.001	mg/L	1	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.0985	mg/L	1	0.10	98	70 - 130
4-BFB		0.0987	mg/L	1	0.10	99	70 - 130

Sample: 196344 - MW-5

Analysis: Ion Chromatography (IC) Analytical Method: E 300.0 QC Batch: QC20438 Date Analyzed: 5/13/02
Analyst: JSW/RS Preparation Method: N/A Prep Batch: PB19529 Date Prepared: 5/13/02

Param	Flag	Result	Units	Dilution	RDL
Chloride		335	mg/L	1	1
Fluoride		0.96	mg/L	1	0.20
Nitrate-N		5.36	mg/L	1	0.20
Sulfate		162	mg/L	1	1

Sample: 196344 - MW-5

Analysis: Salts Analytical Method: E 200.7 QC Batch: QC20514 Date Analyzed: 5/20/02
Analyst: BC Preparation Method: S 3005A Prep Batch: PB19311 Date Prepared: 5/8/02

Param	Flag	Result	Units	Dilution	RDL
Dissolved Calcium		37.3	mg/L	1	0.50
Dissolved Magnesium		11.1	mg/L	1	0.50
Dissolved Potassium		27.3	mg/L	1	0.50
Dissolved Sodium		287	mg/L	1	0.50

Sample: 196345 - West MW

Analysis: Alkalinity Analytical Method: E 310.1 QC Batch: QC20403 Date Analyzed: 5/15/02
Analyst: RS Preparation Method: N/A Prep Batch: PB19479 Date Prepared: 5/15/02

Param	Flag	Result	Units	Dilution	RDL
Hydroxide Alkalinity		<1.0	mg/L as CaCo3	1	1
Carbonate Alkalinity		<1.0	mg/L as CaCo3	1	1
Bicarbonate Alkalinity		214	mg/L as CaCo3	1	1
Total Alkalinity		214	mg/L as CaCo3	1	1

Sample: 196345 - West MW

Analysis: BTEX Analytical Method: S 8021B QC Batch: QC20134 Date Analyzed: 5/6/02
Analyst: CG Preparation Method: S 5030B Prep Batch: PB19291 Date Prepared: 5/6/02

Param	Flag	Result	Units	Dilution	RDL
Benzene		<0.001	mg/L	1	0.001
Toluene		<0.001	mg/L	1	0.001
Ethylbenzene		<0.001	mg/L	1	0.001
M,P,O-Xylene		<0.001	mg/L	1	0.001
Total BTEX		<0.001	mg/L	1	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.0977	mg/L	1	0.10	98	70 - 130
4-BFB		0.0958	mg/L	1	0.10	96	70 - 130

Sample: 196345 - West MW

Analysis: Ion Chromatography (IC) Analytical Method: E 300.0 QC Batch: QC20438 Date Analyzed: 5/13/02
Analyst: JSW/RS Preparation Method: N/A Prep Batch: PB19529 Date Prepared: 5/13/02

Param	Flag	Result	Units	Dilution	RDL
Chloride		329	mg/L	1	1
Fluoride		1.39	mg/L	1	0.20
Nitrate-N		4.36	mg/L	1	0.20
Sulfate		116	mg/L	1	1

Sample: 196345 - West MW

Analysis: Salts Analytical Method: E 200.7 QC Batch: QC20514 Date Analyzed: 5/20/02
Analyst: BC Preparation Method: S 3005A Prep Batch: PB19311 Date Prepared: 5/8/02

Param	Flag	Result	Units	Dilution	RDL
Dissolved Calcium		41.9	mg/L	1	0.50
Dissolved Magnesium		11.9	mg/L	1	0.50
Dissolved Potassium		40.9	mg/L	1	0.50
Dissolved Sodium		234	mg/L	1	0.50

Sample: 196346 - Southwest-MW

Analysis:	Alkalinity	Analytical Method:	E 310.1	QC Batch:	QC20403	Date Analyzed:	5/15/02
Analyst:	RS	Preparation Method:	N/A	Prep Batch:	PB19479	Date Prepared:	5/15/02

Param	Flag	Result	Units	Dilution	RDL
Hydroxide Alkalinity		<1.0	mg/L as CaCo3	1	1
Carbonate Alkalinity		<1.0	mg/L as CaCo3	1	1
Bicarbonate Alkalinity		272	mg/L as CaCo3	1	1
Total Alkalinity		272	mg/L as CaCo3	1	1

Sample: 196346 - Southwest-MW

Analysis:	BTEX	Analytical Method:	S 8021B	QC Batch:	QC20134	Date Analyzed:	5/6/02
Analyst:	CG	Preparation Method:	S 5030B	Prep Batch:	PB19291	Date Prepared:	5/6/02

Param	Flag	Result	Units	Dilution	RDL
Benzene		<0.001	mg/L	1	0.001
Toluene		<0.001	mg/L	1	0.001
Ethylbenzene		<0.001	mg/L	1	0.001
M,P,O-Xylene		<0.001	mg/L	1	0.001
Total BTEX		<0.001	mg/L	1	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.094	mg/L	1	0.10	94	70 - 130
4-BFB		0.0926	mg/L	1	0.10	93	70 - 130

Sample: 196346 - Southwest-MW

Analysis:	Ion Chromatography (IC)	Analytical Method:	E 300.0	QC Batch:	QC20438	Date Analyzed:	5/13/02
Analyst:	JSW/RS	Preparation Method:	N/A	Prep Batch:	PB19529	Date Prepared:	5/13/02

Param	Flag	Result	Units	Dilution	RDL
Chloride		1490	mg/L	1	1
Fluoride		1.38	mg/L	1	0.20
Nitrate-N		4.51	mg/L	1	0.20
Sulfate		301	mg/L	1	1

Sample: 196346 - Southwest-MW

Analysis:	Salts	Analytical Method:	E 200.7	QC Batch:	QC20514	Date Analyzed:	5/20/02
Analyst:	BC	Preparation Method:	S 3005A	Prep Batch:	PB19311	Date Prepared:	5/8/02

Param	Flag	Result	Units	Dilution	RDL
Dissolved Calcium		200	mg/L	1	0.50
Dissolved Magnesium		65.0	mg/L	1	0.50
Dissolved Potassium		46.4	mg/L	1	0.50
Dissolved Sodium		744	mg/L	1	0.50

Quality Control Report
Method Blank

Method Blank

QCBatch: QC20104

Param	Flag	Results	Units	Reporting Limit
Benzene		<0.001	mg/L	0.001
Toluene		<0.001	mg/L	0.001
Ethylbenzene		<0.001	mg/L	0.001
M,P,O-Xylene		<0.001	mg/L	0.001
Total BTEX		<0.001	mg/L	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.104	mg/L	1	0.10	104	70 - 130
4-BFB		0.0979	mg/L	1	0.10	98	70 - 130

Method Blank

QCBatch: QC20134

Param	Flag	Results	Units	Reporting Limit
Benzene		<0.001	mg/L	0.001
Toluene		<0.001	mg/L	0.001
Ethylbenzene		<0.001	mg/L	0.001
M,P,O-Xylene		<0.001	mg/L	0.001
Total BTEX		<0.001	mg/L	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.0946	mg/L	1	0.10	95	70 - 130
4-BFB		0.0943	mg/L	1	0.10	94	70 - 130

Method Blank

QCBatch: QC20403

Param	Flag	Results	Units	Reporting Limit
Hydroxide Alkalinity		<1.0	mg/L as CaCo3	1
Carbonate Alkalinity		<1.0	mg/L as CaCo3	1
Bicarbonate Alkalinity		<4.0	mg/L as CaCo3	1
Total Alkalinity		<4.0	mg/L as CaCo3	1

Method Blank

QCBatch: QC20436

Param	Flag	Results	Units	Reporting Limit
Bromide		<0.2	mg/L	0.20
Chloride		<1.0	mg/L	1
Fluoride		<0.2	mg/L	0.20
Nitrate-N		<0.2	mg/L	0.20
Sulfate		<1.0	mg/L	1

Method Blank QCBatch: QC20438

Param	Flag	Results	Units	Reporting Limit
Chloride		<1.0	mg/L	1
Fluoride		<0.2	mg/L	0.20
Nitrate-N		<0.2	mg/L	0.20
Sulfate		<1.0	mg/L	1

Method Blank QCBatch: QC20439

Param	Flag	Results	Units	Reporting Limit
Chloride		<1.0	mg/L	1
Fluoride		<0.2	mg/L	0.20
Nitrate-N		<0.2	mg/L	0.20
Sulfate		<1.0	mg/L	1

Method Blank QCBatch: QC20514

Param	Flag	Results	Units	Reporting Limit
Dissolved Calcium		<0.5	mg/L	0.50
Dissolved Magnesium		<0.5	mg/L	0.50
Dissolved Potassium		<0.5	mg/L	0.50
Dissolved Sodium		<0.5	mg/L	0.50

Quality Control Report
Duplicate Samples

Duplicate QCBatch: QC20403

Param	Flag	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Hydroxide Alkalinity		<1.0	<1.0	mg/L as CaCo3	1	0	9.2
Carbonate Alkalinity		<1.0	<1.0	mg/L as CaCo3	1	0	9.2
Bicarbonate Alkalinity		124	122	mg/L as CaCo3	1	1	9.2
Total Alkalinity		124	122	mg/L as CaCo3	1	1	9.2

Quality Control Report
Lab Control Spikes and Duplicate Spikes

Laboratory Control Spikes

QCBatch: QC20104

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
MTBE	0.102	0.102	mg/L	1	0.10	<0.001	102	0	70 - 130	20
Benzene	0.111	0.103	mg/L	1	0.10	<0.001	111	7	70 - 130	20
Toluene	0.108	0.103	mg/L	1	0.10	<0.001	108	5	70 - 130	20
Ethylbenzene	0.108	0.104	mg/L	1	0.10	<0.001	108	4	70 - 130	20
M,P,O-Xylene	0.315	0.309	mg/L	1	0.30	<0.001	105	2	70 - 130	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	LCSD Result	Units	Dilution	Spike Amount	LCS % Rec	LCSD % Rec	Recovery Limits
TFT	0.107	0.101	mg/L	1	0.10	107	101	70 - 130
4-BFB	0.101	0.101	mg/L	1	0.10	101	101	70 - 130

Laboratory Control Spikes

QCBatch: QC20134

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
MTBE	0.0978	0.0951	mg/L	1	0.10	<0.001	98	3	70 - 130	20
Benzene	0.103	0.0993	mg/L	1	0.10	<0.001	103	4	70 - 130	20
Toluene	0.102	0.0986	mg/L	1	0.10	<0.001	102	3	70 - 130	20
Ethylbenzene	0.102	0.0994	mg/L	1	0.10	<0.001	102	2	70 - 130	20
M,P,O-Xylene	0.306	0.296	mg/L	1	0.30	<0.001	102	3	70 - 130	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	LCSD Result	Units	Dilution	Spike Amount	LCS % Rec	LCSD % Rec	Recovery Limits
TFT	0.0974	0.0952	mg/L	1	0.10	97	95	70 - 130
4-BFB	0.0958	0.0944	mg/L	1	0.10	96	94	70 - 130

Laboratory Control Spikes

QCBatch: QC20436

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
Bromide	2.46	2.48	mg/L	1	2.50	<0.2	98	0	90 - 110	20
Bromide	2.46	2.48	mg/L	1	2.50	<0.20	98	0	90 - 110	20
Chloride	11.39	11.38	mg/L	1	12.50	<1.0	91	0	90 - 110	20
Fluoride	2.26	2.26	mg/L	1	2.50	<0.1	90	0	90 - 110	20
Fluoride	2.26	2.26	mg/L	1	2.50	<0.2	90	0	90 - 110	20
Nitrate-N	2.36	2.36	mg/L	1	2.50	<0.2	94	0	90 - 110	20
Sulfate	11.98	12.04	mg/L	1	12.50	<1.0	95	0	90 - 110	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spikes

QCBatch: QC20438

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
Chloride	11.36	11.31	mg/L	1	12.50	<1.0	90	0	90 - 110	20
Fluoride	2.39	2.44	mg/L	1	2.50	<0.2	95	2	90 - 110	20
Nitrate-N	2.37	2.36	mg/L	1	2.50	<0.2	94	0	90 - 110	20
Sulfate	11.94	12.04	mg/L	1	12.50	<1.0	95	0	90 - 110	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spikes

QCBatch: QC20439

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
Chloride	11.36	11.40	mg/L	1	12.50	<1.0	90	0	90 - 110	20
Fluoride	2.45	2.47	mg/L	1	2.50	<0.1	98	0	90 - 110	20
Fluoride	2.45	2.47	mg/L	1	2.50	<0.2	98	0	90 - 110	20
Nitrate-N	2.39	2.36	mg/L	1	2.50	<0.2	95	1	90 - 110	20
Sulfate	12.15	12.12	mg/L	1	12.50	<1.0	97	0	90 - 110	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spikes

QCBatch: QC20514

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
Dissolved Calcium	100	99.9	mg/L	1	100	<0.5	100	0	75 - 125	20
Dissolved Magnesium	99.0	101	mg/L	1	100	<0.5	99	2	75 - 125	20
Dissolved Potassium	95.7	96.7	mg/L	1	100	<0.5	95	1	75 - 125	20
Dissolved Sodium	98.6	102	mg/L	1	100	<0.5	98	3	75 - 125	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Quality Control Report
Matrix Spikes and Duplicate Spikes

Matrix Spikes

QCBatch: QC20436

Param	MS Result	MSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
Bromide	128.27	126.62	mg/L	1	125	7.68	96	1	84 - 110	20
Chloride	1341.01	1335.84	mg/L	1	625	767	91	0	48 - 127	20
Fluoride	120.61	106.87	mg/L	1	125	2.90	94	12	82 - 101	20
Nitrate-N	129.44	129.25	mg/L	1	125	7.39	97	0	87 - 100	20
Sulfate	796.95	795.70	mg/L	1	625	207	94	0	59 - 121	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spikes

QCBatch: QC20438

Param	MS Result	MSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
Chloride	2250	2242	mg/L	1	1250	1120	90	0	48 - 127	20
Fluoride	216	231	mg/L	1	250	1.37	85	6	82 - 101	20
Nitrate-N	245	245	mg/L	1	250	4.09	96	0	87 - 100	20
Sulfate	1241	1244	mg/L	1	1250	45.3	95	0	59 - 121	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spikes

QCBatch: QC20439

Param	MS Result	MSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
Chloride	1206.97	1207.19	mg/L	1	1250	59.9	91	0	48 - 127	20
Fluoride	208.00	210.68	mg/L	1	250	1.61	82	1	82 - 101	20
Sulfate	3769.52	3728.93	mg/L	1	1250	2590	94	3	59 - 121	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spikes

QCBatch: QC20514

Param	MS Result	MSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
Dissolved Calcium	151	158	mg/L	1	100	51.4	99	6	75 - 125	20
Dissolved Magnesium	121	126	mg/L	1	100	23.4	97	4	75 - 125	20
Dissolved Potassium	105	110	mg/L	1	100	8.23	96	5	75 - 125	20
Dissolved Sodium	189	200	mg/L	1	100	84.9	104	10	75 - 125	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Quality Control Report
Continuing Calibration Verification Standards

CCV (1)

QCBatch: QC20104

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
MTBE		mg/L	0.10	0.0997	100	85 - 115	5/6/02
Benzene		mg/L	0.10	0.106	106	85 - 115	5/6/02
Toluene		mg/L	0.10	0.107	107	85 - 115	5/6/02
Ethylbenzene		mg/L	0.10	0.106	106	85 - 115	5/6/02
M,P,O-Xylene		mg/L	0.30	0.316	105	85 - 115	5/6/02

CCV (2) QCBatch: QC20104

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
MTBE		mg/L	0.10	0.0989	98	85 - 115	5/6/02
Benzene		mg/L	0.10	0.102	102	85 - 115	5/6/02
Toluene		mg/L	0.10	0.102	102	85 - 115	5/6/02
Ethylbenzene		mg/L	0.10	0.101	101	85 - 115	5/6/02
M,P,O-Xylene		mg/L	0.30	0.3	100	85 - 115	5/6/02

ICV (1) QCBatch: QC20104

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
MTBE		mg/L	0.10	0.105	105	85 - 115	5/6/02
Benzene		mg/L	0.10	0.114	114	85 - 115	5/6/02
Toluene		mg/L	0.10	0.112	112	85 - 115	5/6/02
Ethylbenzene		mg/L	0.10	0.112	112	85 - 115	5/6/02
M,P,O-Xylene		mg/L	0.30	0.333	111	85 - 115	5/6/02

CCV (1) QCBatch: QC20134

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
MTBE		mg/L	0.10	0.0936	94	85 - 115	5/6/02
Benzene		mg/L	0.10	0.0981	98	85 - 115	5/6/02
Toluene		mg/L	0.10	0.0976	98	85 - 115	5/6/02
Ethylbenzene		mg/L	0.10	0.0975	98	85 - 115	5/6/02
M,P,O-Xylene		mg/L	0.30	0.290	97	85 - 115	5/6/02

CCV (2) QCBatch: QC20134

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
MTBE		mg/L	0.10	0.0952	95	85 - 115	5/6/02
Benzene		mg/L	0.10	0.1	100	85 - 115	5/6/02
Toluene		mg/L	0.10	0.0978	97	85 - 115	5/6/02
Ethylbenzene		mg/L	0.10	0.0972	97	85 - 115	5/6/02
M,P,O-Xylene		mg/L	0.30	0.29	96	85 - 115	5/6/02

ICV (1) QCBatch: QC20134

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
MTBE		mg/L	0.10	0.0969	97	85 - 115	5/6/02
Benzene		mg/L	0.10	0.103	103	85 - 115	5/6/02
Toluene		mg/L	0.10	0.102	102	85 - 115	5/6/02
Ethylbenzene		mg/L	0.10	0.100	100	85 - 115	5/6/02
M,P,O-Xylene		mg/L	0.30	0.298	99	85 - 115	5/6/02

CCV (1)

QCBatch: QC20403

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Hydroxide Alkalinity		mg/L as CaCo3	0	<1.0	0	90 - 110	5/15/02
Carbonate Alkalinity		mg/L as CaCo3	0	220	0	90 - 110	5/15/02
Bicarbonate Alkalinity		mg/L as CaCo3	0	26	0	90 - 110	5/15/02
Total Alkalinity		mg/L as CaCo3	250	246	98	90 - 110	5/15/02

ICV (1)

QCBatch: QC20403

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Hydroxide Alkalinity		mg/L as CaCo3	0	<1.0	0	90 - 110	5/15/02
Carbonate Alkalinity		mg/L as CaCo3	0	224	0	90 - 110	5/15/02
Bicarbonate Alkalinity		mg/L as CaCo3	0	16	0	90 - 110	5/15/02
Total Alkalinity		mg/L as CaCo3	250	240	96	90 - 110	5/15/02

CCV (1)

QCBatch: QC20436

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Bromide		mg/L	2.50	2.39	95	90 - 110	5/13/02
Chloride		mg/L	12.50	11.35	90	90 - 110	5/13/02
Fluoride		mg/L	2.50	2.57	102	90 - 110	5/13/02
Nitrate-N		mg/L	2.50	2.35	94	90 - 110	5/13/02
Sulfate		mg/L	12.50	12.03	96	90 - 110	5/13/02

ICV (1)

QCBatch: QC20436

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Bromide		mg/L	2.50	2.47	98	90 - 110	5/13/02

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Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/L	12.50	11.48	91	90 - 110	5/13/02
Fluoride		mg/L	2.50	2.48	99	90 - 110	5/13/02
Nitrate-N		mg/L	2.50	2.37	94	90 - 110	5/13/02
Sulfate		mg/L	12.50	12.83	102	90 - 110	5/13/02

CCV (1) QCBatch: QC20438

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/L	12.50	11.32	90	90 - 110	5/13/02
Fluoride		mg/L	2.50	2.43	97	90 - 110	5/13/02
Nitrate-N		mg/L	2.50	2.36	94	90 - 110	5/13/02
Sulfate		mg/L	12.50	11.96	95	90 - 110	5/13/02

ICV (1) QCBatch: QC20438

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/L	12.50	11.30	90	90 - 110	5/13/02
Fluoride		mg/L	2.50	2.42	96	90 - 110	5/13/02
Nitrate-N		mg/L	2.50	2.35	94	90 - 110	5/13/02
Sulfate		mg/L	12.50	12.09	96	90 - 110	5/13/02

CCV (1) QCBatch: QC20439

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/L	12.50	11.30	90	90 - 110	5/13/02
Fluoride		mg/L	2.50	2.42	96	90 - 110	5/13/02
Nitrate-N		mg/L	2.50	2.35	94	90 - 110	5/13/02
Sulfate		mg/L	12.50	12.09	96	90 - 110	5/13/02

ICV (1) QCBatch: QC20439

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/L	12.50	11.35	90	90 - 110	5/13/02
Fluoride		mg/L	2.50	2.57	102	90 - 110	5/13/02

Continued ...

