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ANNUAL GROUNDWATER MONITORING REPORT
NEW MEXICO "F" STATE TANK BATTERY
LEA COUNTY, NEW MEXICO

Prepared for:

ChevronTexaco Exploration & Production Company
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Prepared by:

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April 29, 2004

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1.0 INTRODUCTION

ChevronTexaco Exploration and Production Company (ChevronTexaco), as successor to Texaco Exploration and Production Inc. (Texaco) has retained Larson and Associates, Inc. (LA) to conduct groundwater remediation and monitoring activities at the former location of the New Mexico "F" State Tank Battery (Site). The Site is located approximately 2.6 miles northwest of Monument, New Mexico, and is situated in the northeast quarter (NE/4) of the southeast quarter (SE/4), Section 24, Township 19 South, Range 36 East, Lea County, New Mexico. Figure 1 presents a Site location and topographic map.

2.0 BACKGROUND

In July 1998, eight monitoring wells were installed, in order to investigate soil and groundwater contamination at the Site. Details of that investigation were submitted to the New Mexico Oil Conservation Division (NMOCD) in a Subsurface Investigation Report dated September 1998. In that report, Texaco made three proposals, as follows:

- Remove phase separated hydrocarbon (PSH) observed on the groundwater at well MW-1 and MW-2, by utilizing wells MW-1 and MW-2 as extraction wells.
- Place stockpiled soil from the excavation and monitoring well installations in the excavation, with a clay liner at the bottom of the pit.
- Conduct semi-annual groundwater monitoring at the Site.

The proposed activities were approved by the NMOCD in a letter dated January 20, 1999, with several conditions. The NMOCD agreed that the compacted clay should be placed over the filled excavation and compacted to 95% proctor density.

An Annual Groundwater Monitoring Report was submitted to the NMOCD on March 5, 2003, that included details of the installation of three recovery wells (RW-1, RW-2, and RW-3), excavation

closure activities, and results of groundwater monitoring activities for 2002.

3.0 GROUNDWATER MONITORING

3.1 Groundwater Assessment

LA completed monitoring at the Site for the period of June 2003 through December 2003. Depth to groundwater measurements were collected from all monitoring wells (MW-3 through MW-8) and recovery wells (RW-1 through RW-3) on June 5, 2003 and December 3, 2003. Depth to groundwater measurements were also collected from two water wells (WW-1 and WW-2) on June 5, 2003. Depth to groundwater ranged from 53.24 feet (RW-2) to 68.54 feet (WW-2) below top of casing (TOC) on the June 5 event, and from 53.23 feet (RW-3) to 67.61 feet (MW-6) below TOC on the December 3 event. The groundwater gradient was approximately 0.005 feet per foot during each monitoring event. Groundwater flow at the Site has remained consistent, and is to the south and southeast. Table 1 provides a summary of depth to groundwater measurements. Figure 3 shows the groundwater gradient on June 5, 2003. Figure 4 shows the groundwater gradient on December 3, 2003.

Groundwater samples were collected on June 6, 2003, from all monitoring wells (MW-3 through MW-8) and water wells WW-1 and WW-2. A duplicate sample was collected from monitoring well MW-6. The groundwater samples were submitted under chain-of-custody control to TraceAnalysis, Inc. (Trace), and analyzed for benzene, toluene, ethylbenzene, and xylenes (collectively referred to as BTEX) and chloride. 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 2 presents a summary of the BTEX analysis. Table 3 presents a summary of the chloride analysis. Appendix A presents the laboratory report.

Referring to Table 2, BTEX was not reported above test method detection limits in any groundwater sample, except MW-4, where xylene was reported at a concentration of 0.0026 milligrams per liter (mg/L). The New Mexico Water Quality Conservation Commission (NMWQCC) human health standard for xylene is 0.62 mg/L.

Referring to Table 3, the highest reported chloride concentration was 244 mg/L in up-gradient monitoring well MW-8. Chloride was below the NMWQCC standard (250 mg/L) in groundwater from all wells.

On December 4, 2003, groundwater samples were collected from all monitoring wells (MW-3 through MW-8), water wells WW-1 and WW-2, and recovery well RW-3. A duplicate sample was collected from MW-8. The groundwater samples were submitted under chain-of-custody control to Trace, and analyzed for BTEX and chloride. 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 2 presents a summary of the BTEX analysis. Table 3 presents a summary of the chloride analysis. Appendix A presents the laboratory report.

Referring to Table 2, BTEX was not reported above test method detection limits in any groundwater sample, except MW-3, where xylene was reported at a concentration of 0.0017 mg/L, and MW-4, where benzene was reported at a concentration of 0.0015 mg/L. The NMWQCC human health standard for xylene is 0.62 mg/L, and 0.01 mg/L for benzene.

Referring to Table 3, chloride concentrations were below the NMWQCC standard (250 mg/L) in groundwater from all wells, except up-gradient well MW-8 (251 mg/L). The duplicate groundwater sample collected from well MW-8 reported a chloride concentration of 254 mg/L.

3.2 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 43.5 gallons of purged groundwater was disposed following each sampling event, for a total of approximately 87 gallons.

3.3 Phase-Separated Hydrocarbons

Phase-separated hydrocarbons (PSH) were observed in three (3) recovery wells (RW-1, RW-2, and RW-3) on June 5, 2003. Wells RW-1, RW-2, and RW-3, installed in the vicinity of the pit, reported an apparent PSH thickness of 0.16, 0.01, and 0.16 feet, respectively. Figure 5 presents a drawing showing the apparent thickness of PSH on June 5, 2003. Table 1 presents a summary of PSH thicknesses.

Phase-separated hydrocarbons were observed in two (2) recovery wells (RW-1 and RW-2) on December 3, 2003. Wells RW-1 and RW-2 reported an apparent PSH thickness of 0.65 feet and 0.13 feet, respectively. The PSH appears to be restricted to the area in the immediate vicinity of the former tank battery and pit. Figure 6 presents a drawing showing the apparent thickness of PSH on December 3, 2003. Table 1 presents a summary of PSH thicknesses.

3.4 Remediation System Installation and Start-up

On February 17, 2003, the State of New Mexico, Office of the State Engineer (NMSE) approved an application submitted by Texaco for allocating water resources for remediation of the phase-separated hydrocarbons, subject to conditions. Texaco will initiate phase separated hydrocarbon remediation in accordance with the conditions stipulated by the NMSE, upon their approval of the amendment to the existing monitoring well easement.

4.0 CONCLUSIONS

1. Depth to groundwater ranged from 53.24 feet (RW-2) to 68.54 feet (WW-2) below top of casing (TOC) on June 5, 2003.
2. Depth to groundwater ranged from 53.23 feet (RW-3) to 67.61 feet (MW-6) below TOC on December 3, 2003.
3. The groundwater gradient was approximately 0.005 feet per foot during each monitoring event.
4. Groundwater flow at the Site has remained consistent, and is to the south and southeast.
5. From the June 6, 2003 sampling event, BTEX was not reported above test method detection limits in any groundwater sample, except MW-4, where xylene was reported at a concentration of 0.0026 mg/L. The highest reported chloride concentration was 244 mg/L in up-gradient monitoring well MW-8. Chloride was below the NMWQCC standard (250 mg/L) in groundwater from all wells.
6. From the December 4, 2003 sampling event, BTEX was not reported above test method detection limits in any groundwater sample, except MW-3, where xylene was reported at a concentration of 0.0017 mg/L, and MW-4, where benzene was reported at a concentration of 0.0015 mg/L. Chloride concentrations were below the NMWQCC standard (250 mg/L) in groundwater from all wells, except up-gradient well MW-8 (251 mg/L). The duplicate groundwater sample collected from well MW-8 reported a chloride concentration of 254 mg/L.
7. Phase-separated hydrocarbons (PSH) were observed in three (3) recovery wells (RW-1, RW-2, and RW-3) on June 5, 2003, with thicknesses of 0.16 feet, 0.01 feet, and 0.16 feet, respectively.
8. PSH were observed in two (2) recovery wells (RW-1 and RW-2) on December 3, 2003, with thicknesses of 0.65 feet and 0.13 feet, respectively.