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Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Nitrate-N		mg/L	2.50	2.35	94	90 - 110	5/13/02
Sulfate		mg/L	12.50	12.03	96	90 - 110	5/13/02

CCV (1)

QCBatch: QC20514

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Dissolved Calcium		mg/L	25	26.3	105	90 - 110	5/20/02
Dissolved Magnesium		mg/L	25	25.9	103	90 - 110	5/20/02
Dissolved Potassium		mg/L	25	25.7	102	90 - 110	5/20/02
Dissolved Sodium		mg/L	25	26.1	104	90 - 110	5/20/02

ICV (1)

QCBatch: QC20514

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Dissolved Calcium		mg/L	25	25.4	101	95 - 105	5/20/02
Dissolved Magnesium		mg/L	25	25.4	101	95 - 105	5/20/02
Dissolved Potassium		mg/L	25	24.1	96	95 - 105	5/20/02
Dissolved Sodium		mg/L	25	25.1	100	95 - 105	5/20/02

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Fax (806) 794-1298
1 (800) 378-1296

TraceAnalysis, Inc.

155 McCutcheon,Suite H
El Paso, Texas 79932
Tel (915) 585-3443
Fax (915) 585-4944
1 (888) 588-3443

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

LAB Order ID # AD20504 12

Company Name: Larson and Associates Inc. Phone #: (915)687-0901

Address: (Street, City, Zip) 507 N. Marienfeld suite 202 Midland Tx. 79701 Fax #: (915)687-~~0546~~ 0456

Contact Person: Mark Larson mobil (915)556-8656

Invoice to: (If different from above)

Project #: 0-0112 Project Name: Texaco-GL-Erwin

Project Location: Eunice, N.M. Sampler Signature: Ryan Reese

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCl	HNO_3	H_2SO_4	NaOH	ICE	NONE	SAMPLING: DATE	TIME
196340	MW-1	4		X				X				X	X	5-3-02	1:22
41	MW-2	4		↓				↓				↓	↓	↓	12:30
42	MW-3	4		↓				↓				↓	↓	↓	11:45
43	MW-4	4		↓				↓				↓	↓	↓	11:13
44	MW-5	4		↓				↓				↓	↓	↓	2:05
45	West-MW	4		↓				↓				↓	↓	↓	9:58
46	Southwest-MW	4		↓				↓				↓	↓	↓	10:44

ANALYSIS REQUEST

(Circle or Specify Method No.)

MTBE 8021B/602	BTEX 8021B/602	TPH 418.1/TX1005	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg 6010B/200.7	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	TCLP Pesticides	RCI	GC/MS Vol. 8260B/624	GC/MS Semi. Vol. 8270C/625	PCB's 8082/608	Pesticides 8081A/608	BOD, TSS, pH	X Anions, Cations · alk. F Cl NO_3 SO_4 · Na Ca K Mg			Turn Around Time if different from standard	Hold
	X*														X				
	↓														↓				
	↓														↓				
	↓														↓				
	↓														↓				
	↓														↓				
	↓														↓				

Relinquished by: Date: Time: 5-3-02 5:24

Received by: Helen Shelton 5/03/02 5:24

Relinquished by: Helen Shelton Date: 5/03/02 Time: 1830

Received by: Date: Time:

Relinquished by: Date: Time:

Received at Laboratory by: Vicki Reese 5/3/02 Date: Time: 10:00

LAB USE ONLY

Intact Y / N

Headspace Y / N

Temp 2 °

Log-in Review MA

REMARKS:

5/24 F/P

☐ Check If Special Reporting Limits Are Needed

Carrier # Greyhound 1635446803

Submittal of samples constitutes agreement to Terms and Conditions listed on reverse side of C.O.C. 28 samples-HS

ORIGINAL COPY

ANALYTICAL REPORT

Prepared for:

Cindy Crain
LARSON AND ASSOCIATES, INC.
P.O. BOX 50685
MIDLAND, TX 79710

Project:	Texaco / G.L. Erwin
PO#:	
Order#:	G0204760
Report Date:	10/24/2002

Certificates
US EPA Laboratory Code TX00158

ENVIRONMENTAL LAB OF TEXAS

SAMPLE WORK LIST

LARSON AND ASSOCIATES, INC.
P.O. BOX 50685
MIDLAND, TX 79710
915-687-0456

Order#: G0204760
Project: None Given
Project Name: Texaco / G.L. Erwin
Location: None Given

The samples listed below were submitted to Environmental Lab of Texas and were received under chain of custody. Environmental Lab of Texas makes no representation or certification as to the method of sample collection, sample identification, or transportation/handling procedures used prior to the receipt of samples by Environmental Lab of Texas, unless otherwise noted.

Lab ID:	Sample :	Matrix:	Date / Time Collected	Date / Time Received	Container	Preservative
0204760-01	WW-1	WATER	10/10/02 14:37	10/11/02 15:55	1 L Plastic	Ice

Lab Testing: **Rejected:** No **Temp:** 4 C

Anions
Cations
Total Dissolved Solids (TDS)

0204760-02	MW-12	WATER	10/11/02 11:57	10/11/02 15:55	1 L Plastic	Ice

Lab Testing: **Rejected:** No **Temp:** 4 C

Anions
Cations
Total Dissolved Solids (TDS)

0204760-03	MW-13	WATER	10/11/02 12:35	10/11/02 15:55	1 L Plastic	Ice

Lab Testing: **Rejected:** No **Temp:** 4 C

Anions
Cations
Total Dissolved Solids (TDS)

0204760-04	MW-7	WATER	10/11/02 13:08	10/11/02 15:55	1 L Plastic	Ice

Lab Testing: **Rejected:** No **Temp:** 4 C

Anions
Cations
Total Dissolved Solids (TDS)

0204760-05	MW-2	WATER	10/11/02 13:40	10/11/02 15:55	1 L Plastic	Ice

Lab Testing: **Rejected:** No **Temp:** 4 C

Anions
Cations
Total Dissolved Solids (TDS)

0204760-06	MW-1	WATER	10/11/02 14:20	10/11/02 15:55	1 L Plastic	Ice

Lab Testing: **Rejected:** No **Temp:** 4 C

Anions

ENVIRONMENTAL LAB OF TEXAS

SAMPLE WORK LIST

LARSON AND ASSOCIATES, INC.
P.O. BOX 50685
MIDLAND, TX 79710
915-687-0456

Order#: G0204760
Project: None Given
Project Name: Texaco / G.L. Erwin
Location: None Given

The samples listed below were submitted to Environmental Lab of Texas and were received under chain of custody. Environmental Lab of Texas makes no representation or certification as to the method of sample collection, sample identification, or transportation/handling procedures used prior to the receipt of samples by Environmental Lab of Texas, unless otherwise noted.

Lab ID:	Sample :	Matrix:	Date / Time Collected	Date / Time Received	Container	Preservative
	Cations					
	Total Dissolved Solids (TDS)					
0204760-07	MW-5	WATER	10/11/02 14:50	10/11/02 15:55	1 L Plastic	Ice
	Lab Testing:	**Rejected:** No		**Temp:** 4 C		
	Anions					
	Cations					
	Total Dissolved Solids (TDS)					
0204760-08	MW-3	WATER	10/11/02 15:20	10/11/02 15:55	1 L Plastic	Ice
	Lab Testing:	**Rejected:** No		**Temp:** 4 C		
	Anions					
	Cations					
	Total Dissolved Solids (TDS)					

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

Cindy Crain
LARSON AND ASSOCIATES, INC.
P.O. BOX 50685
MIDLAND, TX 79710

Order#: G0204760
Project: None Given
Project Name: Texaco / G.L. Erwin
Location: None Given

Lab ID: 0204760-01
Sample ID: WW-1

Cations

Parameter	Result	Units	Dilution Factor	RL	Method	Date Prepared	Date Analyzed	Analyst
Calcium	52.7	mg/L	10	0.10	6010B	10/15/2002	10/16/02	SM
Magnesium	22.2	mg/L	10	0.010	6010B	10/15/2002	10/16/02	SM
Potassium	9.99	mg/L	1	0.050	6010B	10/15/2002	10/16/02	SM
Sodium	106	mg/L	10	0.10	6010B	10/15/2002	10/16/02	SM

Lab ID: 0204760-02
Sample ID: MW-12

Cations

Parameter	Result	Units	Dilution Factor	RL	Method	Date Prepared	Date Analyzed	Analyst
Calcium	438	mg/L	100	1.0	6010B	10/15/2002	10/16/02	SM
Magnesium	161	mg/L	100	0.10	6010B	10/15/2002	10/16/02	SM
Potassium	15.4	mg/L	10	0.50	6010B	10/15/2002	10/16/02	SM
Sodium	127	mg/L	100	1.0	6010B	10/15/2002	10/16/02	SM

Lab ID: 0204760-03
Sample ID: MW-13

Cations

Parameter	Result	Units	Dilution Factor	RL	Method	Date Prepared	Date Analyzed	Analyst
Calcium	135	mg/L	100	1.0	6010B	10/15/2002	10/16/02	SM
Magnesium	46.5	mg/L	10	0.010	6010B	10/15/2002	10/16/02	SM
Potassium	9.47	mg/L	10	0.50	6010B	10/15/2002	10/16/02	SM
Sodium	88.6	mg/L	10	0.10	6010B	10/15/2002	10/16/02	SM

Lab ID: 0204760-04
Sample ID: MW-7

Cations

Parameter	Result	Units	Dilution Factor	RL	Method	Date Prepared	Date Analyzed	Analyst
Calcium	39.7	mg/L	10	0.10	6010B	10/15/2002	10/16/02	SM
Magnesium	13.5	mg/L	10	0.010	6010B	10/15/2002	10/16/02	SM
Potassium	6.70	mg/L	10	0.50	6010B	10/15/2002	10/16/02	SM
Sodium	316	mg/L	100	1.0	6010B	10/15/2002	10/16/02	SM

N/A = Not Applicable RL = Reporting Limit

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

Cindy Crain
LARSON AND ASSOCIATES, INC.
P.O. BOX 50685
MIDLAND, TX 79710

Order#: G0204760
Project: None Given
Project Name: Texaco / G.L. Erwin
Location: None Given

Lab ID: 0204760-05
Sample ID: MW-2

Cations

Parameter	Result	Units	Dilution Factor	RL	Method	Date Prepared	Date Analyzed	Analyst
Calcium	18.1	mg/L	10	0.10	6010B	10/15/2002	10/16/02	SM
Magnesium	4.92	mg/L	1	0.001	6010B	10/15/2002	10/16/02	SM
Potassium	7.49	mg/L	10	0.50	6010B	10/15/2002	10/16/02	SM
Sodium	329	mg/L	100	1.0	6010B	10/15/2002	10/16/02	SM

Lab ID: 0204760-06
Sample ID: MW-1

Cations

Parameter	Result	Units	Dilution Factor	RL	Method	Date Prepared	Date Analyzed	Analyst
Calcium	69.3	mg/L	10	0.10	6010B	10/15/2002	10/16/02	SM
Magnesium	24.8	mg/L	10	0.010	6010B	10/15/2002	10/16/02	SM
Potassium	7.45	mg/L	10	0.50	6010B	10/15/2002	10/16/02	SM
Sodium	125	mg/L	100	1.0	6010B	10/15/2002	10/16/02	SM

Lab ID: 0204760-07
Sample ID: MW-5

Cations

Parameter	Result	Units	Dilution Factor	RL	Method	Date Prepared	Date Analyzed	Analyst
Calcium	31.8	mg/L	10	0.10	6010B	10/15/2002	10/16/02	SM
Magnesium	10.0	mg/L	10	0.010	6010B	10/15/2002	10/16/02	SM
Potassium	20.7	mg/L	10	0.50	6010B	10/15/2002	10/16/02	SM
Sodium	305	mg/L	100	1.0	6010B	10/15/2002	10/16/02	SM

Lab ID: 0204760-08
Sample ID: MW-3

Cations

Parameter	Result	Units	Dilution Factor	RL	Method	Date Prepared	Date Analyzed	Analyst
Calcium	29.0	mg/L	10	0.10	6010B	10/15/2002	10/16/02	SM
Magnesium	9.18	mg/L	10	0.010	6010B	10/15/2002	10/16/02	SM
Potassium	20.6	mg/L	10	0.50	6010B	10/15/2002	10/16/02	SM
Sodium	622	mg/L	100	1.0	6010B	10/15/2002	10/16/02	SM

N/A = Not Applicable RL = Reporting Limit

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

Cindy Crain	Order#:	G0204760
LARSON AND ASSOCIATES, INC.	Project:	None Given
P.O. BOX 50685	Project Name:	Texaco / G.L. Erwin
MIDLAND, TX 79710	Location:	None Given

Approval: Raland K Tuttle 10-

Raland K. Tuttle, Lab Director, QA Officer Date
Celey D. Keene, Org. Tech. Director
Jeanne McMurrey, Inorg. Tech. Director
Sandra Biezugbe, Lab Tech.
Sara Molina, Lab Tech.

N/A = Not Applicable RL = Reporting Limit

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

Cindy Crain
LARSON AND ASSOCIATES, INC.
P.O. BOX 50685
MIDLAND, TX 79710

Order#: G0204760
Project: None Given
Project Name: Texaco / G.L. Erwin
Location: None Given

Lab ID: 0204760-01
Sample ID: WW-1

Anions

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Bicarbonate Alkalinity	168	mg/L	1	2.00	310.1	10/12/02	SB
Carbonate Alkalinity	<0.10	mg/L	1	0.10	310.1	10/12/02	SB
Chloride	106	mg/L	1	5.00	9253	10/14/02	SB
Hydroxide Alkalinity	<0.10	mg/L	1	0.10	310.1	10/12/02	SB
SULFATE, 375.4	124	mg/L	2.5	1.25	375.4	10/15/02	SB

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Total Dissolved Solids (TDS)	605	mg/L	1	5.0	160.1	10/14/02	TAL

Lab ID: 0204760-02
Sample ID: MW-12

Anions

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Bicarbonate Alkalinity	93	mg/L	1	2.00	310.1	10/12/02	SB
Carbonate Alkalinity	<0.10	mg/L	1	0.10	310.1	10/12/02	SB
Chloride	1370	mg/L	1	5.00	9253	10/14/02	SB
Hydroxide Alkalinity	<0.10	mg/L	1	0.10	310.1	10/12/02	SB
SULFATE, 375.4	47.5	mg/L	1	0.50	375.4	10/15/02	SB

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Total Dissolved Solids (TDS)	2860	mg/L	1	5.0	160.1	10/14/02	TAL

Lab ID: 0204760-03
Sample ID: MW-13

Anions

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Bicarbonate Alkalinity	115	mg/L	1	2.00	310.1	10/12/02	SB
Carbonate Alkalinity	<0.10	mg/L	1	0.10	310.1	10/12/02	SB
Chloride	337	mg/L	1	5.00	9253	10/14/02	SB
Hydroxide Alkalinity	<0.10	mg/L	1	0.10	310.1	10/12/02	SB
SULFATE, 375.4	124	mg/L	2.5	1.25	375.4	10/15/02	SB

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Total Dissolved Solids (TDS)	1210	mg/L	1	5.0	160.1	10/14/02	TAL

RL = Reporting Limit N/A = Not Applicable

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

Cindy Crain
LARSON AND ASSOCIATES, INC.
P.O. BOX 50685
MIDLAND, TX 79710

Order#: G0204760
Project: None Given
Project Name: Texaco / G.L. Erwin
Location: None Given

Lab ID: 0204760-04
Sample ID: MW-7

Anions

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Bicarbonate Alkalinity	242	mg/L	1	2.00	310.1	10/12/02	SB
Carbonate Alkalinity	<0.10	mg/L	1	0.10	310.1	10/12/02	SB
Chloride	408	mg/L	1	5.00	9253	10/14/02	SB
Hydroxide Alkalinity	<0.10	mg/L	1	0.10	310.1	10/12/02	SB
SULFATE, 375.4	128	mg/L	2.5	1.25	375.4	10/15/02	SB

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Total Dissolved Solids (TDS)	1120	mg/L	1	5.0	160.1	10/14/02	TAL

Lab ID: 0204760-05
Sample ID: MW-2

Anions

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Bicarbonate Alkalinity	250	mg/L	1	2.00	310.1	10/12/02	SB
Carbonate Alkalinity	10.0	mg/L	1	0.10	310.1	10/12/02	SB
Chloride	337	mg/L	1	5.00	9253	10/14/02	SB
Hydroxide Alkalinity	<0.10	mg/L	1	0.10	310.1	10/12/02	SB
SULFATE, 375.4	176	mg/L	2.5	1.25	375.4	10/15/02	SB

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Total Dissolved Solids (TDS)	1120	mg/L	1	5.0	160.1	10/14/02	TAL

Lab ID: 0204760-06
Sample ID: MW-1

Anions

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Bicarbonate Alkalinity	155	mg/L	1	2.00	310.1	10/12/02	SB
Carbonate Alkalinity	<0.10	mg/L	1	0.10	310.1	10/12/02	SB
Chloride	230	mg/L	1	5.00	9253	10/14/02	SB
Hydroxide Alkalinity	<0.10	mg/L	1	0.10	310.1	10/12/02	SB
SULFATE, 375.4	109	mg/L	2.5	1.25	375.4	10/15/02	SB

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Total Dissolved Solids (TDS)	737	mg/L	1	5.0	160.1	10/14/02	TAL

RL = Reporting Limit N/A = Not Applicable

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

Cindy Crain
LARSON AND ASSOCIATES, INC.
P.O. BOX 50685
MIDLAND, TX 79710

Order#: G0204760
Project: None Given
Project Name: Texaco / G.L. Erwin
Location: None Given

Lab ID: 0204760-07
Sample ID: MW-5

Anions

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Bicarbonate Alkalinity	232	mg/L	1	2.00	310.1	10/12/02	SB
Carbonate Alkalinity	<0.10	mg/L	1	0.10	310.1	10/12/02	SB
Chloride	337	mg/L	1	5.00	9253	10/14/02	SB
Hydroxide Alkalinity	<0.10	mg/L	1	0.10	310.1	10/12/02	SB
SULFATE, 375.4	173	mg/L	2.5	1.25	375.4	10/15/02	SB

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Total Dissolved Solids (TDS)	1100	mg/L	1	5.0	160.1	10/14/02	TAL

Lab ID: 0204760-08
Sample ID: MW-3

Anions

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Bicarbonate Alkalinity	288	mg/L	1	2.00	310.1	10/12/02	SB
Carbonate Alkalinity	<0.10	mg/L	1	0.10	310.1	10/12/02	SB
Chloride	753	mg/L	1	5.00	9253	10/14/02	SB
Hydroxide Alkalinity	<0.10	mg/L	1	0.10	310.1	10/12/02	SB
SULFATE, 375.4	272	mg/L	5	2.5	375.4	10/15/02	SB

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Total Dissolved Solids (TDS)	1960	mg/L	1	5.0	160.1	10/14/02	TAL

Approval: Raland K Tuttle 10-24-02
Raland K. Tuttle, Lab Director, QA Officer — Date
Celey D. Keene, Org. Tech. Director
Jeanne McMurrey, Inorg. Tech. Director
Sandra Biezugbe, Lab Tech.
Sara Molina, Lab Tech.

RL = Reporting Limit N/A = Not Applicable

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

Anions

Order#: G0204760

BLANK WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Bicarbonate Alkalinity-mg/L	0003432-01			<2.00		
Carbonate Alkalinity-mg/L	0003430-01			<0.10		
Chloride-mg/L	0003436-01			<5.00		
Hydroxide Alkalinity-mg/L	0003434-01			<0.10		
SULFATE, 375.4-mg/L	0003443-01			<0.50		
DUPLICATE WATER	**LAB-ID #**	**Sample Concentr.**	**Spike Concentr.**	**QC Test Result**	**Pct (%) Recovery**	**RPD**
Bicarbonate Alkalinity-mg/L	0204760-01	168		169		0.6%
Carbonate Alkalinity-mg/L	0204760-01	0		<0.10		0.%
Hydroxide Alkalinity-mg/L	0204760-01	0		<0.10		0.%
SULFATE, 375.4-mg/L	0204760-01	124		126		1.6%
MS WATER	**LAB-ID #**	**Sample Concentr.**	**Spike Concentr.**	**QC Test Result**	**Pct (%) Recovery**	**RPD**
Chloride-mg/L	0204760-01	106	250	354	99.2%	
MSD WATER	**LAB-ID #**	**Sample Concentr.**	**Spike Concentr.**	**QC Test Result**	**Pct (%) Recovery**	**RPD**
Chloride-mg/L	0204760-01	106	250	350	97.6%	1.1%
SRM WATER	**LAB-ID #**	**Sample Concentr.**	**Spike Concentr.**	**QC Test Result**	**Pct (%) Recovery**	**RPD**
Bicarbonate Alkalinity-mg/L	0003432-04		0.05	0.0496	99.2%	
Carbonate Alkalinity-mg/L	0003430-04		0.05	0.0496	99.2%	
Chloride-mg/L	0003436-04		5000	4960	99.2%	
Hydroxide Alkalinity-mg/L	0003434-04		0.05	0.0496	99.2%	
SULFATE, 375.4-mg/L	0003443-04		50	51.1	102.2%	

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

Cations

Order#: G0204760

BLANK WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Calcium-mg/L	0003462-02			<0.010		
Magnesium-mg/L	0003462-02			<0.001		
Potassium-mg/L	0003462-02			<0.050		
Sodium-mg/L	0003462-02			<0.010		
DUPLICATE WATER	**LAB-ID #**	**Sample Concentr.**	**Spike Concentr.**	**QC Test Result**	**Pct (%) Recovery**	**RPD**
Calcium-mg/L	0204760-01	52.7		53.4		1.3%
Magnesium-mg/L	0204760-01	22.2		22.2		0.%
Potassium-mg/L	0204760-01	9.99		9.96		0.3%
Sodium-mg/L	0204760-01	106		105		0.9%
SRM WATER	**LAB-ID #**	**Sample Concentr.**	**Spike Concentr.**	**QC Test Result**	**Pct (%) Recovery**	**RPD**
Calcium-mg/L	0003462-05		2	2.18	109.%	
Magnesium-mg/L	0003462-05		2	2.11	105.5%	
Potassium-mg/L	0003462-05		2	1.88	94.%	
Sodium-mg/L	0003462-05		2	2.29	114.5%	

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

Test Parameters

Order#: G0204760

BLANK WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Total Dissolved Solids (TDS)-mg/L	0003439-01			<5.0		
DUPLICATE WATER	**LAB-ID #**	**Sample Concentr.**	**Spike Concentr.**	**QC Test Result**	**Pct (%) Recovery**	**RPD**
Total Dissolved Solids (TDS)-mg/L	0204760-01	605		603.0		0.3%

CHAIN—OF—CUSTODY RECORD

Larson & Associates, Inc.
Environmental Consultants
507 N. Marienfeld, Ste. 202 • Midland, TX 79701
Fax: 915-687-0456
915-687-0901

CLIENT NAME: Texaco

SITE MANAGER: Cindy Crain

PROJECT NO.:

PROJECT NAME: G.L. Erwin

PAGE 1 OF 1

LAB. PO #

DATE	TIME	WATER	SOIL	OTHER	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	PARAMETERS/METHOD NUMBER: Anions	Cations	TDS	020760	LAB. I.D. NUMBER (LAB USE ONLY)	REMARKS (I.E., FILTERED, UNFILTERED, PRESERVED, UNPRESERVED, GRAB COMPOSITE)
10-10-02	1437	✓			WW-1	1	✓	✓	✓		01	Unpreserved
10-11-02	1157	✓			MW-12	1	✓	✓	✓		02	" "
" "	1235	✓			MW-13	1	✓	✓	✓		03	" "
"	1308	✓			MW-7	1	✓	✓	✓		04	" "
"	1340	✓			MW-2	1	✓	✓	✓		05	" "
"	1420	✓			MW-1	1	✓	✓	✓		06	" "
"	1450	✓			MW-5	1	✓	✓	✓		07	" "
"	1520	✓			MW-3	1	✓	✓	✓		08	" "

SAMPLED BY: (Signature) Michael Hahn — DATE: 10-11-02 TIME: 1200

RELINQUISHED BY: (Signature) — DATE: — TIME:

RECEIVED BY: (Signature) — DATE: — TIME:

RELINQUISHED BY: (Signature) Mark Hall — DATE: 10-11-02 TIME: 1555

RECEIVED BY: (Signature) Rebecca Rau — DATE: 10-11-02 TIME: 1555

SAMPLE SHIPPED BY: (Circle)
~~FEDEX~~ BUS AIRBILL #:
~~HAND DELIVERED~~ UPS OTHER:

COMMENTS: Rec 4°C

TURNAROUND TIME NEEDED

WHITE – RECEIVING LAB
YELLOW – RECEIVING LAB (TO BE RETURNED TO LA AFTER RECEIPT)
PINK – PROJECT MANAGER
GOLD – QA/QC COORDINATOR

RECEIVING LABORATORY:
ADDRESS:
CITY: STATE: ZIP:
CONTACT: PHONE:

RECEIVED BY: (Signature)
DATE: TIME:

SAMPLE CONDITION WHEN RECEIVED:

LA CONTACT PERSON: Cindy Crain (915) 556-8665

SAMPLE TYPE: Water

ANALYTICAL REPORT

Prepared for:

Cindy Crain
LARSON AND ASSOCIATES, INC.
P.O. BOX 50685
MIDLAND, TX 79710

Project:	Texaco/ G.L. Erwin
PO#:	
Order#:	G0204764
Report Date:	10/24/2002

Certificates
US EPA Laboratory Code TX00158

ENVIRONMENTAL LAB OF TEXAS

SAMPLE WORK LIST

LARSON AND ASSOCIATES, INC.
P.O. BOX 50685
MIDLAND, TX 79710
915-687-0456

Order#: G0204764
Project: 0-0112
Project Name: Texaco/ G.L. Erwin
Location: None Given

The samples listed below were submitted to Environmental Lab of Texas and were received under chain of custody. Environmental Lab of Texas makes no representation or certification as to the method of sample collection, sample identification, or transportation/handling procedures used prior to the receipt of samples by Environmental Lab of Texas, unless otherwise noted.

Lab ID:	Sample :	Matrix:	Date / Time Collected	Date / Time Received	Container	Preservative
0204764-01	MW-9	WATER	10/14/02 9:10	10/14/02 14:40	L HDPE	Ice
	Lab Testing:	**Rejected:** No		**Temp:** 3.5 C		
	Anions					
	Cations					
	Total Dissolved Solids (TDS)					
0204764-02	W-MW	WATER	10/14/02 9:45	10/14/02 14:40	L HDPE	Ice
	Lab Testing:	**Rejected:** No		**Temp:** 3.5 C		
	Anions					
	Cations					
	Total Dissolved Solids (TDS)					
0204764-03	SW-MW	WATER	10/14/02 10:15	10/14/02 14:40	L HDPE	Ice
	Lab Testing:	**Rejected:** No		**Temp:** 3.5 C		
	Anions					
	Cations					
	Total Dissolved Solids (TDS)					
0204764-04	RW-1	WATER	10/14/02 10:38	10/14/02 14:40	L HDPE	Ice
	Lab Testing:	**Rejected:** No		**Temp:** 3.5 C		
	Anions					
	Cations					
	Total Dissolved Solids (TDS)					
0204764-05	MW-4	WATER	10/14/02 10:57	10/14/02 14:40	L HDPE	Ice
	Lab Testing:	**Rejected:** No		**Temp:** 3.5 C		
	Anions					
	Cations					
	Total Dissolved Solids (TDS)					
0204764-06	MW-4 (Duplicate)	WATER	10/14/02 10:57	10/14/02 14:40	L HDPE	Ice
	Lab Testing:	**Rejected:** No		**Temp:** 3.5 C		
	Anions					

ENVIRONMENTAL LAB OF TEXAS

SAMPLE WORK LIST

LARSON AND ASSOCIATES, INC.
P.O. BOX 50685
MIDLAND, TX 79710
915-687-0456

Order#: G0204764
Project: 0-0112
Project Name: Texaco/ G.L. Erwin
Location: None Given

The samples listed below were submitted to Environmental Lab of Texas and were received under chain of custody. Environmental Lab of Texas makes no representation or certification as to the method of sample collection, sample identification, or transportation/handling procedures used prior to the receipt of samples by Environmental Lab of Texas, unless otherwise noted.

Lab ID:	Sample :	Matrix:	Date / Time Collected	Date / Time Received	Container	Preservative
	Cations					
	Total Dissolved Solids (TDS)					
0204764-07	MW-10	WATER	10/14/02 11:20	10/14/02 14:40	L HDPE	Ice
	Lab Testing:	**Rejected:** No		**Temp:** 3.5 C		
	Anions					
	Cations					
	Total Dissolved Solids (TDS)					
0204764-08	MW-8	WATER	10/14/02 11:48	10/14/02 14:40	L HDPE	Ice
	Lab Testing:	**Rejected:** No		**Temp:** 3.5 C		
	Anions					
	Cations					
	Total Dissolved Solids (TDS)					
0204764-09	MW-6	WATER	10/14/02 12:15	10/14/02 14:40	L HDPE	Ice
	Lab Testing:	**Rejected:** No		**Temp:** 3.5 C		
	Anions					
	Cations					
	Total Dissolved Solids (TDS)					

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

Cindy Crain
LARSON AND ASSOCIATES, INC.
P.O. BOX 50685
MIDLAND, TX 79710

Order#: G0204764
Project: 0-0112
Project Name: Texaco/ G.L. Erwin
Location: None Given

Lab ID: 0204764-01
Sample ID: MW-9

Anions

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Bicarbonate Alkalinity	137	mg/L	1	2.00	310.1	10/14/02	SB
Carbonate Alkalinity	<0.10	mg/L	1	0.10	310.1	10/14/02	SB
Chloride	443	mg/L	1	5.00	9253	10/14/02	SB
Hydroxide Alkalinity	<0.10	mg/L	1	0.10	310.1	10/14/02	SB
SULFATE, 375.4	119	mg/L	2.5	1.25	375.4	10/15/02	SB

Cations

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Calcium	88.4	mg/L	10	0.10	6010B	10/21/02	SM
Magnesium	33.1	mg/L	10	0.010	6010B	10/21/02	SM
Potassium	10.4	mg/L	1	0.050	6010B	10/21/02	SM
Sodium	216	mg/L	100	1.0	6010B	10/21/02	SM

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Total Dissolved Solids (TDS)	1240	mg/L	1	5.0	160.1	10/15/02	TAL

Lab ID: 0204764-02
Sample ID: W-MW

Anions

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Bicarbonate Alkalinity	210	mg/L	1	2.00	310.1	10/14/02	SB
Carbonate Alkalinity	<0.10	mg/L	1	0.10	310.1	10/14/02	SB
Chloride	337	mg/L	1	5.00	9253	10/14/02	SB
Hydroxide Alkalinity	<0.10	mg/L	1	0.10	310.1	10/14/02	SB
SULFATE, 375.4	127	mg/L	2.5	1.25	375.4	10/15/02	SB

Cations

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Calcium	39.3	mg/L	10	0.10	6010B	10/21/02	SM
Magnesium	9.37	mg/L	1	0.001	6010B	10/21/02	SM
Potassium	35.6	mg/L	10	0.50	6010B	10/21/02	SM
Sodium	290	mg/L	100	1.0	6010B	10/21/02	SM

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Total Dissolved Solids (TDS)	986	mg/L	1	5.0	160.1	10/15/02	TAL

RL = Reporting Limit N/A = Not Applicable

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

Cindy Crain
LARSON AND ASSOCIATES, INC.
P.O. BOX 50685
MIDLAND, TX 79710

Order#: G0204764
Project: 0-0112
Project Name: Texaco/ G.L. Erwin
Location: None Given

Lab ID: 0204764-03
Sample ID: SW-MW

Anions

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Bicarbonate Alkalinity	330	mg/L	1	2.00	310.1	10/14/02	SB
Carbonate Alkalinity	<0.10	mg/L	1	0.10	310.1	10/14/02	SB
Chloride	1330	mg/L	1	5.00	9253	10/14/02	SB
Hydroxide Alkalinity	<0.10	mg/L	1	0.10	310.1	10/14/02	SB
SULFATE, 375.4	360	mg/L	5	2.5	375.4	10/15/02	SB

Cations

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Calcium	110	mg/L	100	1.0	6010B	10/21/02	SM
Magnesium	32.5	mg/L	10	0.010	6010B	10/21/02	SM
Potassium	61.5	mg/L	10	0.50	6010B	10/21/02	SM
Sodium	929	mg/L	100	1.0	6010B	10/21/02	SM

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Total Dissolved Solids (TDS)	3020	mg/L	1	5.0	160.1	10/15/02	TAL

Lab ID: 0204764-04
Sample ID: RW-1

Anions

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Bicarbonate Alkalinity	327	mg/L	1	2.00	310.1	10/14/02	SB
Carbonate Alkalinity	<0.10	mg/L	1	0.10	310.1	10/14/02	SB
Chloride	1150	mg/L	1	5.00	9253	10/14/02	SB
Hydroxide Alkalinity	<0.10	mg/L	1	0.10	310.1	10/14/02	SB
SULFATE, 375.4	340	mg/L	5	2.5	375.4	10/15/02	SB

Cations

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Calcium	60.3	mg/L	10	0.10	6010B	10/21/02	SM
Magnesium	25.5	mg/L	10	0.010	6010B	10/21/02	SM
Potassium	64.3	mg/L	10	0.50	6010B	10/21/02	SM
Sodium	820	mg/L	100	1.0	6010B	10/21/02	SM

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Total Dissolved Solids (TDS)	2720	mg/L	1	5.0	160.1	10/15/02	TAL

RL = Reporting Limit N/A = Not Applicable

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

Cindy Crain
LARSON AND ASSOCIATES, INC.
P.O. BOX 50685
MIDLAND, TX 79710

Order#: G0204764
Project: 0-0112
Project Name: Texaco/ G.L. Erwin
Location: None Given

Lab ID: 0204764-05
Sample ID: MW-4

Anions

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Bicarbonate Alkalinity	342	mg/L	1	2.00	310.1	10/14/02	SB
Carbonate Alkalinity	<0.10	mg/L	1	0.10	310.1	10/14/02	SB
Chloride	381	mg/L	1	5.00	9253	10/14/02	SB
Hydroxide Alkalinity	<0.10	mg/L	1	0.10	310.1	10/14/02	SB
SULFATE, 375.4	124	mg/L	2.5	1.25	375.4	10/15/02	SB

Cations

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Calcium	9.39	mg/L	1	0.010	6010B	10/21/02	SM
Magnesium	2.48	mg/L	1	0.001	6010B	10/21/02	SM
Potassium	38.4	mg/L	10	0.50	6010B	10/21/02	SM
Sodium	405	mg/L	100	1.0	6010B	10/21/02	SM

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Total Dissolved Solids (TDS)	1220	mg/L	1	5.0	160.1	10/15/02	TAL

Lab ID: 0204764-06
Sample ID: MW-4 (Duplicate)

Anions

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Bicarbonate Alkalinity	358	mg/L	1	2.00	310.1	10/14/02	SB
Carbonate Alkalinity	<0.10	mg/L	1	0.10	310.1	10/14/02	SB
Chloride	372	mg/L	1	5.00	9253	10/14/02	SB
Hydroxide Alkalinity	<0.10	mg/L	1	0.10	310.1	10/14/02	SB
SULFATE, 375.4	116	mg/L	2.5	1.25	375.4	10/15/02	SB

Cations

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Calcium	8.82	mg/L	1	0.010	6010B	10/21/02	SM
Magnesium	2.38	mg/L	1	0.001	6010B	10/21/02	SM
Potassium	37.4	mg/L	10	0.50	6010B	10/21/02	SM
Sodium	409	mg/L	100	1.0	6010B	10/21/02	SM

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Total Dissolved Solids (TDS)	1260	mg/L	1	5.0	160.1	10/15/02	TAL

RL = Reporting Limit N/A = Not Applicable

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

Cindy Crain
LARSON AND ASSOCIATES, INC.
P.O. BOX 50685
MIDLAND, TX 79710

Order#: G0204764
Project: 0-0112
Project Name: Texaco/ G.L. Erwin
Location: None Given

Lab ID: 0204764-07
Sample ID: MW-10

Anions

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Bicarbonate Alkalinity	204	mg/L	1	2.00	310.1	10/14/02	SB
Carbonate Alkalinity	<0.10	mg/L	1	0.10	310.1	10/14/02	SB
Chloride	70.9	mg/L	1	5.00	9253	10/14/02	SB
Hydroxide Alkalinity	<0.10	mg/L	1	0.10	310.1	10/14/02	SB
SULFATE, 375.4	145	mg/L	2.5	1.25	375.4	10/15/02	SB