TABLES

Table 1: Summary of Depth-to-Groundwater Measurements from Monitoring and Recovery Wells
Texaco Exploration and Production Inc., State of New Mexico "F" Tank Battery
NE/4, SE/4, Section 24, Township 19 South, Range 36 East
Lea County, New Mexico

Date	*MW-1	**MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8	***MW-9	RW-1	RW-2	RW-3	WW-1	WW-2
07/07/98	61.05	--	--	--	--	--	--	--	--	--	--	--	--	--
07/17/98	60.15 (4.78)	--	--	--	--	--	--	--	--	--	--	--	--	--
07/28/98	60.09 (4.96)	54.77 (1.71)	59.53	69.72	56.53	67.86	58.08	56.84	--	--	--	--	--	--
03/23/99	--	--	--	--	56.30	--	--	--	--	--	--	--	--	--
06/25/99	59.61 (4.44)	54.59 (3.06)	59.06	62.31	56.21	67.25	57.96	56.56	52.40	--	--	--	--	--
10/14/99	--	--	--	--	--	--	--	--	--	--	53.28	45.82	--	--
11/03/99	--	--	--	--	--	--	--	--	--	62.17	53.95	52.82	--	--
02/16/01	--	--	59.53	62.52	56.31	67.45	58.09	56.49	--	62.37 (0.04)	54.01	52.88	--	--
06/11/02	--	--	59.18	62.39	56.29	67.19	58.07	56.56	--	62.26 (0.40)	54.01 (0.03)	52.91	66.35	66.18
11/26/02	--	--	59.54	62.76	56.13	67.09	57.92	56.88	--	62.60 (0.53)	54.28 (0.21)	53.22 (0.07)	67.18****	66.18
06/05/03	--	--	59.45	62.71	56.53	67.57	58.29	56.89	--	63.00 (0.16)	53.24 (0.01)	54.56 (0.16)	68.25	68.54
12/03/03	--	--	59.47	62.67	56.57	67.61	58.33	56.91	--	63.26 (0.65)	54.51 (0.13)	53.23	--	--

Notes: All measurements in feet from top-of-casing

1. ( ): Depth-to-groundwater corrected for PSH Thickness - PSH thickness shown in parenthesis
2. *: Well replaced by recovery well RW-1
3. **: Well replaced by recovery well RW-2
4. ***: Well replaced by recovery well RW-3
5. --: No data available
6. ****: Questionable data

Table 2: **Summary of BTEX Analysis of Groundwater Samples from Monitoring and Water Wells**
Texaco Exploration and Production Inc., State of New Mexico "F" Tank Battery
NE/4, SE/4, Section 24, Township 19 South, Range 36 East
Lea County, New Mexico

Well Number	Sample Date	Benzene mg/L	Toluene mg/L	Ethylbenzene mg/L	Xylene mg/L	Total BTEX mg/L
NMWQCC Standard		0.01 mg/L	0.75 mg/L	0.75 mg/L	0.62 mg/L	
*MW-1	28-July-98	N/S	N/S	N/S	N/S	N/S
**MW-2	28-July-98	N/S	N/S	N/S	N/S	N/S
MW-3	28-July-98	0.003	<0.001	<0.001	0.002	0.005
	16-Feb-01	<0.005	<0.005	<0.005	<0.005	<0.020
	12-June-02	<0.005	<0.005	<0.005	<0.005	<0.005
	26-Nov-02	<0.001	<0.001	<0.001	<0.001	<0.005
	6-Jun-03	<0.001	<0.001	<0.001	<0.001	<0.004
	4-Dec-03	<0.001	<0.001	<0.001	0.0017	0.0017
MW-4	28-July-98	<0.001	<0.001	<0.001	<0.001	<0.001
	16-Feb-01	<0.005	<0.005	<0.005	0.008	0.008
	12-June-02	<0.005	<0.005	<0.005	<0.005	<0.005
	26-Nov-02	0.002	<0.001	<0.001	<0.005	<0.009
	6-Jun-03	<0.001	<0.001	<0.001	0.0026	<0.0056
	4-Dec-03	0.0015	<0.001	<0.001	<0.001	0.0015
MW-5	28-July-98	<0.001	<0.001	<0.001	<0.001	<0.001
	16-Feb-01	<0.005	<0.005	<0.005	<0.005	<0.020
	12-June-02	<0.005	<0.005	<0.005	<0.005	<0.005
	26-Nov-02	0.002	<0.001	0.003	<0.002	<0.008
	6-Jun-03	<0.001	<0.001	<0.001	<0.001	<0.004
	4-Dec-03	<0.001	<0.001	<0.001	<0.001	<0.004
MW-6	28-July-98	<0.001	<0.001	<0.001	<0.001	<0.001
	16-Feb-01	<0.005	<0.005	0.006	0.006	0.012
	12-June-02	<0.001	<0.001	<0.001	<0.001	<0.001
	26-Nov-02	<0.001	<0.001	<0.001	<0.002	<0.005
	06-Jun-03	<0.001	<0.001	<0.001	<0.001	<0.004
	4-Dec-03	<0.001	<0.001	<0.001	<0.001	<0.004
MW-7	28-July-98	<0.001	<0.001	<0.001	<0.001	<0.001
	16-Feb-01	<0.005	<0.005	<0.005	<0.005	<0.020
	12-June-02	<0.005	<0.005	<0.005	<0.005	<0.005
	26-Nov-02	<0.001	<0.001	<0.001	<0.002	<0.005
	06-Jun-03	<0.001	<0.001	<0.001	<0.001	<0.004
	04-Dec-03	<0.001	<0.001	<0.001	<0.001	<0.004

Table 2: **Summary of BTEX Analysis of Groundwater Samples from Monitoring and Water Wells**
Texaco Exploration and Production Inc., State of New Mexico "F" Tank Battery
NE/4, SE/4, Section 24, Township 19 South, Range 36 East
Lea County, New Mexico

Well Number	Sample Date	Benzene mg/L	Toluene mg/L	Ethylbenzene mg/L	Xylene mg/L	Total BTEX mg/L
NMWQCC Standard		0.01 mg/L	0.75 mg/L	0.75 mg/L	0.62 mg/L	
MW-8	28-July-98	<0.001	<0.001	<0.001	<0.001	<0.001
	16-Feb-01	<0.005	<0.005	<0.005	<0.005	<0.020
	11-June-02	<0.005	<0.005	<0.005	<0.005	<0.005
	26-Nov-02	<0.001	<0.001	<0.001	<0.002	<0.005
	06-Jun-03	<0.001	<0.001	<0.001	<0.001	<0.004
	04-Dec-03	<0.001	<0.001	<0.001	<0.001	<0.004
***MW-9	--	--	--	--	--	--
RW-3	11-June-02	<0.005	<0.005	<0.005	<0.005	<0.005
	4-Dec-03	<0.001	<0.001	<0.001	<0.001	<0.004
WW-1	28-July-98	<0.001	<0.001	<0.001	<0.001	<0.001
	12-June-02	<0.001	<0.001	<0.001	<0.001	<0.001
	26-Nov-02	<0.001	<0.001	<0.001	<0.002	<0.005
	06-Jun-03	<0.001	<0.001	<0.001	<0.001	<0.004
	04-Dec-03	<0.001	<0.001	<0.001	<0.001	<0.004
WW-2	12-June-02	<0.001	<0.001	<0.001	<0.001	<0.001
	26-Nov-02	<0.001	<0.001	<0.001	<0.002	<0.005
	6-Jun-03	<0.001	<0.001	<0.001	<0.001	<0.004
	04-Dec-03	<0.001	<0.001	<0.001	<0.001	<0.004
Duplicate (MW-3)	28-July-98	0.003	<0.001	<0.001	0.002	0.005
Duplicate (MW-6)	16-Feb-01	<0.005	<0.005	<0.005	<0.005	<0.020
Duplicate (MW-4)	26-Nov-02	0.002	<0.001	<0.001	<0.004	<0.008
Duplicate (MW-6)	6-Jun-03	<0.001	<0.001	<0.001	<0.001	<0.004
Duplicate (MW-8)	4-Dec-03	<0.001	<0.001	<0.001	<0.001	<0.004