Cations

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Calcium	42.3	mg/L	10	0.10	6010B	10/21/02	SM
Magnesium	22.8	mg/L	10	0.010	6010B	10/21/02	SM
Potassium	7.77	mg/L	1	0.050	6010B	10/21/02	SM
Sodium	87.3	mg/L	10	0.10	6010B	10/21/02	SM

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Total Dissolved Solids (TDS)	593	mg/L	1	5.0	160.1	10/15/02	TAL

Lab ID: 0204764-08
Sample ID: MW-8

Anions

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Bicarbonate Alkalinity	250	mg/L	1	2.00	310.1	10/14/02	SB
Carbonate Alkalinity	<0.10	mg/L	1	0.10	310.1	10/14/02	SB
Chloride	842	mg/L	1	5.00	9253	10/14/02	SB
Hydroxide Alkalinity	<0.10	mg/L	1	0.10	310.1	10/14/02	SB
SULFATE, 375.4	194	mg/L	2.5	1.25	375.4	10/15/02	SB

Cations

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Calcium	52.4	mg/L	10	0.10	6010B	10/21/02	SM
Magnesium	20.4	mg/L	10	0.010	6010B	10/21/02	SM
Potassium	10.8	mg/L	10	0.50	6010B	10/21/02	SM
Sodium	597	mg/L	100	1.0	6010B	10/21/02	SM

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Total Dissolved Solids (TDS)	1920	mg/L	1	5.0	160.1	10/15/02	TAL

RL = Reporting Limit N/A = Not Applicable

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

Cindy Crain
LARSON AND ASSOCIATES, INC.
P.O. BOX 50685
MIDLAND, TX 79710

Order#: G0204764
Project: 0-0112
Project Name: Texaco/ G.L. Erwin
Location: None Given

Lab ID: 0204764-09
Sample ID: MW-6

Anions

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Bicarbonate Alkalinity	262	mg/L	1	2.00	310.1	10/14/02	SB
Carbonate Alkalinity	<0.10	mg/L	1	0.10	310.1	10/14/02	SB
Chloride	620	mg/L	1	5.00	9253	10/14/02	SB
Hydroxide Alkalinity	<0.10	mg/L	1	0.10	310.1	10/14/02	SB
SULFATE, 375.4	206	mg/L	5	2.5	375.4	10/15/02	SB

Cations

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Calcium	18.6	mg/L	10	0.10	6010B	10/21/02	SM
Magnesium	5.34	mg/L	1	0.001	6010B	10/21/02	SM
Potassium	17.5	mg/L	10	0.50	6010B	10/21/02	SM
Sodium	556	mg/L	100	1.0	6010B	10/21/02	SM

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Total Dissolved Solids (TDS)	1670	mg/L	1	5.0	160.1	10/15/02	TAL

Approval: Jeanne McMurrey 10-24-02
Raland K. Tuttle, Lab Director, QA Officer — Date
Celey D. Keene, Org. Tech. Director
Jeanne McMurrey, Inorg. Tech. Director
Sandra Biezugbe, Lab Tech.
Sara Molina, Lab Tech.

RL = Reporting Limit N/A = Not Applicable

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

Anions

Order#: G0204764

BLANK WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Bicarbonate Alkalinity-mg/L	0003433-01			<2.00		
Carbonate Alkalinity-mg/L	0003431-01			<0.10		
Chloride-mg/L	0003437-01			<5.00		
Hydroxide Alkalinity-mg/L	0003435-01			<0.10		
SULFATE, 375.4-mg/L	0003444-01			<0.50		
DUPLICATE WATER	**LAB-ID #**	**Sample Concentr.**	**Spike Concentr.**	**QC Test Result**	**Pct (%) Recovery**	**RPD**
Bicarbonate Alkalinity-mg/L	0204764-01	137		138		0.7%
Carbonate Alkalinity-mg/L	0204764-01	0		<0.10		0.%
Hydroxide Alkalinity-mg/L	0204764-01	0		<0.10		0.%
SULFATE, 375.4-mg/L	0204764-01	119		120		0.8%
MS WATER	**LAB-ID #**	**Sample Concentr.**	**Spike Concentr.**	**QC Test Result**	**Pct (%) Recovery**	**RPD**
Chloride-mg/L	0204764-01	443	500	939	99.2%	
MSD WATER	**LAB-ID #**	**Sample Concentr.**	**Spike Concentr.**	**QC Test Result**	**Pct (%) Recovery**	**RPD**
Chloride-mg/L	0204764-01	443	500	930	97.4%	1.%
SRM WATER	**LAB-ID #**	**Sample Concentr.**	**Spike Concentr.**	**QC Test Result**	**Pct (%) Recovery**	**RPD**
Bicarbonate Alkalinity-mg/L	0003433-04		0.05	0.0496	99.2%	
Carbonate Alkalinity-mg/L	0003431-04		0.05	0.0496	99.2%	
Chloride-mg/L	0003437-04		5000	4960	99.2%	
Hydroxide Alkalinity-mg/L	0003435-04		0.05	0.0496	99.2%	
SULFATE, 375.4-mg/L	0003444-04		50	50.8	101.6%	

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

Cations

Order#: G0204764

BLANK WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Calcium-mg/L	0003494-02			<0.010		
Magnesium-mg/L	0003494-02			<0.001		
Potassium-mg/L	0003494-02			<0.050		
Sodium-mg/L	0003494-02			<0.010		
DUPLICATE WATER	**LAB-ID #**	**Sample Concentr.**	**Spike Concentr.**	**QC Test Result**	**Pct (%) Recovery**	**RPD**
Calcium-mg/L	0204761-01	39.7		39.3		1.%
Magnesium-mg/L	0204761-01	14.6		14.5		0.7%
Potassium-mg/L	0204761-01	6.84		7.13		4.2%
Sodium-mg/L	0204761-01	69.2		67.9		1.9%
SRM WATER	**LAB-ID #**	**Sample Concentr.**	**Spike Concentr.**	**QC Test Result**	**Pct (%) Recovery**	**RPD**
Calcium-mg/L	0003494-05		2	1.90	95.%	
Magnesium-mg/L	0003494-05		2	2.17	108.5%	
Potassium-mg/L	0003494-05		2	1.81	90.5%	
Sodium-mg/L	0003494-05		2	1.78	89.%	

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

Test Parameters

Order#: G0204764

BLANK WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Total Dissolved Solids (TDS)-mg/L	0003454-01			<5.0		
DUPLICATE WATER	**LAB-ID #**	**Sample Concentr.**	**Spike Concentr.**	**QC Test Result**	**Pct (%) Recovery**	**RPD**
Total Dissolved Solids (TDS)-mg/L	0204761-08	426		427		0.2%

CHAIN—OF—CUSTODY RECORD

Larson & Associates, Inc.
Environmental Consultants
Fax: 915-687-0456
915-687-0901
507 N. Marienfeld, Ste. 202 • Midland, TX 79701

CLIENT NAME: Texaco
SITE MANAGER: Cindy Crain
PROJECT NO.: 0-0112
PROJECT NAME: GL Erwin
PAGE 1 OF 1
LAB. PO #

DATE	TIME	WATER	SOIL	OTHER	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	Anions	Cations	TDS	LAB. I.D. NUMBER (LAB USE ONLY)	REMARKS (I.E., FILTERED, UNFILTERED, PRESERVED, UNPRESERVED, GRAB COMPOSITE)
10-14-02	0910	✓			MW-9	1	✓	✓	✓	0204764-01	Unpreserved L HDPE
"	0945	✓			~~MW~~ W-MW	1	✓	✓	✓	02	" "
"	1015	✓			SW-MW	1	✓	✓	✓	03	" "
"	1033	✓			RW-1	1	✓	✓	✓	04	" "
"	1057	✓			MW-4	1	✓	✓	✓	05	" "
"	1057	✓			MW-4 (Duplicate)	1	✓	✓	✓	06	" "
"	1120	✓			MW-10	1	✓	✓	✓	07	" "
"	1148				MW-8	1	✓	✓	✓	08	" "
"	1215				MW-6	1	✓	✓	✓	09	" "

SAMPLED BY: (Signature) [signature] DATE: 10-14-02 TIME: 0900
RELINQUISHED BY: (Signature) DATE: ______ TIME: ______
RECEIVED BY: (Signature) DATE: ______ TIME: ______

RELINQUISHED BY: (Signature) [signature] DATE: 10-14-02 TIME: 1440
RECEIVED BY: (Signature) [signature] DATE: 1440 TIME: 10-14-02
SAMPLE SHIPPED BY: (Circle) FEDEX BUS AIRBILL #: ______ HAND DELIVERED (circled) UPS OTHER: ______

COMMENTS: Rec 3.5°C
TURNAROUND TIME NEEDED

RECEIVING LABORATORY: Elot
ADDRESS: 12600 ~~[illegible]~~ W. I-20 East
CITY: Odessa STATE: Texas ZIP: 79763
CONTACT: ______ PHONE: 563-1800
RECEIVED BY: (Signature)
DATE: ______ TIME: ______

WHITE – RECEIVING LAB
YELLOW – RECEIVING LAB (TO BE RETURNED TO LA AFTER RECEIPT)
PINK – PROJECT MANAGER
GOLD – QA/QC COORDINATOR

SAMPLE CONDITION WHEN RECEIVED:
LA CONTACT PERSON: Cindy Crain (915) 556-8665
SAMPLE TYPE:

ANALYTICAL REPORT

Prepared for:

CINDY CRAIN
LARSON AND ASSOCIATES, INC.
P.O. BOX 50685
MIDLAND, TX 79710

Project:	G.L. Erwin
PO#:	0-0112
Order#:	G0305747
Report Date:	02/27/2003

Certificates
US EPA Laboratory Code TX00158

ENVIRONMENTAL LAB OF TEXAS

SAMPLE WORK LIST

LARSON AND ASSOCIATES, INC.
P.O. BOX 50685
MIDLAND, TX 79710
915-687-0456

Order#: G0305747
Project: 0-0112
Project Name: G.L. Erwin
Location: None Given

The samples listed below were submitted to Environmental Lab of Texas and were received under chain of custody. Environmental Lab of Texas makes no representation or certification as to the method of sample collection, sample identification, or transportation/handling procedures used prior to the receipt of samples by Environmental Lab of Texas, unless otherwise noted.

Lab ID:	Sample :	Matrix:	Date / Time Collected	Date / Time Received	Container	Preservative
0305747-01	MW-12	WATER	2/17/03 15:10	2/18/03 15:20	L HDPE	Ice
	Lab Testing:	**Rejected:** No		**Temp:** 3.5 C		
	Anions					
	Cations					
	Total Dissolved Solids (TDS)					
0305747-02	MW-13	WATER	2/17/03 15:20	2/18/03 15:20	L HDPE	Ice
	Lab Testing:	**Rejected:** No		**Temp:** 3.5 C		
	Anions					
	Cations					
	Total Dissolved Solids (TDS)					
0305747-03	MW-7	WATER	2/17/03 15:30	2/18/03 15:20	L HDPE	Ice
	Lab Testing:	**Rejected:** No		**Temp:** 3.5 C		
	Anions					
	Cations					
	Total Dissolved Solids (TDS)					
0305747-04	MW-2	WATER	2/18/03 10:30	2/18/03 15:20	L HDPE	Ice
	Lab Testing:	**Rejected:** No		**Temp:** 3.5 C		
	Anions					
	Cations					
	Total Dissolved Solids (TDS)					
0305747-05	MW-1	WATER	2/18/03 10:45	2/18/03 15:20	L HDPE	Ice
	Lab Testing:	**Rejected:** No		**Temp:** 3.5 C		
	Anions					
	Cations					
	Total Dissolved Solids (TDS)					
0305747-06	MW-5	WATER	2/18/03 11:00	2/18/03 15:20	L HDPE	Ice
	Lab Testing:	**Rejected:** No		**Temp:** 3.5 C		
	Anions					

ENVIRONMENTAL LAB OF TEXAS

SAMPLE WORK LIST

LARSON AND ASSOCIATES, INC.
P.O. BOX 50685
MIDLAND, TX 79710
915-687-0456

Order#: G0305747
Project: 0-0112
Project Name: G.L. Erwin
Location: None Given

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Lab ID:	Sample :	Matrix:	Date / Time Collected	Date / Time Received	Container	Preservative
	Cations					
	Total Dissolved Solids (TDS)					
0305747-07	MW-3	WATER	2/18/03 11:18	2/18/03 15:20	L HDPE	Ice
	Lab Testing:	**Rejected:** No		**Temp:** 3.5 C		
	Anions					
	Cations					
	Total Dissolved Solids (TDS)					
0305747-08	MW-6	WATER	2/18/03 11:30	2/18/03 15:20	L HDPE	Ice
	Lab Testing:	**Rejected:** No		**Temp:** 3.5 C		
	Anions					
	Cations					
	Total Dissolved Solids (TDS)					
0305747-09	MW-8	WATER	2/18/03 11:47	2/18/03 15:20	L HDPE	Ice
	Lab Testing:	**Rejected:** No		**Temp:** 3.5 C		
	Anions					
	Cations					
	Total Dissolved Solids (TDS)					
0305747-10	WW-1	WATER	2/18/03 12:05	2/18/03 15:20	L HDPE	Ice
	Lab Testing:	**Rejected:** No		**Temp:** 3.5 C		
	Anions					
	Cations					
	Total Dissolved Solids (TDS)					
0305747-11	MW-10	WATER	2/18/03 12:20	2/18/03 15:20	L HDPE	Ice
	Lab Testing:	**Rejected:** No		**Temp:** 3.5 C		
	Anions					
	Cations					
	Total Dissolved Solids (TDS)					

ENVIRONMENTAL LAB OF TEXAS

SAMPLE WORK LIST

LARSON AND ASSOCIATES, INC.
P.O. BOX 50685
MIDLAND, TX 79710
915-687-0456

Order#: G0305747
Project: 0-0112
Project Name: G.L. Erwin
Location: None Given

The samples listed below were submitted to Environmental Lab of Texas and were received under chain of custody. Environmental Lab of Texas makes no representation or certification as to the method of sample collection, sample identification, or transportation/handling procedures used prior to the receipt of samples by Environmental Lab of Texas, unless otherwise noted.

Lab ID:	Sample :	Matrix:	Date / Time Collected	Date / Time Received	Container	Preservative
0305747-12	MW-9	WATER	2/18/03 12:45	2/18/03 15:20	L HDPE	Ice
	Lab Testing:	**Rejected:** No		**Temp:** 3.5 C		
	Anions					
	Cations					
	Total Dissolved Solids (TDS)					
0305747-13	WMW	WATER	2/18/03 13:00	2/18/03 15:20	L HDPE	Ice
	Lab Testing:	**Rejected:** No		**Temp:** 3.5 C		
	Anions					
	Cations					
	Total Dissolved Solids (TDS)					
0305747-14	RW-1	WATER	2/18/03 13:15	2/18/03 15:20	L HDPE	Ice
	Lab Testing:	**Rejected:** No		**Temp:** 3.5 C		
	Anions					
	Cations					
	Total Dissolved Solids (TDS)					
0305747-15	SWMW	WATER	2/18/03 13:35	2/18/03 15:20	L HDPE	Ice
	Lab Testing:	**Rejected:** No		**Temp:** 3.5 C		
	Anions					
	Cations					
	Total Dissolved Solids (TDS)					
0305747-16	MW-4	WATER	2/18/03 13:50	2/18/03 15:20	L HDPE	Ice
	Lab Testing:	**Rejected:** No		**Temp:** 3.5 C		
	Anions					
	Cations					
	Total Dissolved Solids (TDS)					
0305747-17	Duplicate	WATER	2/18/03	2/18/03 15:20	L HDPE	Ice
	Lab Testing:	**Rejected:** No		**Temp:** 3.5 C		
	Anions					

ENVIRONMENTAL LAB OF TEXAS

SAMPLE WORK LIST

LARSON AND ASSOCIATES, INC.
P.O. BOX 50685
MIDLAND, TX 79710
915-687-0456

Order#: G0305747
Project: 0-0112
Project Name: G.L. Erwin
Location: None Given

The samples listed below were submitted to Environmental Lab of Texas and were received under chain of custody. Environmental Lab of Texas makes no representation or certification as to the method of sample collection, sample identification, or transportation/handling procedures used prior to the receipt of samples by Environmental Lab of Texas, unless otherwise noted.

Lab ID:	Sample :	Matrix:	Date / Time Collected	Date / Time Received	Container	Preservative
	Cations					
	Total Dissolved Solids (TDS)					

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

CINDY CRAIN
LARSON AND ASSOCIATES, INC.
P.O. BOX 50685
MIDLAND, TX 79710

Order#: G0305747
Project: 0-0112
Project Name: G.L. Erwin
Location: None Given

Lab ID: 0305747-01
Sample ID: MW-12

Anions

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Bicarbonate Alkalinity	68.0	mg/L	1	2.00	310.1	2/20/03	SB
Carbonate Alkalinity	<0.10	mg/L	1	0.10	310.1	2/20/03	SB
Chloride	1530	mg/L	1	5.0	9253	2/20/03	SB
Hydroxide Alkalinity	<0.10	mg/L	1	0.10	310.1	2/20/03	SB
SULFATE, 375.4	52.4	mg/L	1	0.5	375.4	2/26/03	SB

Cations

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Calcium	461	mg/L	100	1.0	6010B	2/21/03	SM
Magnesium	170	mg/L	100	0.10	6010B	2/21/03	SM
Potassium	13.3	mg/L	10	0.50	6010B	2/21/03	SM
Sodium	136	mg/L	100	1.0	6010B	2/21/03	SM

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Total Dissolved Solids (TDS)	3980	mg/L	1	5.0	160.1	2/20/03	TAL

Lab ID: 0305747-02
Sample ID: MW-13

Anions

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Bicarbonate Alkalinity	80.0	mg/L	1	2.00	310.1	2/20/03	SB
Carbonate Alkalinity	<0.10	mg/L	1	0.10	310.1	2/20/03	SB
Chloride	443	mg/L	1	5.00	9253	2/20/03	SB
Hydroxide Alkalinity	<0.10	mg/L	1	0.10	310.1	2/20/03	SB
SULFATE, 375.4	144	mg/L	2.5	1.25	375.4	2/26/03	SB

Cations

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Calcium	152	mg/L	100	1.0	6010B	2/21/03	SM
Magnesium	54.9	mg/L	10	0.010	6010B	2/21/03	SM
Potassium	8.88	mg/L	10	0.50	6010B	2/21/03	SM
Sodium	108	mg/L	10	0.10	6010B	2/21/03	SM

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Total Dissolved Solids (TDS)	1370	mg/L	1	5.0	160.1	2/20/03	TAL

RL = Reporting Limit N/A = Not Applicable

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

CINDY CRAIN
LARSON AND ASSOCIATES, INC.
P.O. BOX 50685
MIDLAND, TX 79710

Order#: G0305747
Project: 0-0112
Project Name: G.L. Erwin
Location: None Given

Lab ID: 0305747-03
Sample ID: MW-7

Anions

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Bicarbonate Alkalinity	200	mg/L	1	2.00	310.1	2/20/03	SB
Carbonate Alkalinity	<0.10	mg/L	1	0.10	310.1	2/20/03	SB
Chloride	603	mg/L	1	5.00	9253	2/20/03	SB
Hydroxide Alkalinity	<0.10	mg/L	1	0.10	310.1	2/20/03	SB
SULFATE, 375.4	134	mg/L	2.5	1.25	375.4	2/26/03	SB