Notes: Analysis performed by Trace Analysis, Inc., Lubbock, Texas
:Analysis of 11/26/02 performed by Environmental Lab of Texas I, Ltd., Odessa, Texas

1. mg/L: Milligrams per liter
2. N/S: Phase-separated hydrocarbons in well - no sample collected
3. <: Denotes analyte concentration below test method detection limit
4. --: No data available
5. *: Well replaced by recovery well RW-1
6. ** Well replaced by recovery well RW-2
7. ***: Well replaced by recovery well RW-3

Table 3: Summary of General Chemistry Analysis of Groundwater Samples from Monitoring and Water Wells
Texaco Exploration and Production Inc., State of New Mexico "F" Tank Battery (Closed)
NE/4, SE/4, Section 24, Township 19 South, Range 36 East
Lea County, New Mexico

Well Number	Sample Date	pH s.u.	Cabonate Alkalinity mg/L	Bicarbonate Alkalinity mg/L	Total Alkalinity mg/L	Chloride mg/L	Fluoride mg/L	Nitrate mg/L	Sulfate mg/L	Calcium mg/L	Magnesium mg/L	Potassium mg/L	Sodium mg/L	Hardness mg/L	TDS mg/L
NMWQCC Standards						**250**	**1.6**	**10**							**1000**
*MW-1	28-July-98	N/S	N/S	N/S	N/S	N/S	--	--	N/S	N/S	N/S	N/S	N/S	N/S	N/S
**MW-2	28-July-98	N/S	N/S	N/S	N/S	N/S	--	--	N/S	N/S	N/S	N/S	N/S	N/S	N/S
MW-3	28-July-98	7.6	<1.0	160	160	36	--	--	58	76	6.5	3.8	27	--	330
	16-Feb-01	--	<1.0	204	204	31	1.9	3.6	55	83.3	9.75	<5.0	29.8	--	420
	12-June-02	--	--	--	--	27.1	--	--	--	--	--	--	--	--	--
	26-Nov-02	--	--	--	--	31.9	--	--	--	--	--	--	--	--	--
	06-Jun-03	--	--	--	--	27.5	--	--	--	--	--	--	--	--	--
	04-Dec-03	--	--	--	--	26.1	--	--	--	--	--	--	--	--	--
MW-4	28-July-98	7.6	<1.0	170	170	94	--	--	42	69	5.9	3.9	63	--	410
	16-Feb-01	--	<1.0	236	236	170	2.0	1.7	42	115	11.3	5.52	86.6	--	640
	12-June-02	--	--	--	--	85.6	--	--	--	--	--	--	--	--	--
	26-Nov-02	--	--	--	--	160	--	--	--	--	--	--	--	--	--
	06-Jun-03	--	--	--	--	111	--	--	--	--	--	--	--	--	--
	04-Dec-03	--	--	--	--	104	--	--	--	--	--	--	--	--	--
MW-5	28-July-98	7.6	<1.0	150	150	360	--	--	93	240	20	5.6	46	--	1,000
	16-Feb-01	--	<1.0	192	192	120	1.7	4.4	91	149	15.2	<5.0	34.0	--	640
	12-June-02	--	--	--	--	90.2	--	--	--	--	--	--	--	--	--
	26-Nov-02	--	--	--	--	59.1	--	--	--	--	--	--	--	--	--
	06-Jun-03	--	--	--	--	48.6	--	--	--	--	--	--	--	--	--
	04-Dec-03	--	--	--	--	36.5	--	--	--	--	--	--	--	--	--
MW-6	28-July-98	7.2	<1.0	140	140	43	--	--	90	86	7.9	3.5	28	--	360
	16-Feb-01	--	<1.0	170	170	52	1.6	4.4	120	118	12.7	<5.0	32.2	--	520
	12-June-02	--	--	--	--	54.1	--	--	--	--	--	--	--	--	--
	26-Nov-02	--	--	--	--	65	--	--	--	--	--	--	--	--	--
	06-Jun-03	--	--	--	--	43.7	--	--	--	--	--	--	--	--	--
	04-Dec-03	--	--	--	--	45.3	--	--	--	--	--	--	--	--	--

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NE/4, SE/4, Section 24, Township 19 South, Range 36 East
Lea County, New Mexico

Well Number	Sample Date	pH s.u.	Cabonate Alkalinity mg/L	Bicarbonate Alkalinity mg/L	Total Alkalinity mg/L	Chloride mg/L	Fluoride mg/L	Nitrate mg/L	Sulfate mg/L	Calcium mg/L	Magnesium mg/L	Potassium mg/L	Sodium mg/L	Hardness mg/L	TDS mg/L
NMWQCC Standards						**250**	**1.6**	**10**							**1000**
MW-7	28-July-98	7.6	<1.0	160	160	82	--	--	93	117	10	3.9	36	--	510
	16-Feb-01	--	<1.0	200	200	150	1.6	6.7	96	170	17.5	<5.0	38.7	--	700
	12-June-02	--	--	--	--	96.7	--	--	--	--	--	--	--	--	--
	26-Nov-02	--	--	--	--	133	--	--	--	--	--	--	--	--	--
	06-Jun-03	--	--	--	--	199	--	--	--	--	--	--	--	--	--
	04-Dec-03	--	--	--	--	230	--	--	--	--	--	--	--	--	--
MW-8	28-July-98	7.5	<1.0	170	170	29	--	--	100	96	8.3	3.6	27	--	390
	16-Feb-01	--	<1.0	172	172	94	1.7	4.2	75	129	12.8	<5.0	31.3	--	560
	11-June-02	--	--	--	--	180	--	--	--	--	--	--	--	--	--
	26-Nov-02	--	--	--	--	239	--	--	--	--	--	--	--	--	--
	06-Jun-03	--	--	--	--	244	--	--	--	--	--	--	--	--	--
	04-Dec-03	--	--	--	--	251	--	--	--	--	--	--	--	--	--
***MW-9		--	--	--	--	--	--	--	--	--	--	--	--	--	--
WW-1	28-July-98	7.4	<1.0	180	180	100	--	--	71	102	14	3.2	33	313	480
	12-June-02	--	--	--	--	43.6	--	--	--	--	--	--	--	--	--
	26-Nov-02	--	--	--	--	80	--	--	--	--	--	--	--	--	--
	06-Jun-03	--	--	--	--	73.4	--	--	--	--	--	--	--	--	--
	04-Dec-03	--	--	--	--	65.3	--	--	--	--	--	--	--	--	--
WW-2	11-June-02	--	--	--	--	53.7	--	--	--	--	--	--	--	--	--
	26-Nov-02	--	--	--	--	70.9	--	--	--	--	--	--	--	--	--
	06-Jun-03	--	--	--	--	71.1	--	--	--	--	--	--	--	--	--
	04-Dec-03	--	--	--	--	52.4	--	--	--	--	--	--	--	--	--
RW-3	11-June-02	--	--	--	--	25.9	--	--	--	--	--	--	--	--	--
	04-Dec-03	--	--	--	--	36.3	--	--	--	--	--	--	--	--	--

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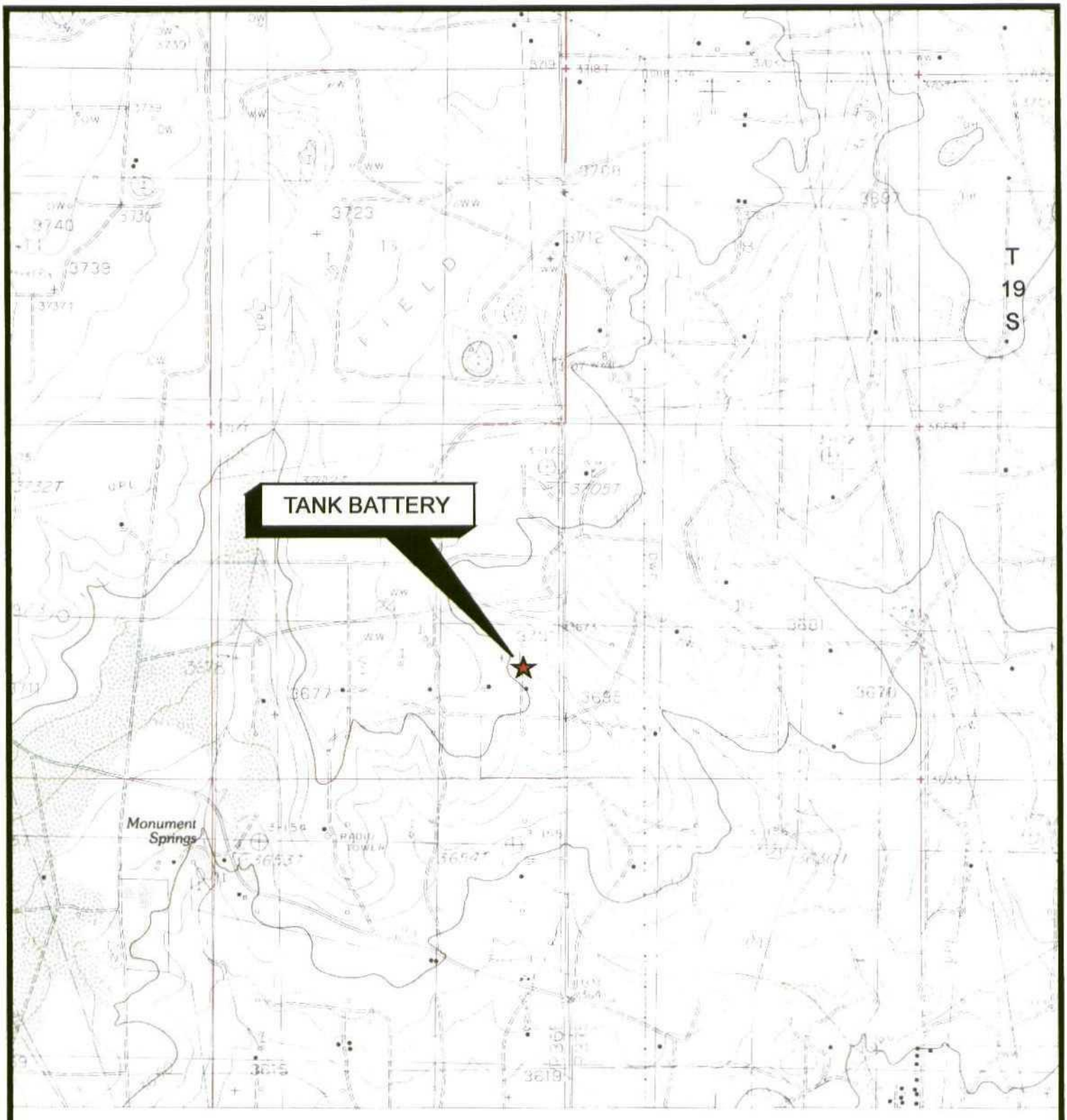
Texaco Exploration and Production Inc., State of New Mexico "F" Tank Battery (Closed)
NE/4, SE/4, Section 24, Township 19 South, Range 36 East
Lea County, New Mexico

Well Number	Sample Date	pH s.u.	Cabonate Alkalinity mg/L	Bicarbonate Alkalinity mg/L	Total Alkalinity mg/L	Chloride mg/L	Fluoride mg/L	Nitrate mg/L	Sulfate mg/L	Calcium mg/L	Magnesium mg/L	Potassium mg/L	Sodium mg/L	Hardness mg/L	TDS mg/L
NMWQCC Standards						**250**	**1.6**	**10**							**1000**
Duplicate (MW-3)	28-July-98	8	<1.0	160	160	35	--	--	57	75	6.5	3.7	26	--	310
Duplicate (MW-6)	16-Feb-01	--	<1.0	168	168	51	1.6	4.3	120	118	12.5	<5.0	32.0	--	510
Duplicate (MW-4)	26-Nov-02	--	--	--	--	160	--	--	--	--	--	--	--	--	--
Duplicate (MW-6)	06-Jun-03	--	--	--	--	44.5	--	--	--	--	--	--	--	--	--
Duplicate (MW-8)	04-Dec-03	--	--	--	--	254	--	--	--	--	--	--	--	--	--

Notes:

1. mg/L: Milligrams per liter
2. S.U. Standard units
3. N/S: No sample collected.
4. *: Well replaced by recovery well RW-1 on 10/14/99
5. **: Well replaced by recovery well RW-2 on 10/13/99
6. ***: Well installed for monitoring PSH, and replaced by recovery well RW-3 on 10/13/99
7. NMWQCC: New Mexico Water Quality Control Standards presented in mg/L

FIGURES



TAKEN FROM U.S.G.S.
MONUMENT NORTH, NEW MEXICO 1985
7.5' QUADRANGLES

SCALE: 1"=2000'

FIGURE #1

LEA COUNTY, NEW MEXICO

TEXACO EXPLORATION and PRODUCTION, INC.

STATE of NEW MEXICO "F" TANK BATTERY
NE/4, SE/4, SEC. 24, T19S, R36E

TOPOGRAPHIC MAP

DATE: 2/11/03
NAME:
FILE: 0-0114

Larson & Associates, Inc.
Environmental Consultants

MONITORING WELL DATA

	Monitoring Well	Ground Elevation Feet AMSL	Top-of-Casing Elevation
✶	MW-1	3796.63	3696.65
✶	MW-2	3689.73	3692.48
	MW-3	3696.95	3696.85
	MW-4	3696.15	3699.50
	MW-5	3691.13	3693.52
	MW-6	3704.51	3704.81
	MW-7	3691.63	3694.58
	MW-8	3692.63	3695.61
✶	MW-9	-	-

✶ WELL REPLACED by RECOVERY WELL

WATER WELL DATA

WATER WELL	GROUND ELEVATION FEET AMSL	TOP-OF-CASING ELEVATION, FEET AMSL
WATER WELL 1	3703.17	3704.17
WATER WELL 2	3703.34	3703.84

SCALE IN FEET

0 25 50 100

N

EXPLANATION

- MW-3 ● MONITORING WELL LOCATION
- WW-1 ◆ WATER WELL LOCATION
- RW-1 ▲ RECOVERY WELL LOCATION

MW-8

RW-2 RW-3

EXCAVATION AREA (CLOSED)

RW-1

MW-3

AMERADA HESS
SAT. BATTERY

MW-5

Fence

MW-6

MW-4

MW-7

WW-1

WW-2

FIGURE NO.2

LEA COUNTY, NEW MEXICO

TEXACO EXPLORATION and PRODUCTION, INC.

STATE of NEW MEXICO "F" TANK BATTERY
NE/4, SE/4, SECTION 24, T19S, R36E

SITE DRAWING

DATE: 06-07-01

DWN. BY:

FILE: 0-0114

Larson & Associates, Inc.
Environmental Consultants

MONITORING WELL DATA

Monitoring Well	Ground Elevation Feet AMSL	Top-of-Casing Elevation
✶ MW-1	3796.63	3696.65
✶ MW-2	3689.73	3692.48
MW-3	3696.95	3696.85
MW-4	3696.15	3699.50
MW-5	3691.13	3693.52
MW-6	3704.51	3704.81
MW-7	3691.63	3694.58
MW-8	3692.63	3695.61
✶ MW-9	-	-

✶ WELL REPLACED by RECOVERY WELL

WATER WELL DATA

WATER WELL	GROUND ELEVATION FEET AMSL	TOP-OF-CASING ELEVATION, FEET AMSL
WATER WELL 1	3703.17	3704.17
WATER WELL 2	3703.34	3703.84

SCALE IN FEET

0 25 50 100

N

MW-8
3638.72

3638.50

3638.00

RW-2 RW-3

EXCAVATION AREA (CLOSED)

RW-1

3637.50

MW-3
3637.40

AMERADA HESS
SAT. BATTERY

MW-5
3636.99

Fence

MW-6
3637.24

3637.00

MW-4
3636.79

MW-7
3636.29

3636.50

WW-1
3635.92

3636.00

3635.50

3635.00

WW-2
3635.30

LEGEND

MW-3 ● 3637.40 — MONITORING WELL LOCATION, and GROUNDWATER POTENTIOMETRIC ELEVATION, FEET AMSL, 6/5/03

WW-1 ◆ 3635.92 — WATER WELL LOCATION, and GROUNDWATER POTENTIOMETRIC ELEVATION, FEET AMSL, 6/5/03

RW-1 ▲ — RECOVERY WELL LOCATION

3636.00 — CONTOUR of GROUNDWATER POTENTIOMETRIC ELEVATION, FEET AMSL, 6/5/03

→ GROUNDWATER FLOW DIRECTION

FIGURE NO.3

LEA COUNTY, NEW MEXICO

TEXACO EXPLORATION and PRODUCTION, INC.