Cations

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Calcium	90.6	mg/L	10	0.10	6010B	2/21/03	SM
Magnesium	30.9	mg/L	10	0.010	6010B	2/21/03	SM
Potassium	5.86	mg/L	10	0.50	6010B	2/21/03	SM
Sodium	339	mg/L	100	1.0	6010B	2/21/03	SM

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Total Dissolved Solids (TDS)	1440	mg/L	1	5.0	160.1	2/20/03	TAL

Lab ID: 0305747-04
Sample ID: MW-2

Anions

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Bicarbonate Alkalinity	228	mg/L	1	2.00	310.1	2/20/03	SB
Carbonate Alkalinity	<0.10	mg/L	1	0.10	310.1	2/20/03	SB
Chloride	310	mg/L	1	5.00	9253	2/20/03	SB
Hydroxide Alkalinity	<0.10	mg/L	1	0.10	310.1	2/20/03	SB
SULFATE, 375.4	178	mg/L	2.5	1.25	375.4	2/26/03	SB

Cations

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Calcium	19.4	mg/L	10	0.10	6010B	2/21/03	SM
Magnesium	6.02	mg/L	10	0.010	6010B	2/21/03	SM
Potassium	6.3	mg/L	10	0.50	6010B	2/21/03	SM
Sodium	331	mg/L	100	1.0	6010B	2/21/03	SM

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Total Dissolved Solids (TDS)	1070	mg/L	1	5.0	160.1	2/20/03	TAL

RL = Reporting Limit N/A = Not Applicable

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

CINDY CRAIN
LARSON AND ASSOCIATES, INC.
P.O. BOX 50685
MIDLAND, TX 79710

Order#: G0305747
Project: 0-0112
Project Name: G.L. Erwin
Location: None Given

Lab ID: 0305747-05
Sample ID: MW-1

Anions

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Bicarbonate Alkalinity	147	mg/L	1	2.00	310.1	2/20/03	SB
Carbonate Alkalinity	<0.10	mg/L	1	0.10	310.1	2/20/03	SB
Chloride	213	mg/L	1	5.00	9253	2/20/03	SB
Hydroxide Alkalinity	<0.10	mg/L	1	0.10	310.1	2/20/03	SB
SULFATE, 375.4	114	mg/L	2.5	1.25	375.4	2/26/03	SB

Cations

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Calcium	59.1	mg/L	10	0.10	6010B	2/21/03	SM
Magnesium	21.4	mg/L	10	0.010	6010B	2/21/03	SM
Potassium	5.06	mg/L	10	0.50	6010B	2/21/03	SM
Sodium	116	mg/L	100	1.0	6010B	2/21/03	SM

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Total Dissolved Solids (TDS)	713	mg/L	1	5.0	160.1	2/20/03	TAL

Lab ID: 0305747-06
Sample ID: MW-5

Anions

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Bicarbonate Alkalinity	210	mg/L	1	2.00	310.1	2/20/03	SB
Carbonate Alkalinity	<0.10	mg/L	1	0.10	310.1	2/20/03	SB
Chloride	319	mg/L	1	5.00	9253	2/20/03	SB
Hydroxide Alkalinity	<0.10	mg/L	1	0.10	310.1	2/20/03	SB
SULFATE, 375.4	176	mg/L	2.5	1.25	375.4	2/26/03	SB

Cations

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Calcium	27.2	mg/L	10	0.10	6010B	2/21/03	SM
Magnesium	8.48	mg/L	10	0.010	6010B	2/21/03	SM
Potassium	16.5	mg/L	10	0.50	6010B	2/21/03	SM
Sodium	231	mg/L	100	1.0	6010B	2/21/03	SM

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Total Dissolved Solids (TDS)	1110	mg/L	1	5.0	160.1	2/20/03	TAL

RL = Reporting Limit N/A = Not Applicable

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

CINDY CRAIN
LARSON AND ASSOCIATES, INC.
P.O. BOX 50685
MIDLAND, TX 79710

Order#: G0305747
Project: 0-0112
Project Name: G.L. Erwin
Location: None Given

Lab ID: 0305747-07
Sample ID: MW-3

Anions

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Bicarbonate Alkalinity	277	mg/L	1	2.00	310.1	2/20/03	SB
Carbonate Alkalinity	<0.10	mg/L	1	0.10	310.1	2/20/03	SB
Chloride	762	mg/L	1	5.00	9253	2/20/03	SB
Hydroxide Alkalinity	<0.10	mg/L	1	0.10	310.1	2/20/03	SB
SULFATE, 375.4	180	mg/L	2.5	1.25	375.4	2/26/03	SB

Cations

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Calcium	25.2	mg/L	10	0.10	6010B	2/21/03	SM
Magnesium	7.84	mg/L	10	0.010	6010B	2/21/03	SM
Potassium	16.4	mg/L	10	0.50	6010B	2/21/03	SM
Sodium	580	mg/L	100	1.0	6010B	2/21/03	SM

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Total Dissolved Solids (TDS)	1950	mg/L	1	5.0	160.1	2/20/03	TAL

Lab ID: 0305747-08
Sample ID: MW-6

Anions

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Bicarbonate Alkalinity	238	mg/L	1	2.00	310.1	2/20/03	SB
Carbonate Alkalinity	16.0	mg/L	1	0.10	310.1	2/20/03	SB
Chloride	638	mg/L	1	5.00	9253	2/20/03	SB
Hydroxide Alkalinity	<0.10	mg/L	1	0.10	310.1	2/20/03	SB
SULFATE, 375.4	298	mg/L	5	2.5	375.4	2/26/03	SB

Cations

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Calcium	22.1	mg/L	10	0.10	6010B	2/21/03	SM
Magnesium	6.43	mg/L	10	0.010	6010B	2/21/03	SM
Potassium	11.8	mg/L	10	0.50	6010B	2/21/03	SM
Sodium	524	mg/L	100	1.0	6010B	2/21/03	SM

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Total Dissolved Solids (TDS)	1700	mg/L	1	5.0	160.1	2/20/03	TAL

RL = Reporting Limit N/A = Not Applicable

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

CINDY CRAIN
LARSON AND ASSOCIATES, INC.
P.O. BOX 50685
MIDLAND, TX 79710

Order#: G0305747
Project: 0-0112
Project Name: G.L. Erwin
Location: None Given

Lab ID: 0305747-09
Sample ID: MW-8

Anions

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Bicarbonate Alkalinity	213	mg/L	1	2.00	310.1	2/20/03	SB
Carbonate Alkalinity	<0.10	mg/L	1	0.10	310.1	2/20/03	SB
Chloride	833	mg/L	1	5.00	9253	2/20/03	SB
Hydroxide Alkalinity	<0.10	mg/L	1	0.10	310.1	2/20/03	SB
SULFATE, 375.4	185	mg/L	2.5	1.25	375.4	2/26/03	SB

Cations

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Calcium	53	mg/L	10	0.10	6010B	2/21/03	SM
Magnesium	17.6	mg/L	10	0.010	6010B	2/21/03	SM
Potassium	7.13	mg/L	10	0.50	6010B	2/21/03	SM
Sodium	489	mg/L	100	1.0	6010B	2/21/03	SM

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Total Dissolved Solids (TDS)	1930	mg/L	1	5.0	160.1	2/20/03	TAL

Lab ID: 0305747-10
Sample ID: WW-1

Anions

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Bicarbonate Alkalinity	152	mg/L	1	2.00	310.1	2/20/03	SB
Carbonate Alkalinity	<0.10	mg/L	1	0.10	310.1	2/20/03	SB
Chloride	115	mg/L	1	5.00	9253	2/20/03	SB
Hydroxide Alkalinity	<0.10	mg/L	1	0.10	310.1	2/20/03	SB
SULFATE, 375.4	137	mg/L	2.5	1.25	375.4	2/26/03	SB

Cations

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Calcium	53.8	mg/L	10	0.10	6010B	2/21/03	SM
Magnesium	22.1	mg/L	10	0.010	6010B	2/21/03	SM
Potassium	6.38	mg/L	10	0.50	6010B	2/21/03	SM
Sodium	93.5	mg/L	100	1.0	6010B	2/21/03	SM

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Total Dissolved Solids (TDS)	601	mg/L	1	5.0	160.1	2/20/03	TAL

RL = Reporting Limit N/A = Not Applicable

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

CINDY CRAIN
LARSON AND ASSOCIATES, INC.
P.O. BOX 50685
MIDLAND, TX 79710

Order#: G0305747
Project: 0-0112
Project Name: G.L. Erwin
Location: None Given

Lab ID: 0305747-11
Sample ID: MW-10

Anions

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Bicarbonate Alkalinity	184	mg/L	1	2.00	310.1	2/20/03	SB
Carbonate Alkalinity	<0.10	mg/L	1	0.10	310.1	2/20/03	SB
Chloride	65.0	mg/L	1	5.00	9253	2/20/03	SB
Hydroxide Alkalinity	<0.10	mg/L	1	0.10	310.1	2/20/03	SB
SULFATE, 375.4	159	mg/L	2.5	1.25	375.4	2/26/03	SB

Cations

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Calcium	67.1	mg/L	10	0.10	6010B	2/21/03	SM
Magnesium	22.8	mg/L	10	0.010	6010B	2/21/03	SM
Potassium	3.04	mg/L	10	0.50	6010B	2/21/03	SM
Sodium	90.7	mg/L	10	0.10	6010B	2/21/03	SM

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Total Dissolved Solids (TDS)	552	mg/L	1	5.0	160.1	2/20/03	TAL

Lab ID: 0305747-12
Sample ID: MW-9

Anions

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Bicarbonate Alkalinity	105	mg/L	1	2.00	310.1	2/20/03	SB
Carbonate Alkalinity	<0.10	mg/L	1	0.10	310.1	2/20/03	SB
Chloride	461	mg/L	1	5.00	9253	2/20/03	SB
Hydroxide Alkalinity	<0.10	mg/L	1	0.10	310.1	2/20/03	SB
SULFATE, 375.4	126	mg/L	2.5	1.25	375.4	2/26/03	SB

Cations

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Calcium	99.3	mg/L	10	0.10	6010B	2/21/03	SM
Magnesium	34.1	mg/L	10	0.010	6010B	2/21/03	SM
Potassium	5.62	mg/L	10	0.50	6010B	2/21/03	SM
Sodium	200	mg/L	100	1.0	6010B	2/21/03	SM

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Total Dissolved Solids (TDS)	1190	mg/L	1	5.0	160.1	2/20/03	TAL

RL = Reporting Limit N/A = Not Applicable

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

CINDY CRAIN
LARSON AND ASSOCIATES, INC.
P.O. BOX 50685
MIDLAND, TX 79710

Order#: G0305747
Project: 0-0112
Project Name: G.L. Erwin
Location: None Given

Lab ID: 0305747-13
Sample ID: WMW

Anions

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Bicarbonate Alkalinity	190	mg/L	1	2.00	310.1	2/20/03	SB
Carbonate Alkalinity	<0.10	mg/L	1	0.10	310.1	2/20/03	SB
Chloride	354	mg/L	1	5.00	9253	2/20/03	SB
Hydroxide Alkalinity	<0.10	mg/L	1	0.10	310.1	2/20/03	SB
SULFATE, 375.4	141	mg/L	2.5	1.25	375.4	2/26/03	SB

Cations

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Calcium	33.6	mg/L	10	0.10	6010B	2/21/03	SM
Magnesium	9.78	mg/L	10	0.010	6010B	2/21/03	SM
Potassium	23.9	mg/L	10	0.50	6010B	2/21/03	SM
Sodium	152	mg/L	100	1.0	6010B	2/21/03	SM

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Total Dissolved Solids (TDS)	1010	mg/L	1	5.0	160.1	2/20/03	TAL

Lab ID: 0305747-14
Sample ID: RW-1

Anions

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Bicarbonate Alkalinity	300	mg/L	1	2.00	310.1	2/20/03	SB
Carbonate Alkalinity	<0.10	mg/L	1	0.10	310.1	2/20/03	SB
Chloride	1150	mg/L	1	5.00	9253	2/20/03	SB
Hydroxide Alkalinity	<0.10	mg/L	1	0.10	310.1	2/20/03	SB
SULFATE, 375.4	316	mg/L	5	2.5	375.4	2/26/03	SB

Cations

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Calcium	79.7	mg/L	10	0.10	6010B	2/21/03	SM
Magnesium	25.7	mg/L	10	0.010	6010B	2/21/03	SM
Potassium	53	mg/L	10	0.50	6010B	2/21/03	SM
Sodium	721	mg/L	100	1.0	6010B	2/21/03	SM

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Total Dissolved Solids (TDS)	2690	mg/L	1	5.0	160.1	2/20/03	TAL

RL = Reporting Limit N/A = Not Applicable

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

CINDY CRAIN
LARSON AND ASSOCIATES, INC.
P.O. BOX 50685
MIDLAND, TX 79710

Order#: G0305747
Project: 0-0112
Project Name: G.L. Erwin
Location: None Given

Lab ID: 0305747-15
Sample ID: SWMW

Anions

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Bicarbonate Alkalinity	289	mg/L	1	2.00	310.1	2/20/03	SB
Carbonate Alkalinity	<0.10	mg/L	1	0.10	310.1	2/20/03	SB
Chloride	1290	mg/L	1	5.00	9253	2/20/03	SB
Hydroxide Alkalinity	<0.10	mg/L	1	0.10	310.1	2/20/03	SB
SULFATE, 375.4	300	mg/L	5	2.5	375.4	2/26/03	SB

Cations

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Calcium	104	mg/L	10	0.10	6010B	2/21/03	SM
Magnesium	31.3	mg/L	10	0.010	6010B	2/21/03	SM
Potassium	63	mg/L	10	0.50	6010B	2/21/03	SM
Sodium	918	mg/L	100	1.0	6010B	2/21/03	SM

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Total Dissolved Solids (TDS)	2910	mg/L	1	5.0	160.1	2/20/03	TAL

Lab ID: 0305747-16
Sample ID: MW-4

Anions

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Bicarbonate Alkalinity	264	mg/L	1	2.00	310.1	2/20/03	SB
Carbonate Alkalinity	<0.10	mg/L	1	0.10	310.1	2/20/03	SB
Chloride	691	mg/L	1	5.00	9253	2/20/03	SB
Hydroxide Alkalinity	<0.10	mg/L	1	0.10	310.1	2/20/03	SB
SULFATE, 375.4	118	mg/L	2.5	1.25	375.4	2/26/03	SB

Cations

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Calcium	32.2	mg/L	10	0.10	6010B	2/21/03	SM
Magnesium	7.5	mg/L	10	0.010	6010B	2/21/03	SM
Potassium	59	mg/L	10	0.50	6010B	2/21/03	SM
Sodium	474	mg/L	100	1.0	6010B	2/21/03	SM

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Total Dissolved Solids (TDS)	1610	mg/L	1	5.0	160.1	2/20/03	TAL

RL = Reporting Limit N/A = Not Applicable

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

CINDY CRAIN
LARSON AND ASSOCIATES, INC.
P.O. BOX 50685
MIDLAND, TX 79710

Order#: G0305747
Project: 0-0112
Project Name: G.L. Erwin
Location: None Given

Lab ID: 0305747-17
Sample ID: Duplicate

Anions

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Bicarbonate Alkalinity	298	mg/L	1	2.00	310.1	2/20/03	SB
Carbonate Alkalinity	<0.10	mg/L	1	0.10	310.1	2/20/03	SB
Chloride	1310	mg/L	1	5.00	9253	2/20/03	SB
Hydroxide Alkalinity	<0.10	mg/L	1	0.10	310.1	2/20/03	SB
SULFATE, 375.4	299	mg/L	5	2.5	375.4	2/26/03	SB

Cations

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Calcium	108	mg/L	10	0.10	6010B	2/21/03	SM
Magnesium	32.2	mg/L	10	0.010	6010B	2/21/03	SM
Potassium	58.3	mg/L	10	0.50	6010B	2/21/03	SM
Sodium	812	mg/L	100	1.0	6010B	2/21/03	SM

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Total Dissolved Solids (TDS)	3040	mg/L	1	5.0	160.1	2/20/03	TAL

Approval: Raland K Tuttle 2-27-03
Raland K. Tuttle, Lab Director, QA Officer — Date
Celey D. Keene, Org. Tech. Director
Jeanne McMurrey, Inorg. Tech. Director
Sandra Biezugbe, Lab Tech.
Sara Molina, Lab Tech.

RL = Reporting Limit N/A = Not Applicable

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

Cations

Order#: G0305747

BLANK WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Calcium-mg/L	0004707-02			<0.010		
Magnesium-mg/L	0004707-02			<0.001		
Potassium-mg/L	0004707-02			<0.050		
Sodium-mg/L	0004707-02			< 0.010		
DUPLICATE WATER	**LAB-ID #**	**Sample Concentr.**	**Spike Concentr.**	**QC Test Result**	**Pct (%) Recovery**	**RPD**
Calcium-mg/L	0305723-01	71.7		71.1		0.8%
Magnesium-mg/L	0305723-01	30.2		29.8		1.3%
Potassium-mg/L	0305723-01	6.62		6.2		6.6%
Sodium-mg/L	0305723-01	91.4		93.7		2.5%
SRM WATER	**LAB-ID #**	**Sample Concentr.**	**Spike Concentr.**	**QC Test Result**	**Pct (%) Recovery**	**RPD**
Calcium-mg/L	0004707-05		2	2.11	105.5%	
Magnesium-mg/L	0004707-05		2	2.23	111.5%	
Potassium-mg/L	0004707-05		2	1.93	96.5%	
Sodium-mg/L	0004707-05		2	1.92	96.%	

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

Test Parameters

Order#: G0305747

BLANK WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Total Dissolved Solids (TDS)-mg/L	0004713-01			<5.0		
DUPLICATE WATER	**LAB-ID #**	**Sample Concentr.**	**Spike Concentr.**	**QC Test Result**	**Pct (%) Recovery**	**RPD**
Total Dissolved Solids (TDS)-mg/L	0305747-01	3980		3980		0.%

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

Anions

Order#: G0305747

BLANK WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Bicarbonate Alkalinity-mg/L	0004716-01			<2.00		
Carbonate Alkalinity-mg/L	0004716-01			<0.10		
Chloride-mg/L	0004722-01			<5.00		
Hydroxide Alkalinity-mg/L	0004716-01			<0.10		
SULFATE, 375.4-mg/L	0004747-01			<0.50		
DUPLICATE WATER	**LAB-ID #**	**Sample Concentr.**	**Spike Concentr.**	**QC Test Result**	**Pct (%) Recovery**	**RPD**
Bicarbonate Alkalinity-mg/L	0305747-01	68		69.0		1.5%
Carbonate Alkalinity-mg/L	0305747-01	0		<0.10		0.%
Hydroxide Alkalinity-mg/L	0305747-01	0		<0.10		0.%
SULFATE, 375.4-mg/L	0305747-01	52.4		51.8		1.2%
MS WATER	**LAB-ID #**	**Sample Concentr.**	**Spike Concentr.**	**QC Test Result**	**Pct (%) Recovery**	**RPD**
Chloride-mg/L	0305747-01	1530	500	2020	98.%	
MSD WATER	**LAB-ID #**	**Sample Concentr.**	**Spike Concentr.**	**QC Test Result**	**Pct (%) Recovery**	**RPD**
Chloride-mg/L	0305747-01	1530	500	2030	100.%	0.5%
SRM WATER	**LAB-ID #**	**Sample Concentr.**	**Spike Concentr.**	**QC Test Result**	**Pct (%) Recovery**	**RPD**
Bicarbonate Alkalinity-mg/L	0004716-04		0.05	0.0496	99.2%	
Carbonate Alkalinity-mg/L	0004716-04		0.05	0.0496	99.2%	
Chloride-mg/L	0004722-04		5000	4960	99.2%	
Hydroxide Alkalinity-mg/L	0004716-04		0.05	0.0496	99.2%	
SULFATE, 375.4-mg/L	0004747-04		50	50.8	101.6%	

Environmental Lab of Texas I, Ltd.