STATE of NEW MEXICO "F" TANK BATTERY
NE/4, SE/4, SECTION 24, T19S, R36E

GROUNDWATER POTENTIOMETRIC SURFACE MAP
JUNE 5, 2003

DATE: 04-23-04
DWN. BY:
FILE: 0-0114

Larson & Associates, Inc.
Environmental Consultants

MONITORING WELL DATA

Monitoring Well	Ground Elevation Feet AMSL	Top-of-Casing Elevation
MW-1	3796.63	3696.65
MW-2	3689.73	3692.48
MW-3	3696.95	3696.85
MW-4	3696.15	3699.50
MW-5	3691.13	3693.52
MW-6	3704.51	3704.81
MW-7	3691.63	3694.58
MW-8	3692.63	3695.61
MW-9	-	-

WELL REPLACED by RECOVERY WELL

WATER WELL DATA

WATER WELL	GROUND ELEVATION FEET AMSL	TOP-OF-CASING ELEVATION, FEET AMSL
WATER WELL 1	3703.17	3704.17
WATER WELL 2	3703.34	3703.84

SCALE IN FEET

0 25 50 100

N

MW-8
3638.70

3638.50

3638.00

RW-2 RW-3

EXCAVATION AREA (CLOSED)

RW-1

3637.50

MW-3
3637.38

AMERADA HESS
SAT. BATTERY

MW-5
3636.95

Fence

3637.00

MW-6
3637.20

MW-4
3636.83

MW-7
3636.25

WW-1

WW-2

3636.50

LEGEND

MW-3
3637.38 — MONITORING WELL LOCATION, and GROUNDWATER POTENTIOMETRIC SURFACE ELEVATION, FEET AMSL, 12/3/03

WW-1 — WATER WELL LOCATION, and GROUNDWATER POTENTIOMETRIC SURFACE ELEVATION, FEET AMSL, 12/3/03

RW-1 — RECOVERY WELL LOCATION

3636.00 — CONTOUR of GROUNDWATER POTENTIOMETRIC SURFACE ELEVATION, FEET AMSL, 12/3/03

GROUNDWATER FLOW DIRECTION

FIGURE NO.4

LEA COUNTY, NEW MEXICO

TEXACO EXPLORATION and PRODUCTION, INC.

STATE of NEW MEXICO "F" TANK BATTERY
NE/4, SE/4, SECTION 24, T19S, R36E

GROUNDWATER POTENTIOMETRIC SURFACE MAP
DECEMBER 3, 2003

DATE: 04-23-04
DWN. BY:
FILE: 0-0114

Larson & Associates, Inc.
Environmental Consultants

MONITORING WELL DATA

	Monitoring Well	Ground Elevation Feet AMSL	Top-of-Casing Elevation
✱	MW-1	3796.63	3696.65
✱	MW-2	3689.73	3692.48
	MW-3	3696.95	3696.85
	MW-4	3696.15	3699.50
	MW-5	3691.13	3693.52
	MW-6	3704.51	3704.81
	MW-7	3691.63	3694.58
	MW-8	3692.63	3695.61
✱	MW-9	-	-

✱ WELL REPLACED by RECOVERY WELL

WATER WELL DATA

WATER WELL	GROUND ELEVATION FEET AMSL	TOP-OF-CASING ELEVATION, FEET AMSL
WATER WELL 1	3703.17	3704.17
WATER WELL 2	3703.34	3703.84

SCALE IN FEET

0 25 50 100

N

MW-8

RW-2 0.01

RW-3 0.16

0.0 0.1 0.2

EXCAVATION AREA (CLOSED)

0.16 RW-1

MW-3

AMERADA HESS SAT. BATTERY

MW-5

Fence

MW-6

MW-4

MW-7

WW-1

WW-2

LEGEND

MW-3 ● MONITORING WELL LOCATION

WW-1 ◆ WATER WELL LOCATION

RW-1 ▲ 0.16 RECOVERY WELL LOCATION, and APPARENT PSH THICKNESS, FEET, 6/5/03

0.1 CONTOUR of APPARENT PSH THICKNESS, FEET, 6/5/03

FIGURE NO.5

LEA COUNTY, NEW MEXICO

TEXACO EXPLORATION and PRODUCTION, INC.

STATE of NEW MEXICO "F" TANK BATTERY
NE/4, SE/4, SECTION 24, T19S, R36E

APPARENT PSH THICKNESS MAP
JUNE 5, 2003

DATE: 04-23-04

DWN. BY:

FILE: 0-0114

Larson & Associates, Inc.
Environmental Consultants

MW-8

MONITORING WELL DATA

Monitoring Well	Ground Elevation Feet AMSL	Top-of-Casing Elevation
MW-1	3796.63	3696.65
MW-2	3689.73	3692.48
MW-3	3696.95	3696.85
MW-4	3696.15	3699.50
MW-5	3691.13	3693.52
MW-6	3704.51	3704.81
MW-7	3691.63	3694.58
MW-8	3692.63	3695.61
MW-9	-	-

WELL REPLACED by RECOVERY WELL

WATER WELL DATA

WATER WELL	GROUND ELEVATION FEET AMSL	TOP-OF-CASING ELEVATION, FEET AMSL
WATER WELL 1	3703.17	3704.17
WATER WELL 2	3703.34	3703.84

N

SCALE IN FEET

0 25 50 100

RW-2 ▲ 0.13

RW-3 ▲

0

2

4

6

EXCAVATION AREA (CLOSED)

0.65 ▲ RW-1

MW-3 ●

AMERADA HESS SAT. BATTERY

MW-5 ●

Fence

MW-6 ●

MW-4 ●

MW-7 ●

WW-1 ◆

WW-2 ◆

LEGEND

MW-3 ● MONITORING WELL LOCATION

WW-1 ◆ WATER WELL LOCATION, and GROUNDWATER POTENTIOMETRIC ELEVATION

RW-1 ▲ 0.13 RECOVERY WELL LOCATION, and APPARENT PSH THICKNESS, FEET, 12/3/03

2 CONTOUR of GROUNDWATER POTENTIOMETRIC ELEVATION, FEET AMSL, 12/3/03

FIGURE NO.6

LEA COUNTY, NEW MEXICO

TEXACO EXPLORATION and PRODUCTION, INC.

STATE of NEW MEXICO "F" TANK BATTERY
NE/4, SE/4, SECTION 24, T19S, R36E

APPARENT PSH THICKNESS MAP
DECEMBER 3, 2003

DATE: 04-23-04

DWN. BY:

FILE: 0-0114

Larson & Associates, Inc.
Environmental Consultants

APPENDIX A

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 and Associates, Inc.
P. O. Box 50685
Midland, Tx 79710

Report Date: June 13, 2003

Work Order: 3060917

Project Name: New Mexico
Project Number: 0-0114

Enclosed are the Analytical Report and Quality Control Report for the following sample(s) submitted to TraceAnalysis, Inc.

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
9350	MW-4	water	2003-06-06	11:00	2003-06-09
9351	MW-7	water	2003-06-06	11:30	2003-06-09
9352	MW-5	water	2003-06-06	12:00	2003-06-09
9353	MW-8	water	2003-06-06	12:55	2003-06-09
9354	MW-3	water	2003-06-06	13:30	2003-06-09
9355	WW-1	water	2003-06-06	14:05	2003-06-09
9356	WW-2	water	2003-06-06	14:10	2003-06-09
9357	MW-6	water	2003-06-06	14:55	2003-06-09
9358	Dup	water	2003-06-06	00:00	2003-06-09

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.

Dr. Blair Leftwich, Director

Analytical Report

Sample: 9350 - MW-4

Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	2131	Date Analyzed:	2003-06-09	Analyzed By:	CG
Prep Batch:	1920	Date Prepared:	2003-06-09	Prepared By:	CG

Parameter	Flag	Result	RL	Units	Dilution	RL
Benzene		<0.00100		mg/L	1	0.00100
Toluene		<0.00100		mg/L	1	0.00100
Ethylbenzene		<0.00100		mg/L	1	0.00100
Xylene (isomers)		0.00260		mg/L	1	0.00100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)	[1]	0.0544	mg/L	1	0.100	54	61 - 127
4-Bromofluorobenzene (4-BFB)	[2]	0.0588	mg/L	1	0.100	59	72.6 - 130

Sample: 9350 - MW-4

Analysis:	Chloride (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	2088	Date Analyzed:	2003-06-10	Analyzed By:	JSW
Prep Batch:	1889	Date Prepared:	2003-06-09	Prepared By:	JSW

Parameter	Flag	Result	RL	Units	Dilution	RL
Chloride		111		mg/L	5	0.500

Sample: 9351 - MW-7

Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	2131	Date Analyzed:	2003-06-09	Analyzed By:	CG
Prep Batch:	1920	Date Prepared:	2003-06-09	Prepared By:	CG

Parameter	Flag	Result	RL	Units	Dilution	RL
Benzene		<0.00100		mg/L	1	0.00100
Toluene		<0.00100		mg/L	1	0.00100
Ethylbenzene		<0.00100		mg/L	1	0.00100
Xylene (isomers)		<0.00100		mg/L	1	0.00100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)	[3]	0.0528	mg/L	1	0.100	53	61 - 127
4-Bromofluorobenzene (4-BFB)	[4]	0.0522	mg/L	1	0.100	52	72.6 - 130

Sample: 9351 - MW-7

[1]Low surrogate recovery due to prep. ICV, CCV show the method to be in control.
[2]Low surrogate recovery due to prep. ICV, CCV show the method to be in control.
[3]Low surrogate recovery due to prep. ICV, CCV show the method to be in control.
[4]Low surrogate recovery due to prep. ICV, CCV show the method to be in control.

Analysis:	Chloride (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	2088	Date Analyzed:	2003-06-10	Analyzed By:	JSW
Prep Batch:	1889	Date Prepared:	2003-06-09	Prepared By:	JSW

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		199	mg/L	10	0.500

Sample: 9352 - MW-5

Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	2131	Date Analyzed:	2003-06-09	Analyzed By:	CG
Prep Batch:	1920	Date Prepared:	2003-06-09	Prepared By:	CG

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<0.00100	mg/L	1	0.00100
Toluene		<0.00100	mg/L	1	0.00100
Ethylbenzene		<0.00100	mg/L	1	0.00100
Xylene (isomers)		<0.00100	mg/L	1	0.00100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.0676	mg/L	1	0.100	68	61 - 127
4-Bromofluorobenzene (4-BFB)	[5]	0.0649	mg/L	1	0.100	65	72.6 - 130

Sample: 9352 - MW-5

Analysis:	Chloride (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	2088	Date Analyzed:	2003-06-10	Analyzed By:	JSW
Prep Batch:	1889	Date Prepared:	2003-06-09	Prepared By:	JSW

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		48.6	mg/L	5	0.500

Sample: 9353 - MW-8

Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	2149	Date Analyzed:	2003-06-10	Analyzed By:	CG
Prep Batch:	1933	Date Prepared:	2003-06-10	Prepared By:	CG

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<0.00100	mg/L	1	0.00100
Toluene		<0.00100	mg/L	1	0.00100
Ethylbenzene		<0.00100	mg/L	1	0.00100
Xylene (isomers)		<0.00100	mg/L	1	0.00100

[5] Low surrogate recovery due to matrix interference. ICV, CCV show the method to be in control.

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.0823	mg/L	1	0.100	82	78.7 - 110
4-Bromofluorobenzene (4-BFB)	[6]	0.0773	mg/L	1	0.100	77	77.8 - 110

Sample: 9353 - MW-8

Analysis:	Chloride (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	2088	Date Analyzed:	2003-06-10	Analyzed By:	JSW
Prep Batch:	1889	Date Prepared:	2003-06-09	Prepared By:	JSW

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		244	mg/L	10	0.500

Sample: 9354 - MW-3

Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	2149	Date Analyzed:	2003-06-10	Analyzed By:	CG
Prep Batch:	1933	Date Prepared:	2003-06-10	Prepared By:	CG

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<0.00100	mg/L	1	0.00100
Toluene		<0.00100	mg/L	1	0.00100
Ethylbenzene		<0.00100	mg/L	1	0.00100
Xylene (isomers)		<0.00100	mg/L	1	0.00100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.0829	mg/L	1	0.100	83	78.7 - 110
4-Bromofluorobenzene (4-BFB)	[7]	0.0761	mg/L	1	0.100	76	77.8 - 110

Sample: 9354 - MW-3

Analysis:	Chloride (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	2088	Date Analyzed:	2003-06-10	Analyzed By:	JSW
Prep Batch:	1889	Date Prepared:	2003-06-09	Prepared By:	JSW

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		27.5	mg/L	5	0.500

Sample: 9355 - WW-1

Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	2149	Date Analyzed:	2003-06-10	Analyzed By:	CG
Prep Batch:	1933	Date Prepared:	2003-06-10	Prepared By:	CG

[6]Low surrogate recovery due to matrix interference. ICV, CCV show the method to be in control.
[7]Low surrogate recovery due to matrix interference. ICV, CCV show the method to be in control.

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<0.00100	mg/L	1	0.00100
Toluene		<0.00100	mg/L	1	0.00100
Ethylbenzene		<0.00100	mg/L	1	0.00100
Xylene (isomers)		<0.00100	mg/L	1	0.00100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)	[8]	0.0614	mg/L	1	0.100	61	78.7 - 110
4-Bromofluorobenzene (4-BFB)	[9]	0.0601	mg/L	1	0.100	60	77.8 - 110

Sample: 9355 - WW-1

Analysis:	Chloride (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	2172	Date Analyzed:	2003-06-12	Analyzed By:	JSW
Prep Batch:	1964	Date Prepared:	2003-06-11	Prepared By:	JSW

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		73.4	mg/L	5	0.500

Sample: 9356 - WW-2

Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	2149	Date Analyzed:	2003-06-10	Analyzed By:	CG
Prep Batch:	1933	Date Prepared:	2003-06-10	Prepared By:	CG

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<0.00100	mg/L	1	0.00100
Toluene		<0.00100	mg/L	1	0.00100
Ethylbenzene		<0.00100	mg/L	1	0.00100
Xylene (isomers)		<0.00100	mg/L	1	0.00100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)	[10]	0.0681	mg/L	1	0.100	68	78.7 - 110
4-Bromofluorobenzene (4-BFB)	[11]	0.0643	mg/L	1	0.100	64	77.8 - 110

Sample: 9356 - WW-2

Analysis:	Chloride (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	2192	Date Analyzed:	2003-06-13	Analyzed By:	JSW
Prep Batch:	1985	Date Prepared:	2003-06-12	Prepared By:	JSW

continued ...

[8]Low surrogate recovery due to prep. ICV, CCV show the method to be in control.
[9]Low surrogate recovery due to prep. ICV, CCV show the method to be in control.
[10]Low surrogate recovery due to prep. ICV, CCV show the method to be in control.
[11]Low surrogate recovery due to prep. ICV, CCV show the method to be in control.

sample 9356 continued ...