12600 West I-20 East
Odessa, Texas 79763
Phone: 915-563-1800
Fax: 915-563-1713

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Cindy Crain
Company Name: Larson & Associates Inc.
Company Address: 507 N. Marienfeld, Suite 202
City/State/Zip: Midland Texas 79701
Telephone No: 915-687-0901 Fax No: 915-687-0456
Sampler Signature: Michael Hoffman

Project Name: G.L. Erwin
Project #: 0-0112
Project Loc:
PO #: 0-0112

(lab use only)
ORDER #: 0305747

	FIELD CODE	Date Sampled	Time Sampled	No. of Containers	Preservative: Ice	HNO_3	HCl	NaOH	H_2SO_4	None	Other (Specify)	Matrix: Water	Sludge	Soil	Other (specify):	Analyze For: TPH: 418.1 8015M 1005 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, CO3, HCO3)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030	RCI	TDS				RUSH TAT (Pre-Schedule)	Standard TAT
01	MW-12	2-17-03	1510	1	X							X					X	X							X					
02	MW-13	2-17-03	1520	1	X							X					X	X							X					
03	MW-7	2-17-03	1530	1	X							X					X	X							X					
04	MW-2	2-18-03	1030	1	X							X					X	X							X					
05	MW-1	2-18-03	1045	1	X							X					X	X							X					
06	MW-5	2-18-03	1100 mst	1	X							X					X	X							X					
07	MW-3	2-18-03	1118	1	X							X					X	X							X					
08	MW-6	2-18-03	1130	1	X							X					X	X							X					
09	MW-8	2-18-03	1147	1	X							X					X	X							X					
10	WW-1	2-18-03	1205	1	X							X					X	X							X					

Special Instructions:

Sample Containers Intact? Y N
Temperature Upon Receipt:
Laboratory Comments:
Rec 3.5°C.

Relinquished by:	Date	Time	Received by:	Date	Time
Michael Hoffman	2-18-03	1520			
Relinquished by:	Date	Time	Received by ELOT:	Date	Time
			Rachel Fox	2-18-03	1520

Environmental Lab of Texas I, Ltd.

12600 West I-20 East
Odessa, Texas 79763
Phone: 915-563-1800
Fax: 915-563-1713

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Cindy Crain
Company Name: Larson + Associates INC.
Company Address: 507 N. Marienfeld, Suite 202
City/State/Zip: Midland Tx. 79701
Telephone No: 915-687-0901 Fax No: 915-687-0456
Sampler Signature:

Project Name: C.L. Erwin
Project #: 0-0112
Project Loc:
PO #: 0-0112

(lab use only) ORDER #: 0305747

	FIELD CODE	Date Sampled	Time Sampled	No. of Containers	Preservative: Ice	HNO3	HCl	NaOH	H2SO4	None	Other (Specify)	Matrix: Water	Sludge	Soil	Other (specify):	Analyze For: TCLP: TPH: 418.1 8015M 1005 1006	TOTAL: Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, CO3, HCO3)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030	RCI	TDS	RUSH TAT (Pre-Schedule)	Standard TAT
11	mw-10	2-18-03	1220	1	X							X					X	X						X		
12	mw-9	2-18-03	1245	1	X							X					X	X						X		
13	WMW	2-18-03	1300	1	X							X					X	X						X		
14	RW-1	2-18-03	1315	1	X							X					X	X						X		
15	SWMW	2-18-03	1335	1	X							X					X	X						X		
16	mw-4	2-18-03	1350	1	X							X					X	X						X		
17	Duplicate	2-18-03	N/A	1	X							X					X	X						X		
					###																					

Special Instructions:

Sample Containers Intact? Y N
Temperature Upon Receipt:
Laboratory Comments:
Rec 3.5°C

Relinquished by:	Date	Time	Received by:	Date	Time
	2-18-03	1520			
Relinquished by:	Date	Time	Received by ELOT:	Date	Time
				2-18-03	1520

ANALYTICAL REPORT

Prepared for:

CINDY CRAIN
LARSON AND ASSOCIATES, INC.
P.O. BOX 50685
MIDLAND, TX 79710

Project:	G.L. ERWIN/TEXACO
PO#:	0-0112
Order#:	G0205336
Report Date:	01/06/2003

Certificates
US EPA Laboratory Code TX00158

ENVIRONMENTAL LAB OF TEXAS

SAMPLE WORK LIST

LARSON AND ASSOCIATES, INC.
P.O. BOX 50685
MIDLAND, TX 79710
915-687-0456

Order#: G0205336
Project: 0-0112
Project Name: G.L. ERWIN/TEXACO
Location: G.L. ERWIN

The samples listed below were submitted to Environmental Lab of Texas and were received under chain of custody. Environmental Lab of Texas makes no representation or certification as to the method of sample collection, sample identification, or transportation/handling procedures used prior to the receipt of samples by Environmental Lab of Texas, unless otherwise noted.

Lab ID:	Sample :	Matrix:	Date / Time Collected	Date / Time Received	Container	Preservative
0205336-01	MW-12	WATER	12/27/02 9:00	12/27/02 15:14	SEE COC	See COC

Lab Testing: **Rejected:** No **Temp:** 3.0 C

8021B/5030 BTEX
Anions
Cations
Total Dissolved Solids (TDS)

0205336-02	MW-13	WATER	12/27/02 9:20	12/27/02 15:14	SEE COC	See COC

Lab Testing: **Rejected:** No **Temp:** 3.0 C

8021B/5030 BTEX
Anions
Cations
Total Dissolved Solids (TDS)

0205336-03	MW-7	WATER	12/27/02 9:40	12/27/02 15:14	SEE COC	See COC

Lab Testing: **Rejected:** No **Temp:** 3.0 C

8021B/5030 BTEX
Anions
Cations
Total Dissolved Solids (TDS)

0205336-04	MW-2	WATER	12/27/02 9:58	12/27/02 15:14	SEE COC	See COC

Lab Testing: **Rejected:** No **Temp:** 3.0 C

8021B/5030 BTEX
Anions
Cations
Total Dissolved Solids (TDS)

0205336-05	MW-1	WATER	12/27/02 10:15	12/27/02 15:14	SEE COC	See COC

Lab Testing: **Rejected:** No **Temp:** 3.0 C

8021B/5030 BTEX
Anions
Cations

ENVIRONMENTAL LAB OF TEXAS

SAMPLE WORK LIST

LARSON AND ASSOCIATES, INC.
P.O. BOX 50685
MIDLAND, TX 79710
915-687-0456

Order#: G0205336
Project: 0-0112
Project Name: G.L. ERWIN/TEXACO
Location: G.L. ERWIN

The samples listed below were submitted to Environmental Lab of Texas and were received under chain of custody. Environmental Lab of Texas makes no representation or certification as to the method of sample collection, sample identification, or transportation/handling procedures used prior to the receipt of samples by Environmental Lab of Texas, unless otherwise noted.

Lab ID:	Sample :	Matrix:	Date / Time Collected	Date / Time Received	Container	Preservative
	Total Dissolved Solids (TDS)					
0205336-06	MW-5	WATER	12/27/02 10:30	12/27/02 15:14	SEE COC	See COC
	Lab Testing:	**Rejected:** No		**Temp:** 3.0 C		
	8021B/5030 BTEX					
	Anions					
	Cations					
	Total Dissolved Solids (TDS)					
0205336-07	MW-3	WATER	12/27/02 10:45	12/27/02 15:14	SEE COC	See COC
	Lab Testing:	**Rejected:** No		**Temp:** 3.0 C		
	8021B/5030 BTEX					
	Anions					
	Cations					
	Total Dissolved Solids (TDS)					
0205336-08	MW-6	WATER	12/27/02 11:05	12/27/02 15:14	SEE COC	See COC
	Lab Testing:	**Rejected:** No		**Temp:** 3.0 C		
	8021B/5030 BTEX					
	Anions					
	Cations					
	Total Dissolved Solids (TDS)					
0205336-09	MW-8	WATER	12/27/02 11:25	12/27/02 15:14	SEE COC	See COC
	Lab Testing:	**Rejected:** No		**Temp:** 3.0 C		
	8021B/5030 BTEX					
	Anions					
	Cations					
	Total Dissolved Solids (TDS)					
0205336-10	WW-1	WATER	12/27/02 12:05	12/27/02 15:14	SEE COC	See COC
	Lab Testing:	**Rejected:** No		**Temp:** 3.0 C		
	8021B/5030 BTEX					
	Anions					

ENVIRONMENTAL LAB OF TEXAS

SAMPLE WORK LIST

LARSON AND ASSOCIATES, INC.
P.O. BOX 50685
MIDLAND, TX 79710
915-687-0456

Order#: G0205336
Project: 0-0112
Project Name: G.L. ERWIN/TEXACO
Location: G.L. ERWIN

The samples listed below were submitted to Environmental Lab of Texas and were received under chain of custody. Environmental Lab of Texas makes no representation or certification as to the method of sample collection, sample identification, or transportation/handling procedures used prior to the receipt of samples by Environmental Lab of Texas, unless otherwise noted.

Lab ID:	Sample:	Matrix:	Date / Time Collected	Date / Time Received	Container	Preservative
	Cations					
	Total Dissolved Solids (TDS)					
0205336-11	MW-10	WATER	12/27/02 12:20	12/27/02 15:14	SEE COC	See COC
	Lab Testing:	**Rejected:** No		**Temp:** 3.0 C		
	8021B/5030 BTEX					
	Anions					
	Cations					
	Total Dissolved Solids (TDS)					
0205336-12	MW-9	WATER	12/27/02 12:45	12/27/02 15:14	SEE COC	See COC
	Lab Testing:	**Rejected:** No		**Temp:** 3.0 C		
	8021B/5030 BTEX					
	Anions					
	Cations					
	Total Dissolved Solids (TDS)					
0205336-13	W.MW	WATER	12/27/02 13:05	12/27/02 15:14	SEE COC	See COC
	Lab Testing:	**Rejected:** No		**Temp:** 3.0 C		
	8021B/5030 BTEX					
	Anions					
	Cations					
	Total Dissolved Solids (TDS)					
0205336-14	RW	WATER	12/27/02 13:20	12/27/02 15:14	SEE COC	See COC
	Lab Testing:	**Rejected:** No		**Temp:** 3.0 C		
	8021B/5030 BTEX					
	Anions					
	Cations					
	Total Dissolved Solids (TDS)					
0205336-15	SWMW	WATER	12/27/02 13:40	12/27/02 15:14	SEE COC	See COC
	Lab Testing:	**Rejected:** No		**Temp:** 3.0 C		
	8021B/5030 BTEX					

ENVIRONMENTAL LAB OF TEXAS

SAMPLE WORK LIST

LARSON AND ASSOCIATES, INC.
P.O. BOX 50685
MIDLAND, TX 79710
915-687-0456

Order#: G0205336
Project: 0-0112
Project Name: G.L. ERWIN/TEXACO
Location: G.L. ERWIN

The samples listed below were submitted to Environmental Lab of Texas and were received under chain of custody. Environmental Lab of Texas makes no representation or certification as to the method of sample collection, sample identification, or transportation/handling procedures used prior to the receipt of samples by Environmental Lab of Texas, unless otherwise noted.

Lab ID:	Sample :	Matrix:	Date / Time Collected	Date / Time Received	Container	Preservative
	Anions					
	Cations					
	Total Dissolved Solids (TDS)					
0205336-16	MW-4	WATER	12/27/02 13:55	12/27/02 15:14	SEE COC	See COC
	Lab Testing:	**Rejected:** No		**Temp:** 3.0 C		
	8021B/5030 BTEX					
	Anions					
	Cations					
	Total Dissolved Solids (TDS)					
0205336-17	Trip Blank	WATER	12/27/02	12/27/02 15:14	40 ml Glass	See COC
	Lab Testing:	**Rejected:** No		**Temp:** 3.0 C		
	8021B/5030 BTEX					
0205336-18	Duplicate	WATER	12/27/02	12/27/02 15:14	See COC	See COC
	Lab Testing:	**Rejected:** No		**Temp:** 3.0 C		
	8021B/5030 BTEX					
	Anions					
	Cations					
	Total Dissolved Solids (TDS)					

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

CINDY CRAIN
LARSON AND ASSOCIATES, INC.
P.O. BOX 50685
MIDLAND, TX 79710

Order#: G0205336
Project: 0-0112
Project Name: G.L. ERWIN/TEXACO
Location: G.L. ERWIN

Lab ID: 0205336-01
Sample ID: MW-12

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0004215-02		12/30/02 15:18	1	1	CK	8021B

Parameter	Result mg/L	RL
Benzene	<0.001	0.001
Toluene	<0.001	0.001
Ethylbenzene	<0.001	0.001
p/m-Xylene	<0.001	0.001
o-Xylene	<0.001	0.001

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	95%	80	120
Bromofluorobenzene	97%	80	120

Lab ID: 0205336-02
Sample ID: MW-13

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0004215-02		12/30/02 15:40	1	1	CK	8021B

Parameter	Result mg/L	RL
Benzene	<0.001	0.001
Toluene	<0.001	0.001
Ethylbenzene	<0.001	0.001
p/m-Xylene	<0.001	0.001
o-Xylene	<0.001	0.001

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	97%	80	120
Bromofluorobenzene	107%	80	120

DL = Diluted out N/A = Not Applicable RL = Reporting Limit

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

CINDY CRAIN
LARSON AND ASSOCIATES, INC.
P.O. BOX 50685
MIDLAND, TX 79710

Order#: G0205336
Project: 0-0112
Project Name: G.L. ERWIN/TEXACO
Location: G.L. ERWIN

Lab ID: 0205336-03
Sample ID: MW-7

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0004215-02		12/30/02 16:02	1	1	CK	8021B

Parameter	Result mg/L	RL
Benzene	<0.001	0.001
Toluene	<0.001	0.001
Ethylbenzene	<0.001	0.001
p/m-Xylene	<0.001	0.001
o-Xylene	<0.001	0.001

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	92%	80	120
Bromofluorobenzene	101%	80	120

Lab ID: 0205336-04
Sample ID: MW-2

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0004215-02		12/30/02 16:24	1	1	CK	8021B

Parameter	Result mg/L	RL
Benzene	<0.001	0.001
Toluene	<0.001	0.001
Ethylbenzene	<0.001	0.001
p/m-Xylene	<0.001	0.001
o-Xylene	<0.001	0.001

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	98%	80	120
Bromofluorobenzene	103%	80	120

DL = Diluted out N/A = Not Applicable RL = Reporting Limit

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

CINDY CRAIN
LARSON AND ASSOCIATES, INC.
P.O. BOX 50685
MIDLAND, TX 79710

Order#: G0205336
Project: 0-0112
Project Name: G.L. ERWIN/TEXACO
Location: G.L. ERWIN

Lab ID: 0205336-05
Sample ID: MW-1

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0004215-02		12/30/02 17:14	1	1	CK	8021B

Parameter	Result mg/L	RL
Benzene	<0.001	0.001
Toluene	<0.001	0.001
Ethylbenzene	<0.001	0.001
p/m-Xylene	<0.001	0.001
o-Xylene	<0.001	0.001

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	97%	80	120
Bromofluorobenzene	91%	80	120

Lab ID: 0205336-06
Sample ID: MW-5

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0004215-02		12/30/02 17:37	1	1	CK	8021B

Parameter	Result mg/L	RL
Benzene	<0.001	0.001
Toluene	<0.001	0.001
Ethylbenzene	<0.001	0.001
p/m-Xylene	<0.001	0.001
o-Xylene	<0.001	0.001

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	94%	80	120
Bromofluorobenzene	96%	80	120

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ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

CINDY CRAIN
LARSON AND ASSOCIATES, INC.
P.O. BOX 50685
MIDLAND, TX 79710

Order#: G0205336
Project: 0-0112
Project Name: G.L. ERWIN/TEXACO
Location: G.L. ERWIN

Lab ID: 0205336-07
Sample ID: MW-3

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0004215-02		12/30/02 17:59	1	1	CK	8021B

Parameter	Result mg/L	RL
Benzene	<0.001	0.001
Toluene	<0.001	0.001
Ethylbenzene	<0.001	0.001
p/m-Xylene	<0.001	0.001
o-Xylene	<0.001	0.001

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	97%	80	120
Bromofluorobenzene	102%	80	120

Lab ID: 0205336-08
Sample ID: MW-6

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0004215-02		12/30/02 18:21	1	1	CK	8021B

Parameter	Result mg/L	RL
Benzene	<0.001	0.001
Toluene	<0.001	0.001
Ethylbenzene	<0.001	0.001
p/m-Xylene	<0.001	0.001
o-Xylene	<0.001	0.001

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	95%	80	120
Bromofluorobenzene	106%	80	120

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ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

CINDY CRAIN
LARSON AND ASSOCIATES, INC.
P.O. BOX 50685
MIDLAND, TX 79710

Order#: G0205336
Project: 0-0112
Project Name: G.L. ERWIN/TEXACO
Location: G.L. ERWIN

Lab ID: 0205336-09
Sample ID: MW-8

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0004215-02		12/30/02 18:43	1	1	CK	8021B

Parameter	Result mg/L	RL
Benzene	<0.001	0.001
Toluene	<0.001	0.001
Ethylbenzene	<0.001	0.001
p/m-Xylene	<0.001	0.001
o-Xylene	<0.001	0.001

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	95%	80	120
Bromofluorobenzene	110%	80	120

Lab ID: 0205336-10
Sample ID: WW-1

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0004215-02		12/30/02 19:05	1	1	CK	8021B

Parameter	Result mg/L	RL
Benzene	<0.001	0.001
Toluene	<0.001	0.001
Ethylbenzene	<0.001	0.001
p/m-Xylene	<0.001	0.001
o-Xylene	<0.001	0.001

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	98%	80	120
Bromofluorobenzene	104%	80	120

DL = Diluted out N/A = Not Applicable RL = Reporting Limit

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

CINDY CRAIN
LARSON AND ASSOCIATES, INC.
P.O. BOX 50685
MIDLAND, TX 79710

Order#: G0205336
Project: 0-0112
Project Name: G.L. ERWIN/TEXACO
Location: G.L. ERWIN

Lab ID: 0205336-11
Sample ID: MW-10

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0004215-02		12/30/02 19:27	1	1	CK	8021B

Parameter	Result mg/L	RL
Benzene	<0.001	0.001
Toluene	<0.001	0.001
Ethylbenzene	<0.001	0.001
p/m-Xylene	<0.001	0.001
o-Xylene	<0.001	0.001

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	93%	80	120
Bromofluorobenzene	112%	80	120

Lab ID: 0205336-12
Sample ID: MW-9

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0004215-02		12/30/02 19:49	1	1	CK	8021B

Parameter	Result mg/L	RL
Benzene	<0.001	0.001
Toluene	<0.001	0.001
Ethylbenzene	<0.001	0.001
p/m-Xylene	<0.001	0.001
o-Xylene	<0.001	0.001

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	91%	80	120
Bromofluorobenzene	94%	80	120

DL = Diluted out N/A = Not Applicable RL = Reporting Limit

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

CINDY CRAIN
LARSON AND ASSOCIATES, INC.
P.O. BOX 50685
MIDLAND, TX 79710

Order#: G0205336
Project: 0-0112
Project Name: G.L. ERWIN/TEXACO
Location: G.L. ERWIN

Lab ID: 0205336-13
Sample ID: W.MW

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0004215-02		12/30/02 20:11	1	1	CK	8021B

Parameter	Result mg/L	RL
Benzene	<0.001	0.001
Toluene	<0.001	0.001
Ethylbenzene	<0.001	0.001
p/m-Xylene	<0.001	0.001
o-Xylene	<0.001	0.001

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	100%	80	120
Bromofluorobenzene	104%	80	120

Lab ID: 0205336-14
Sample ID: RW

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0004215-02		12/30/02 20:33	1	1	CK	8021B

Parameter	Result mg/L	RL
Benzene	<0.001	0.001
Toluene	<0.001	0.001
Ethylbenzene	<0.001	0.001
p/m-Xylene	<0.001	0.001
o-Xylene	<0.001	0.001

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	100%	80	120
Bromofluorobenzene	107%	80	120

DL = Diluted out N/A = Not Applicable RL = Reporting Limit

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

CINDY CRAIN
LARSON AND ASSOCIATES, INC.
P.O. BOX 50685
MIDLAND, TX 79710

Order#: G0205336
Project: 0-0112
Project Name: G.L. ERWIN/TEXACO
Location: G.L. ERWIN

Lab ID: 0205336-15
Sample ID: SWMW

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0004215-02		12/30/02 20:55	1	1	CK	8021B

Parameter	Result mg/L	RL
Benzene	<0.001	0.001
Toluene	<0.001	0.001
Ethylbenzene	<0.001	0.001
p/m-Xylene	<0.001	0.001
o-Xylene	<0.001	0.001

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	96%	80	120
Bromofluorobenzene	98%	80	120

Lab ID: 0205336-16
Sample ID: MW-4

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0004215-02		12/30/02 21:17	1	1	CK	8021B

Parameter	Result mg/L	RL
Benzene	<0.001	0.001
Toluene	<0.001	0.001
Ethylbenzene	<0.001	0.001
p/m-Xylene	<0.001	0.001
o-Xylene	<0.001	0.001

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	99%	80	120
Bromofluorobenzene	102%	80	120

DL = Diluted out N/A = Not Applicable RL = Reporting Limit

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

CINDY CRAIN
LARSON AND ASSOCIATES, INC.
P.O. BOX 50685
MIDLAND, TX 79710

Order#: G0205336
Project: 0-0112
Project Name: G.L. ERWIN/TEXACO
Location: G.L. ERWIN

Lab ID: 0205336-17
Sample ID: Trip Blank

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0004215-02		12/30/02 21:39	1	1	CK	8021B

Parameter	Result mg/L	RL
Benzene	<0.001	0.001
Toluene	<0.001	0.001
Ethylbenzene	<0.001	0.001
p/m-Xylene	<0.001	0.001
o-Xylene	<0.001	0.001

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	102%	80	120
Bromofluorobenzene	97%	80	120

Lab ID: 0205336-18
Sample ID: Duplicate

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0004215-02		12/30/02 22:01	1	1	CK	8021B

Parameter	Result mg/L	RL
Benzene	<0.001	0.001
Toluene	<0.001	0.001
Ethylbenzene	<0.001	0.001
p/m-Xylene	<0.001	0.001
o-Xylene	<0.001	0.001

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	97%	80	120
Bromofluorobenzene	96%	80	120

DL = Diluted out N/A = Not Applicable RL = Reporting Limit

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

CINDY CRAIN
LARSON AND ASSOCIATES, INC.
P.O. BOX 50685
MIDLAND, TX 79710

Order#:	**G0205336**
Project:	**0-0112**
Project Name:	**G.L. ERWIN/TEXACO**
Location:	**G.L. ERWIN**

Approval: Raland K Tuttle 1-06-03
Raland K. Tuttle, Lab Director, QA Officer — Date
Celey D. Keene, Org. Tech. Director
Jeanne McMurrey, Inorg. Tech. Director
Sandra Biezugbe, Lab Tech.
Sara Molina, Lab Tech.

DL = Diluted out N/A = Not Applicable RL = Reporting Limit

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

CINDY CRAIN
LARSON AND ASSOCIATES, INC.
P.O. BOX 50685
MIDLAND, TX 79710

Order#: G0205336
Project: 0-0112
Project Name: G.L. ERWIN/TEXACO
Location: G.L. ERWIN

Lab ID: 0205336-01
Sample ID: MW-12

Anions

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Bicarbonate Alkalinity	78.0	mg/L	1	2.00	310.1	12/28/02	SB
Carbonate Alkalinity	<0.10	mg/L	1	0.10	310.1	12/28/02	SB
Chloride	1520	mg/L	1	5.00	9253	12/30/02	SB
Hydroxide Alkalinity	<0.10	mg/L	1	0.10	310.1	12/28/02	SB
SULFATE, 375.4	49.3	mg/L	1	0.5	375.4	12/29/02	SB

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Total Dissolved Solids (TDS)	3460	mg/L	1	5.0	160.1	12/29/02	SB

Lab ID: 0205336-02
Sample ID: MW-13

Anions

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Bicarbonate Alkalinity	104	mg/L	1	2.00	310.1	12/28/02	SB
Carbonate Alkalinity	<0.10	mg/L	1	0.10	310.1	12/28/02	SB
Chloride	408	mg/L	1	5.00	9253	12/30/02	SB
Hydroxide Alkalinity	<0.10	mg/L	1	0.10	310.1	12/28/02	SB
SULFATE, 375.4	132	mg/L	2	1.0	375.4	12/29/02	SB

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Total Dissolved Solids (TDS)	1260	mg/L	1	5.0	160.1	12/29/02	SB

Lab ID: 0205336-03
Sample ID: MW-7

Anions

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Bicarbonate Alkalinity	232	mg/L	1	2.00	310.1	12/28/02	SB
Carbonate Alkalinity	<0.10	mg/L	1	0.10	310.1	12/28/02	SB
Chloride	452	mg/L	1	5.00	9253	12/30/02	SB
Hydroxide Alkalinity	<0.10	mg/L	1	0.10	310.1	12/28/02	SB
SULFATE, 375.4	109	mg/L	2	1.0	375.4	12/29/02	SB

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Total Dissolved Solids (TDS)	1220	mg/L	1	5.0	160.1	12/29/02	SB

RL = Reporting Limit N/A = Not Applicable

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

CINDY CRAIN
LARSON AND ASSOCIATES, INC.
P.O. BOX 50685
MIDLAND, TX 79710

Order#: G0205336
Project: 0-0112
Project Name: G.L. ERWIN/TEXACO
Location: G.L. ERWIN

Lab ID: 0205336-04
Sample ID: MW-2

Anions

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Bicarbonate Alkalinity	238	mg/L	1	2.00	310.1	12/28/02	SB
Carbonate Alkalinity	12.0	mg/L	1	0.10	310.1	12/28/02	SB
Chloride	319	mg/L	1	5.00	9253	12/30/02	SB
Hydroxide Alkalinity	<0.10	mg/L	1	0.10	310.1	12/28/02	SB
SULFATE, 375.4	142	mg/L	2	1.0	375.4	12/29/02	SB

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Total Dissolved Solids (TDS)	1110	mg/L	1	5.0	160.1	12/29/02	SB

Lab ID: 0205336-05
Sample ID: MW-1

Anions

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Bicarbonate Alkalinity	149	mg/L	1	2.00	310.1	12/28/02	SB
Carbonate Alkalinity	<0.10	mg/L	1	0.10	310.1	12/28/02	SB
Chloride	248	mg/L	1	5.00	9253	12/30/02	SB
Hydroxide Alkalinity	<0.10	mg/L	1	0.10	310.1	12/28/02	SB
SULFATE, 375.4	109	mg/L	2	1.0	375.4	12/29/02	SB

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Total Dissolved Solids (TDS)	728	mg/L	1	5.0	160.1	12/29/02	SB

Lab ID: 0205336-06
Sample ID: MW-5

Anions

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Bicarbonate Alkalinity	232	mg/L	1	2.00	310.1	12/28/02	SB
Carbonate Alkalinity	<0.10	mg/L	1	0.10	310.1	12/28/02	SB
Chloride	337	mg/L	1	5.00	9253	12/30/02	SB
Hydroxide Alkalinity	<0.10	mg/L	1	0.10	310.1	12/28/02	SB
SULFATE, 375.4	171	mg/L	2.5	1.25	375.4	12/29/02	SB

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Total Dissolved Solids (TDS)	1210	mg/L	1	5.0	160.1	12/29/02	SB

RL = Reporting Limit N/A = Not Applicable

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

CINDY CRAIN
LARSON AND ASSOCIATES, INC.
P.O. BOX 50685
MIDLAND, TX 79710

Order#: G0205336
Project: 0-0112
Project Name: G.L. ERWIN/TEXACO
Location: G.L. ERWIN

Lab ID: 0205336-07
Sample ID: MW-3

Anions

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Bicarbonate Alkalinity	288	mg/L	1	2.00	310.1	12/28/02	SB
Carbonate Alkalinity	<0.10	mg/L	1	0.10	310.1	12/28/02	SB
Chloride	727	mg/L	1	5.00	9253	12/30/02	SB
Hydroxide Alkalinity	<0.10	mg/L	1	0.10	310.1	12/28/02	SB
SULFATE, 375.4	231	mg/L	5	2.5	375.4	12/29/02	SB

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Total Dissolved Solids (TDS)	1950	mg/L	1	5.0	160.1	12/29/02	SB

Lab ID: 0205336-08
Sample ID: MW-6

Anions

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Bicarbonate Alkalinity	218	mg/L	1	2.00	310.1	12/28/02	SB
Carbonate Alkalinity	36.0	mg/L	1	0.10	310.1	12/28/02	SB
Chloride	620	mg/L	1	5.00	9253	12/30/02	SB
Hydroxide Alkalinity	<0.10	mg/L	1	0.10	310.1	12/28/02	SB
SULFATE, 375.4	192	mg/L	2.5	1.25	375.4	12/29/02	SB

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Total Dissolved Solids (TDS)	1650	mg/L	1	5.0	160.1	12/29/02	SB

Lab ID: 0205336-09
Sample ID: MW-8

Anions

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Bicarbonate Alkalinity	233	mg/L	1	2.00	310.1	12/28/02	SB
Carbonate Alkalinity	<0.10	mg/L	1	0.10	310.1	12/28/02	SB
Chloride	833	mg/L	1	5.00	9253	12/30/02	SB
Hydroxide Alkalinity	<0.10	mg/L	1	0.10	310.1	12/28/02	SB
SULFATE, 375.4	173	mg/L	2.5	1.25	375.4	12/29/02	SB

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Total Dissolved Solids (TDS)	2000	mg/L	1	5.0	160.1	12/29/02	SB

RL = Reporting Limit N/A = Not Applicable

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

CINDY CRAIN
LARSON AND ASSOCIATES, INC.
P.O. BOX 50685
MIDLAND, TX 79710

Order#: G0205336
Project: 0-0112
Project Name: G.L. ERWIN/TEXACO
Location: G.L. ERWIN

Lab ID: 0205336-10
Sample ID: WW-1

Anions

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Bicarbonate Alkalinity	157	mg/L	1	2.00	310.1	12/28/02	SB
Carbonate Alkalinity	<0.10	mg/L	1	0.10	310.1	12/28/02	SB
Chloride	111	mg/L	1	5.00	9253	12/30/02	SB
Hydroxide Alkalinity	<0.10	mg/L	1	0.10	310.1	12/28/02	SB
SULFATE, 375.4	134	mg/L	2.5	1.25	375.4	12/29/02	SB

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Total Dissolved Solids (TDS)	572	mg/L	1	5.0	160.1	12/29/02	SB

Lab ID: 0205336-11
Sample ID: MW-10

Anions

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Bicarbonate Alkalinity	196	mg/L	1	2.00	310.1	12/28/02	SB
Carbonate Alkalinity	<0.10	mg/L	1	0.10	310.1	12/28/02	SB
Chloride	70.0	mg/L	1	5.00	9253	12/30/02	SB
Hydroxide Alkalinity	<0.10	mg/L	1	0.10	310.1	12/28/02	SB
SULFATE, 375.4	149	mg/L	2.5	1.25	375.4	12/29/02	SB

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Total Dissolved Solids (TDS)	529	mg/L	1	5.0	160.1	12/29/02	SB

Lab ID: 0205336-12
Sample ID: MW-9

Anions

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Bicarbonate Alkalinity	124	mg/L	1	2.00	310.1	12/28/02	SB
Carbonate Alkalinity	<0.10	mg/L	1	0.10	310.1	12/28/02	SB
Chloride	434	mg/L	1	5.00	9253	12/30/02	SB
Hydroxide Alkalinity	<0.10	mg/L	1	0.10	310.1	12/28/02	SB
SULFATE, 375.4	120	mg/L	2.5	1.25	375.4	12/29/02	SB

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Total Dissolved Solids (TDS)	1080	mg/L	1	5.0	160.1	12/29/02	SB

RL = Reporting Limit N/A = Not Applicable

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

CINDY CRAIN
LARSON AND ASSOCIATES, INC.
P.O. BOX 50685
MIDLAND, TX 79710

Order#: G0205336
Project: 0-0112
Project Name: G.L. ERWIN/TEXACO
Location: G.L. ERWIN

Lab ID: 0205336-13
Sample ID: W.MW

Anions

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Bicarbonate Alkalinity	198	mg/L	1	2.00	310.1	12/28/02	SB
Carbonate Alkalinity	<0.10	mg/L	1	0.10	310.1	12/28/02	SB
Chloride	337	mg/L	1	5.00	9253	12/30/02	SB
Hydroxide Alkalinity	<0.10	mg/L	1	0.10	310.1	12/28/02	SB
SULFATE, 375.4	134	mg/L	2.5	1.25	375.4	12/29/02	SB

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Total Dissolved Solids (TDS)	997	mg/L	1	5.0	160.1	12/29/02	SB

Lab ID: 0205336-14
Sample ID: RW

Anions

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Bicarbonate Alkalinity	294	mg/L	1	2.00	310.1	12/28/02	SB
Carbonate Alkalinity	<0.10	mg/L	1	0.10	310.1	12/28/02	SB
Chloride	1300	mg/L	1	5.00	9253	12/30/02	SB
Hydroxide Alkalinity	<0.10	mg/L	1	0.10	310.1	12/28/02	SB
SULFATE, 375.4	330	mg/L	5	2.5	375.4	12/29/02	SB

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Total Dissolved Solids (TDS)	3190	mg/L	1	5.0	160.1	12/29/02	SB

Lab ID: 0205336-15
Sample ID: SWMW

Anions

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Bicarbonate Alkalinity	308	mg/L	1	2.00	310.1	12/28/02	SB
Carbonate Alkalinity	<0.10	mg/L	1	0.10	310.1	12/28/02	SB
Chloride	1280	mg/L	1	5.00	9253	12/30/02	SB
Hydroxide Alkalinity	<0.10	mg/L	1	0.10	310.1	12/28/02	SB
SULFATE, 375.4	319	mg/L	5	2.5	375.4	12/29/02	SB

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Total Dissolved Solids (TDS)	3040	mg/L	1	5.0	160.1	12/31/02	SB

RL = Reporting Limit N/A = Not Applicable

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

CINDY CRAIN
LARSON AND ASSOCIATES, INC.
P.O. BOX 50685
MIDLAND, TX 79710

Order#: G0205336
Project: 0-0112
Project Name: G.L. ERWIN/TEXACO
Location: G.L. ERWIN

Lab ID: 0205336-16
Sample ID: MW-4

Anions

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Bicarbonate Alkalinity	288	mg/L	1	2.00	310.1	12/28/02	SB
Carbonate Alkalinity	<0.10	mg/L	1	0.10	310.1	12/28/02	SB
Chloride	505	mg/L	1	5.00	9253	12/30/02	SB
Hydroxide Alkalinity	<0.10	mg/L	1	0.10	310.1	12/28/02	SB
SULFATE, 375.4	114	mg/L	2.5	1.25	375.4	12/29/02	SB

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Total Dissolved Solids (TDS)	1450	mg/L	1	5.0	160.1	12/31/02	SB

Lab ID: 0205336-18
Sample ID: Duplicate

Anions

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Bicarbonate Alkalinity	158	mg/L	1	2.00	310.1	12/28/02	SB
Carbonate Alkalinity	<0.10	mg/L	1	0.10	310.1	12/28/02	SB
Chloride	115	mg/L	1	5.00	9253	12/30/02	SB
Hydroxide Alkalinity	<0.10	mg/L	1	0.10	310.1	12/28/02	SB
SULFATE, 375.4	139	mg/L	2.5	1.25	375.4	12/29/02	SB

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Total Dissolved Solids (TDS)	594	mg/L	1	5.0	160.1	12/31/02	SB

Approval: Raland K Tuttle 1-06-03
Raland K. Tuttle, Lab Director, QA Officer — Date
Celey D. Keene, Org. Tech. Director
Jeanne McMurrey, Inorg. Tech. Director
Sandra Biezugbe, Lab Tech.
Sara Molina, Lab Tech.