Parameter	Flag	RL Result	Units	Dilution	RL

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		71.1	mg/L	5	0.500

Sample: 9357 - MW-6

Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	2149	Date Analyzed:	2003-06-10	Analyzed By:	CG
Prep Batch:	1933	Date Prepared:	2003-06-10	Prepared By:	CG

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<0.00100	mg/L	1	0.00100
Toluene		<0.00100	mg/L	1	0.00100
Ethylbenzene		<0.00100	mg/L	1	0.00100
Xylene (isomers)		<0.00100	mg/L	1	0.00100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)	[12]	0.0767	mg/L	1	0.100	77	78.7 - 110
4-Bromofluorobenzene (4-BFB)	[13]	0.0692	mg/L	1	0.100	69	77.8 - 110

Sample: 9357 - MW-6

Analysis:	Chloride (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	2192	Date Analyzed:	2003-06-13	Analyzed By:	JSW
Prep Batch:	1985	Date Prepared:	2003-06-12	Prepared By:	JSW

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		43.7	mg/L	5	0.500

Sample: 9358 - Dup

Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	2149	Date Analyzed:	2003-06-10	Analyzed By:	CG
Prep Batch:	1933	Date Prepared:	2003-06-10	Prepared By:	CG

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<0.00100	mg/L	1	0.00100
Toluene		<0.00100	mg/L	1	0.00100
Ethylbenzene		<0.00100	mg/L	1	0.00100
Xylene (isomers)		<0.00100	mg/L	1	0.00100

[12]Low surrogate recovery due to prep. ICV, CCV show the method to be in control.
[13]Low surrogate recovery due to prep. ICV, CCV show the method to be in control.

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)	[14]	0.0695	mg/L	1	0.100	70	78.7 - 110
4-Bromofluorobenzene (4-BFB)	[15]	0.0677	mg/L	1	0.100	68	77.8 - 110

Sample: 9358 - Dup

Analysis:	Chloride (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	2192	Date Analyzed:	2003-06-13	Analyzed By:	JSW
Prep Batch:	1985	Date Prepared:	2003-06-12	Prepared By:	JSW

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		44.5	mg/L	5	0.500

Method Blank (1) QC Batch: 2088

Parameter	Flag	Result	Units	RL
Chloride		<0.500	mg/L	0.5

Method Blank (1) QC Batch: 2131

Parameter	Flag	Result	Units	RL
Benzene		<0.00100	mg/L	0.001
Toluene		<0.00100	mg/L	0.001
Ethylbenzene		<0.00100	mg/L	0.001
Xylene (isomers)		<0.00100	mg/L	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)	[16]	0.0207	mg/L	1	0.100	21	61 - 127
4-Bromofluorobenzene (4-BFB)	[17]	0.0195	mg/L	1	0.100	20	72.6 - 130

Method Blank (1) QC Batch: 2149

Parameter	Flag	Result	Units	RL
Benzene		<0.00100	mg/L	0.001
Toluene		<0.00100	mg/L	0.001
Ethylbenzene		<0.00100	mg/L	0.001
Xylene (isomers)		<0.00100	mg/L	0.001

[14]Low surrogate recovery due to prep. ICV, CCV show the method to be in control.
[15]Low surrogate recovery due to prep. ICV, CCV show the method to be in control.
[16]Low surrogate recovery due to prep. ICV, CCV show the method to be in control.
[17]Low surrogate recovery due to prep. ICV, CCV show the method to be in control.

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.0975	mg/L	1	0.100	98	78.7 - 110
4-Bromofluorobenzene (4-BFB)		0.0870	mg/L	1	0.100	87	77.8 - 110

Method Blank (1) QC Batch: 2172

Parameter	Flag	Result	Units	RL
Chloride		<0.500	mg/L	0.5

Method Blank (1) QC Batch: 2192

Parameter	Flag	Result	Units	RL
Chloride		<0.500	mg/L	0.5

Laboratory Control Spike (LCS-1) QC Batch: 2088

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	RPD	Rec. Limit	RPD Limit
Chloride	12.9	12.8	mg/L	1	12.5	<1.49	103	1	90 - 110	20

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

Laboratory Control Spike (LCS-1) QC Batch: 2131

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	RPD	Rec. Limit	RPD Limit
Benzene	0.0910	0.0906	mg/L	1	0.100	<0.000350	91	0	77.7 - 115	20
Toluene	0.0903	0.0901	mg/L	1	0.100	<0.000550	90	0	76.5 - 114	20
Ethylbenzene	0.0910	0.0910	mg/L	1	0.100	<0.000690	91	0	78.7 - 112	20
Xylene (isomers)	0.266	0.266	mg/L	1	0.300	<0.00183	89	0	66.3 - 123	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	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.0838	0.0826	mg/L	1	0.100	84	83	61 - 127
4-Bromofluorobenzene (4-BFB)	0.0840	0.0825	mg/L	1	0.100	84	82	72.6 - 130

Laboratory Control Spike (LCS-1) QC Batch: 2149

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	RPD	Rec. Limit	RPD Limit
Benzene	0.0903	0.0913	mg/L	1	0.100	<0.000410	90	1	80.5 - 113	20
Benzene	0.0903	0.0913	mg/L	1	0.100	<0.000410	90	1	80.5 - 113	20
Toluene	0.0910	0.0927	mg/L	1	0.100	<0.000760	91	2	81.2 - 112	20
Toluene	0.0910	0.0927	mg/L	1	0.100	<0.000760	91	2	81.2 - 112	20

continued ...

control spikes continued ...

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	RPD	Rec. Limit	RPD Limit
Ethylbenzene	0.0905	0.0927	mg/L	1	0.100	<0.00120	90	2	82.2 - 112	20
Ethylbenzene	0.0905	0.0927	mg/L	1	0.100	<0.00120	90	2	82.2 - 112	20
Xylene (isomers)	0.274	0.281	mg/L	1	0.300	<0.00183	91	3	80.6 - 112	20
Xylene (isomers)	0.274	0.281	mg/L	1	0.300	<0.00183	91	3	80.6 - 112	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	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.0941	0.0956	mg/L	1	0.100	94	96	78.7 - 110
Trifluorotoluene (TFT)	0.0941	0.0956	mg/L	1	0.100	94	96	78.7 - 110
4-Bromofluorobenzene (4-BFB)	0.0901	0.0958	mg/L	1	0.100	90	96	77.8 - 110
4-Bromofluorobenzene (4-BFB)	0.0901	0.0958	mg/L	1	0.100	90	96	77.8 - 110

Laboratory Control Spike (LCS-1) QC Batch: 2172

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	RPD	Rec. Limit	RPD Limit
Chloride	11.9	11.9	mg/L	1	12.5	<1.49	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 Spike (LCS-1) QC Batch: 2192

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	RPD	Rec. Limit	RPD Limit
Chloride	12.1	12.2	mg/L	1	12.5	<1.49	97	1	90 - 110	20

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

Matrix Spike (MS-1) QC Batch: 2088

Param	MS Result	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	RPD	Rec. Limit	RPD Limit
Chloride	736	732	mg/L	50	12.5	138	96	0	32.7 - 136	20

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

Matrix Spike (MS-1) QC Batch: 2172

Param	MS Result	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	RPD	Rec. Limit	RPD Limit
Chloride	672	676	mg/L	50	12.5	129	87	0	32.7 - 136	20

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

Matrix Spike (MS-1) QC Batch: 2192

continued ...

matrix spikes continued ...