RL = Reporting Limit N/A = Not Applicable

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

8021B/5030 BTEX

Order#: G0205336

BLANK WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Benzene-mg/L	0004215-02			<0.001		
Toluene-mg/L	0004215-02			<0.001		
Ethylbenzene-mg/L	0004215-02			<0.001		
p/m-Xylene-mg/L	0004215-02			<0.001		
o-Xylene-mg/L	0004215-02			<0.001		
MS WATER	**LAB-ID #**	**Sample Concentr.**	**Spike Concentr.**	**QC Test Result**	**Pct (%) Recovery**	**RPD**
Benzene-mg/L	0205336-17	0	0.1	0.112	112.%	
Toluene-mg/L	0205336-17	0	0.1	0.115	115.%	
Ethylbenzene-mg/L	0205336-17	0	0.1	0.113	113.%	
p/m-Xylene-mg/L	0205336-17	0	0.2	0.223	111.5%	
o-Xylene-mg/L	0205336-17	0	0.1	0.105	105.%	
MSD WATER	**LAB-ID #**	**Sample Concentr.**	**Spike Concentr.**	**QC Test Result**	**Pct (%) Recovery**	**RPD**
Benzene-mg/L	0205336-17	0	0.1	0.111	111.%	0.9%
Toluene-mg/L	0205336-17	0	0.1	0.111	111.%	3.5%
Ethylbenzene-mg/L	0205336-17	0	0.1	0.109	109.%	3.6%
p/m-Xylene-mg/L	0205336-17	0	0.2	0.215	107.5%	3.7%
o-Xylene-mg/L	0205336-17	0	0.1	0.103	103.%	1.9%
SRM WATER	**LAB-ID #**	**Sample Concentr.**	**Spike Concentr.**	**QC Test Result**	**Pct (%) Recovery**	**RPD**
Benzene-mg/L	0004215-05		0.1	0.114	114.%	
Toluene-mg/L	0004215-05		0.1	0.114	114.%	
Ethylbenzene-mg/L	0004215-05		0.1	0.112	112.%	
p/m-Xylene-mg/L	0004215-05		0.2	0.222	111.%	
o-Xylene-mg/L	0004215-05		0.1	0.105	105.%	

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

Anions

Order#: G0205336

BLANK WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Bicarbonate Alkalinity-mg/L	0004196-01			<0.50		
Carbonate Alkalinity-mg/L	0004197-01			<0.10		
Chloride-mg/L	0004200-01			<5.00		
Hydroxide Alkalinity-mg/L	0004198-01			<0.10		
SULFATE, 375.4-mg/L	0004208-01			<0.50		
DUPLICATE WATER	**LAB-ID #**	**Sample Concentr.**	**Spike Concentr.**	**QC Test Result**	**Pct (%) Recovery**	**RPD**
Bicarbonate Alkalinity-mg/L	0205336-01	78		79.0		1.3%
Carbonate Alkalinity-mg/L	0205336-01	0		<0.10		0.%
Hydroxide Alkalinity-mg/L	0205336-01	0		<0.10		0.%
SULFATE, 375.4-mg/L	0205336-01	49.3		48.9		0.8%
MS WATER	**LAB-ID #**	**Sample Concentr.**	**Spike Concentr.**	**QC Test Result**	**Pct (%) Recovery**	**RPD**
Chloride-mg/L	0205336-01	1520	500	2010	98.%	
MSD WATER	**LAB-ID #**	**Sample Concentr.**	**Spike Concentr.**	**QC Test Result**	**Pct (%) Recovery**	**RPD**
Chloride-mg/L	0205336-01	1520	500	2000	96.%	0.5%
SRM WATER	**LAB-ID #**	**Sample Concentr.**	**Spike Concentr.**	**QC Test Result**	**Pct (%) Recovery**	**RPD**
Bicarbonate Alkalinity-mg/L	0004196-04		0.05	0.0496	99.2%	
Carbonate Alkalinity-mg/L	0004197-04		0.05	0.0496	99.2%	
Chloride-mg/L	0004200-04		5000	4960	99.2%	
Hydroxide Alkalinity-mg/L	0004198-04		0.05	0.0496	99.2%	
SULFATE, 375.4-mg/L	0004208-04		50	50.4	100.8%	

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

Cations

Order#: G0205336

BLANK WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Calcium-mg/L	0004242-02			<0.010		
Magnesium-mg/L	0004242-02			<0.001		
Potassium-mg/L	0004242-02			<0.050		
Sodium-mg/L	0004242-02			<0.010		
DUPLICATE WATER	**LAB-ID #**	**Sample Concentr.**	**Spike Concentr.**	**QC Test Result**	**Pct (%) Recovery**	**RPD**
Calcium-mg/L	0205336-01	507		522		2.9%
Magnesium-mg/L	0205336-01	181		187		3.3%
Potassium-mg/L	0205336-01	14.1		13.9		1.4%
Sodium-mg/L	0205336-01	151		152		0.7%
SRM WATER	**LAB-ID #**	**Sample Concentr.**	**Spike Concentr.**	**QC Test Result**	**Pct (%) Recovery**	**RPD**
Calcium-mg/L	0004242-05		2	2.00	100.%	
Magnesium-mg/L	0004242-05		2	2.18	109.%	
Potassium-mg/L	0004242-05		2	1.86	93.%	
Sodium-mg/L	0004242-05		2	2.00	100.%	

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

Test Parameters

Order#: G0205336

BLANK WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Total Dissolved Solids (TDS)-mg/L	0004203-01			<5.00		
Total Dissolved Solids (TDS)-mg/L	0004232-01			<5.00		
DUPLICATE WATER	**LAB-ID #**	**Sample Concentr.**	**Spike Concentr.**	**QC Test Result**	**Pct (%) Recovery**	**RPD**
Total Dissolved Solids (TDS)-mg/L	0205336-01	3460		3520		1.7%
Total Dissolved Solids (TDS)-mg/L	0205336-15	3040		3080		1.3%

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

CINDY CRAIN
LARSON AND ASSOCIATES, INC.
P.O. BOX 50685
MIDLAND, TX 79710

Order#: G0205336
Project: 0-0112
Project Name: G.L. ERWIN/TEXACO
Location: G.L. ERWIN

Lab ID: 0205336-01
Sample ID: MW-12

Cations

Parameter	Result	Units	Dilution Factor	RL	Method	Date Prepared	Date Analyzed	Analyst
Calcium	507	mg/L	100	1.0	6010B	01/03/2003	1/3/03	SM
Magnesium	181	mg/L	100	0.10	6010B	01/03/2003	1/3/03	SM
Potassium	14.1	mg/L	10	0.50	6010B	01/03/2003	1/3/03	SM
Sodium	151	mg/L	100	1.0	6010B	01/03/2003	1/3/03	SM

Lab ID: 0205336-02
Sample ID: MW-13

Cations

Parameter	Result	Units	Dilution Factor	RL	Method	Date Prepared	Date Analyzed	Analyst
Calcium	160	mg/L	100	1.0	6010B	01/03/2003	1/3/03	SM
Magnesium	55.2	mg/L	10	0.010	6010B	01/03/2003	1/3/03	SM
Potassium	9.71	mg/L	10	0.50	6010B	01/03/2003	1/3/03	SM
Sodium	84.5	mg/L	100	1.0	6010B	01/03/2003	1/3/03	SM

Lab ID: 0205336-03
Sample ID: MW-7

Cations

Parameter	Result	Units	Dilution Factor	RL	Method	Date Prepared	Date Analyzed	Analyst
Calcium	56.2	mg/L	10	0.10	6010B	01/03/2003	1/3/03	SM
Magnesium	19.2	mg/L	10	0.010	6010B	01/03/2003	1/3/03	SM
Potassium	5.82	mg/L	10	0.50	6010B	01/03/2003	1/3/03	SM
Sodium	353	mg/L	100	1.0	6010B	01/03/2003	1/3/03	SM

Lab ID: 0205336-04
Sample ID: MW-2

Cations

Parameter	Result	Units	Dilution Factor	RL	Method	Date Prepared	Date Analyzed	Analyst
Calcium	17.8	mg/L	10	0.10	6010B	01/03/2003	1/3/03	SM
Magnesium	5.16	mg/L	1	0.001	6010B	01/03/2003	1/3/03	SM
Potassium	6.10	mg/L	10	0.50	6010B	01/03/2003	1/3/03	SM
Sodium	339	mg/L	100	1.0	6010B	01/03/2003	1/3/03	SM

N/A = Not Applicable RL = Reporting Limit

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

CINDY CRAIN
LARSON AND ASSOCIATES, INC.
P.O. BOX 50685
MIDLAND, TX 79710

Order#: G0205336
Project: 0-0112
Project Name: G.L. ERWIN/TEXACO
Location: G.L. ERWIN

Lab ID: 0205336-05
Sample ID: MW-1

Cations

Parameter	Result	Units	Dilution Factor	RL	Method	Date Prepared	Date Analyzed	Analyst
Calcium	76.6	mg/L	10	0.10	6010B	01/03/2003	1/3/03	SM
Magnesium	27.4	mg/L	10	0.010	6010B	01/03/2003	1/3/03	SM
Potassium	5.16	mg/L	10	0.50	6010B	01/03/2003	1/3/03	SM
Sodium	129	mg/L	100	1.0	6010B	01/03/2003	1/3/03	SM

Lab ID: 0205336-06
Sample ID: MW-5

Cations

Parameter	Result	Units	Dilution Factor	RL	Method	Date Prepared	Date Analyzed	Analyst
Calcium	31.3	mg/L	10	0.10	6010B	01/03/2003	1/3/03	SM
Magnesium	8.55	mg/L	1	0.001	6010B	01/03/2003	1/3/03	SM
Potassium	20.6	mg/L	10	0.50	6010B	01/03/2003	1/3/03	SM
Sodium	319	mg/L	100	1.0	6010B	01/03/2003	1/3/03	SM

Lab ID: 0205336-07
Sample ID: MW-3

Cations

Parameter	Result	Units	Dilution Factor	RL	Method	Date Prepared	Date Analyzed	Analyst
Calcium	27.0	mg/L	10	0.10	6010B	01/03/2003	1/3/03	SM
Magnesium	7.34	mg/L	1	0.001	6010B	01/03/2003	1/3/03	SM
Potassium	19.9	mg/L	10	0.50	6010B	01/03/2003	1/3/03	SM
Sodium	698	mg/L	100	1.0	6010B	01/03/2003	1/3/03	SM

Lab ID: 0205336-08
Sample ID: MW-6

Cations

Parameter	Result	Units	Dilution Factor	RL	Method	Date Prepared	Date Analyzed	Analyst
Calcium	21.2	mg/L	10	0.10	6010B	01/03/2003	1/3/03	SM
Magnesium	6.08	mg/L	1	0.001	6010B	01/03/2003	1/3/03	SM
Potassium	13.6	mg/L	10	0.50	6010B	01/03/2003	1/3/03	SM
Sodium	584	mg/L	100	1.0	6010B	01/03/2003	1/3/03	SM

N/A = Not Applicable RL = Reporting Limit

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

CINDY CRAIN
LARSON AND ASSOCIATES, INC.
P.O. BOX 50685
MIDLAND, TX 79710

Order#: G0205336
Project: 0-0112
Project Name: G.L. ERWIN/TEXACO
Location: G.L. ERWIN

Lab ID: 0205336-09
Sample ID: MW-8

Cations

Parameter	Result	Units	Dilution Factor	RL	Method	Date Prepared	Date Analyzed	Analyst
Calcium	59.8	mg/L	10	0.10	6010B	01/03/2003	1/3/03	SM
Magnesium	20.0	mg/L	10	0.010	6010B	01/03/2003	1/3/03	SM
Potassium	8.64	mg/L	10	0.50	6010B	01/03/2003	1/3/03	SM
Sodium	627	mg/L	100	1.0	6010B	01/03/2003	1/3/03	SM

Lab ID: 0205336-10
Sample ID: WW-1

Cations

Parameter	Result	Units	Dilution Factor	RL	Method	Date Prepared	Date Analyzed	Analyst
Calcium	55.0	mg/L	10	0.10	6010B	01/03/2003	1/3/03	SM
Magnesium	22.5	mg/L	10	0.010	6010B	01/03/2003	1/3/03	SM
Potassium	5.30	mg/L	10	0.50	6010B	01/03/2003	1/3/03	SM
Sodium	96.0	mg/L	100	1.0	6010B	01/03/2003	1/3/03	SM

Lab ID: 0205336-11
Sample ID: MW-10

Cations

Parameter	Result	Units	Dilution Factor	RL	Method	Date Prepared	Date Analyzed	Analyst
Calcium	68.4	mg/L	10	0.10	6010B	01/03/2003	1/3/03	SM
Magnesium	23.1	mg/L	10	0.010	6010B	01/03/2003	1/3/03	SM
Potassium	7.69	mg/L	1	0.050	6010B	01/03/2003	1/3/03	SM
Sodium	92.8	mg/L	10	0.10	6010B	01/03/2003	1/3/03	SM

Lab ID: 0205336-12
Sample ID: MW-9

Cations

Parameter	Result	Units	Dilution Factor	RL	Method	Date Prepared	Date Analyzed	Analyst
Calcium	93.8	mg/L	100	1.0	6010B	01/03/2003	1/3/03	SM
Magnesium	33.8	mg/L	10	0.010	6010B	01/03/2003	1/3/03	SM
Potassium	6.22	mg/L	10	0.50	6010B	01/03/2003	1/3/03	SM
Sodium	192	mg/L	100	1.0	6010B	01/03/2003	1/3/03	SM

N/A = Not Applicable RL = Reporting Limit

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

CINDY CRAIN
LARSON AND ASSOCIATES, INC.
P.O. BOX 50685
MIDLAND, TX 79710

Order#: G0205336
Project: 0-0112
Project Name: G.L. ERWIN/TEXACO
Location: G.L. ERWIN

Lab ID: 0205336-13
Sample ID: W.MW

Cations

Parameter	Result	Units	Dilution Factor	RL	Method	Date Prepared	Date Analyzed	Analyst
Calcium	43.1	mg/L	10	0.10	6010B	01/03/2003	1/3/03	SM
Magnesium	12.5	mg/L	10	0.010	6010B	01/03/2003	1/3/03	SM
Potassium	33.2	mg/L	10	0.50	6010B	01/03/2003	1/3/03	SM
Sodium	263	mg/L	100	1.0	6010B	01/03/2003	1/3/03	SM

Lab ID: 0205336-14
Sample ID: RW

Cations

Parameter	Result	Units	Dilution Factor	RL	Method	Date Prepared	Date Analyzed	Analyst
Calcium	123	mg/L	100	1.0	6010B	01/03/2003	1/3/03	SM
Magnesium	40.3	mg/L	10	0.010	6010B	01/03/2003	1/3/03	SM
Potassium	56.8	mg/L	10	0.50	6010B	01/03/2003	1/3/03	SM
Sodium	933	mg/L	100	1.0	6010B	01/03/2003	1/3/03	SM

Lab ID: 0205336-15
Sample ID: SWMW

Cations

Parameter	Result	Units	Dilution Factor	RL	Method	Date Prepared	Date Analyzed	Analyst
Calcium	107	mg/L	100	1.0	6010B	01/03/2003	1/3/03	SM
Magnesium	31.9	mg/L	10	0.010	6010B	01/03/2003	1/3/03	SM
Potassium	66.8	mg/L	10	0.50	6010B	01/03/2003	1/3/03	SM
Sodium	980	mg/L	100	1.0	6010B	01/03/2003	1/3/03	SM

Lab ID: 0205336-16
Sample ID: MW-4

Cations

Parameter	Result	Units	Dilution Factor	RL	Method	Date Prepared	Date Analyzed	Analyst
Calcium	21.2	mg/L	10	0.10	6010B	01/03/2003	1/3/03	SM
Magnesium	4.42	mg/L	1	0.001	6010B	01/03/2003	1/3/03	SM
Potassium	50.6	mg/L	10	0.50	6010B	01/03/2003	1/3/03	SM
Sodium	461	mg/L	100	1.0	6010B	01/03/2003	1/3/03	SM

N/A = Not Applicable RL = Reporting Limit

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

CINDY CRAIN
LARSON AND ASSOCIATES, INC.
P.O. BOX 50685
MIDLAND, TX 79710

Order#: G0205336
Project: 0-0112
Project Name: G.L. ERWIN/TEXACO
Location: G.L. ERWIN

Lab ID: 0205336-18
Sample ID: Duplicate

Cations

Parameter	Result	Units	Dilution Factor	RL	Method	Date Prepared	Date Analyzed	Analyst
Calcium	55.5	mg/L	10	0.10	6010B	01/03/2003	1/3/03	SM
Magnesium	23.0	mg/L	10	0.010	6010B	01/03/2003	1/3/03	SM
Potassium	4.94	mg/L	1	0.050	6010B	01/03/2003	1/3/03	SM
Sodium	94.4	mg/L	100	1.0	6010B	01/03/2003	1/3/03	SM

Approval: Raland K Tuttle 1-06-03
Raland K. Tuttle, Lab Director, QA Officer Date
Celey D. Keene, Org. Tech. Director
Jeanne McMurrey, Inorg. Tech. Director
Sandra Biezugbe, Lab Tech.
Sara Molina, Lab Tech.

N/A = Not Applicable RL = Reporting Limit

CHAIN—OF—CUSTODY RECORD

Larson & Associates, Inc. Environmental Consultants
Fax: 915-687-0456
915-687-0901
507 N. Marienfeld, Ste. 202 • Midland, TX 79701

CLIENT NAME: Texaco
SITE MANAGER: Cindy Crain
PROJECT NO.: 0-0112
PROJECT NAME: G.L. Erwin
PAGE 1 OF 1
LAB. PO #

DATE	TIME	WATER	SOIL	OTHER	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	PARAMETERS/METHOD NUMBER: B-TEX	Anions	Cations	TDS	LAB. I.D. NUMBER (LAB USE ONLY)	REMARKS (I.E., FILTERED, UNFILTERED, PRESERVED, UNPRESERVED, GRAB COMPOSITE)
12/27/02	0900	✓			mw-12	3	✓	✓	✓	✓	0205336-01	2-Prsrv - 1 Poly
	0920	✓			mw-13	3	✓	✓	✓	✓	02	
	0940	✓			mw-7	3	✓	✓	✓	✓	03	
	0958	✓			mw-2	3	✓	✓	✓	✓	04	
	1015	✓			mw-1	3	✓	✓	✓	✓	05	
	1030	✓			mw-5	3	✓	✓	✓	✓	06	
	1045	✓			mw-3	3	✓	✓	✓	✓	07	
	1105	✓			mw-6	3	✓	✓	✓	✓	08	
	1125	✓			mw-8	3	✓	✓	✓	✓	09	
	1205	✓			ww-1	3	✓	✓	✓	✓	10	
	1220	✓			mw-10	3	✓	✓	✓	✓	11	
	1245	✓			mw-9	3	✓	✓	✓	✓	12	
	1305	✓			W. MW	3	✓	✓	✓	✓	13	
	1320	✓			~~[illegible]~~ RW	3	✓	✓	✓	✓	14	
	1340	✓			SWMW	3	✓	✓	✓	✓	15	
	1355	✓			MW-4	3	✓	✓	✓	✓	16	
	—	✓			TRIP Blank	2	✓				17	
		✓			Duplicate	3	✓	✓	✓	✓	18	

SAMPLED BY: (Signature) DATE: ~~12-27-02~~ 12-27-02 TIME: 1400
RELINQUISHED BY: (Signature) DATE: TIME:
RECEIVED BY: (Signature) DATE: TIME:

RELINQUISHED BY: (Signature) DATE: 12-27-02 TIME: 1508
RECEIVED BY: (Signature) DATE: TIME:

SAMPLE SHIPPED BY: (Circle)
FEDEX BUS AIRBILL #:
HAND DELIVERED UPS OTHER:

COMMENTS:

TURNAROUND TIME NEEDED

~~WHITE~~ – RECEIVING LAB
YELLOW – RECEIVING LAB (TO BE RETURNED TO LA AFTER RECEIPT)
PINK – PROJECT MANAGER
GOLD – QA/QC COORDINATOR

RECEIVING LABORATORY: ELOT
ADDRESS: 12600 W I-20 E.
CITY: Odessa STATE: TX ZIP: 79763
CONTACT: PHONE: 563-1800

RECEIVED BY: (Signature)
DATE: 12-27-02 TIME: 1509

SAMPLE CONDITION WHEN RECEIVED:
1-L HDPE
2-VOA 40ml w/HCl - Rec 3.0°C.

LA CONTACT PERSON: Cindy Crain

SAMPLE TYPE: Water