Param	MS Result	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	RPD	Rec. Limit	RPD Limit
Chloride	569	570	mg/L	50	12.5	<74.7	80	0	32.7 - 136	20

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

Standard (ICV-1) QC Batch: 2088

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/L	12.5	12.7	102	90 - 110	2003-06-10

Standard (CCV-1) QC Batch: 2088

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/L	12.5	12.7	102	90 - 110	2003-06-10

Standard (CCV-1) QC Batch: 2131

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/L	0.100	0.0884	88	85 - 115	2003-06-09
Toluene		mg/L	0.100	0.0889	89	85 - 115	2003-06-09
Ethylbenzene		mg/L	0.100	0.0853	85	85 - 115	2003-06-09
Xylene (isomers)	[18]	mg/L	0.300	0.251	84	85 - 115	2003-06-09

Standard (CCV-2) QC Batch: 2131

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/L	0.100	0.0872	87	85 - 115	2003-06-09
Toluene		mg/L	0.100	0.0871	87	85 - 115	2003-06-09
Ethylbenzene		mg/L	0.100	0.0883	88	85 - 115	2003-06-09
Xylene (isomers)		mg/L	0.300	0.258	86	85 - 115	2003-06-09

Standard (ICV-1) QC Batch: 2149

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/L	0.100	0.0895	90	85 - 115	2003-06-10
Toluene		mg/L	0.100	0.0919	92	85 - 115	2003-06-10
Ethylbenzene		mg/L	0.100	0.0917	92	85 - 115	2003-06-10

continued ...

[18] Average of CCV components within acceptable range.

standard continued ...

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Xylene (isomers)		mg/L	0.300	0.278	93	85 - 115	2003-06-10

Standard (CCV-1) QC Batch: 2149

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/L	0.100	0.0902	90	85 - 115	2003-06-10
Toluene		mg/L	0.100	0.0905	90	85 - 115	2003-06-10
Ethylbenzene		mg/L	0.100	0.0908	91	85 - 115	2003-06-10
Xylene (isomers)		mg/L	0.300	0.275	92	85 - 115	2003-06-10

Standard (CCV-2) QC Batch: 2149

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/L	0.100	0.0905	90	85 - 115	2003-06-10
Toluene		mg/L	0.100	0.0924	92	85 - 115	2003-06-10
Ethylbenzene		mg/L	0.100	0.0920	92	85 - 115	2003-06-10
Xylene (isomers)		mg/L	0.300	0.279	93	85 - 115	2003-06-10

Standard (ICV-1) QC Batch: 2172

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/L	12.5	11.7	94	90 - 110	2003-06-12

Standard (CCV-1) QC Batch: 2172

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/L	12.5	11.4	91	90 - 110	2003-06-12

Standard (ICV-1) QC Batch: 2192

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/L	12.5	11.3	90	90 - 110	2003-06-13

Standard (CCV-1) QC Batch: 2192

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/L	12.5	11.6	93	90 - 110	2003-06-13

Summary Report

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

Report Date: June 13, 2003

Work Order: 3060917

Project Name: New Mexico
Project Number: 0-0114

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
9350	MW-4	water	2003-06-06	11:00	2003-06-09
9351	MW-7	water	2003-06-06	11:30	2003-06-09
9352	MW-5	water	2003-06-06	12:00	2003-06-09
9353	MW-8	water	2003-06-06	12:55	2003-06-09
9354	MW-3	water	2003-06-06	13:30	2003-06-09
9355	WW-1	water	2003-06-06	14:05	2003-06-09
9356	WW-2	water	2003-06-06	14:10	2003-06-09
9357	MW-6	water	2003-06-06	14:55	2003-06-09
9358	Dup	water	2003-06-06	00:00	2003-06-09

	BTEX			
Sample - Field Code	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Xylene (isomers) (mg/L)
9350 - MW-4	<0.00100	<0.00100	<0.00100	0.00260
9351 - MW-7	<0.00100	<0.00100	<0.00100	<0.00100
9352 - MW-5	<0.00100	<0.00100	<0.00100	<0.00100
9353 - MW-8	<0.00100	<0.00100	<0.00100	<0.00100
9354 - MW-3	<0.00100	<0.00100	<0.00100	<0.00100
9355 - WW-1	<0.00100	<0.00100	<0.00100	<0.00100
9356 - WW-2	<0.00100	<0.00100	<0.00100	<0.00100
9357 - MW-6	<0.00100	<0.00100	<0.00100	<0.00100
9358 - Dup	<0.00100	<0.00100	<0.00100	<0.00100

Sample: 9350 - MW-4

Param	Flag	Result	Units	RL
Chloride		111	mg/L	0.500

Sample: 9351 - MW-7

Param	Flag	Result	Units	RL
Chloride		199	mg/L	0.500

Sample: 9352 - MW-5

continued ...

sample 9352 continued ...

Param	Flag	Result	Units	RL

Param	Flag	Result	Units	RL
Chloride		48.6	mg/L	0.500

Sample: 9353 - MW-8

Param	Flag	Result	Units	RL
Chloride		244	mg/L	0.500

Sample: 9354 - MW-3

Param	Flag	Result	Units	RL
Chloride		27.5	mg/L	0.500

Sample: 9355 - WW-1

Param	Flag	Result	Units	RL
Chloride		73.4	mg/L	0.500

Sample: 9356 - WW-2

Param	Flag	Result	Units	RL
Chloride		71.1	mg/L	0.500

Sample: 9357 - MW-6

Param	Flag	Result	Units	RL
Chloride		43.7	mg/L	0.500

Sample: 9358 - Dup

Param	Flag	Result	Units	RL
Chloride		44.5	mg/L	0.500

9350-58

3060917

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: Chevron Tex

SITE MANAGER: Ike Tavarez

PROJECT NO.: 0-0114

PROJECT NAME: New Mexico "F" State

PAGE 1 OF 1

LAB. PO #

DATE	TIME	WATER	SOIL	OTHER	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	PARAMETERS/METHOD NUMBER: BTEX	PARAMETERS/METHOD NUMBER: Chloride	LAB. I.D. NUMBER (LAB USE ONLY)	REMARKS (I.E., FILTERED, UNFILTERED, PRESERVED, UNPRESERVED, GRAB COMPOSITE)
6/6	11:05	✓			MW-4	3	✓	✓	9350	
6/6	11:30	✓			MW-7	3	✓	✓	51	
6/6	12:00	✓			MW-5	3	✓	✓	52	
6/6	12:55	✓			MW-8 (8)	3	✓	✓	53	
6/6	13:30	✓			MW-3	3	✓	✓	54	
6/6	14:05	✓			WW-1	3	✓	✓	55	
6/6	14:10	✓			WW-2	3	✓	✓	56	
6/6	14:55	✓			MW-6	3	✓	✓	57	
6/6		✓			Dup	3	✓	✓	58	

SAMPLED BY: (Signature) — DATE: 6/6/03 TIME: 14:55

RELINQUISHED BY: (Signature) — DATE: 6/6/03 TIME: 5:45PM

RECEIVED BY: (Signature) — DATE: 6/6/03 TIME: 5:45PM

RELINQUISHED BY: (Signature) — DATE: 6/8/03 TIME: 9:00AM

RECEIVED BY: (Signature) — DATE: TIME:

SAMPLE SHIPPED BY: (Circle) Greyhound FEDEX UPS BUS HAND DELIVERED OTHER: AIRBILL #: 166130-3974

COMMENTS:

TURNAROUND TIME NEEDED

RECEIVING LABORATORY: Trace Analysis
ADDRESS:
CITY: Lubbock STATE: TX ZIP:
CONTACT: PHONE:

RECEIVED BY: (Signature) Vicki Chesley
DATE: 6-09-03 TIME: 12:00

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: Mike Gallegos

SAMPLE TYPE: G/C

712 1/4 EIP

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

Cindy Crain
Larson and Associates, Inc.
P. O. Box 50685
Midland, Tx 79710

Report Date: December 11, 2003

Work Order: 3120801

Project Name: New Mexico
Project Number: 0-0114

Enclosed are the Analytical Report and Quality Control Report for the following sample(s) submitted to TraceAnalysis, Inc.

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
22673	MW-3	water	2003-12-04	11:42	2003-12-06
22674	MW-8	water	2003-12-04	12:04	2003-12-06
22675	RW-3	water	2003-12-04	12:35	2003-12-06
22676	MW-5	water	2003-12-04	13:14	2003-12-06
22677	MW-7	water	2003-12-04	13:50	2003-12-06
22678	MW-4	water	2003-12-04	14:14	2003-12-06
22679	WW-2	water	2003-12-04	14:30	2003-12-06
22680	WW-1	water	2003-12-04	14:37	2003-12-06
22681	MW-6	water	2003-12-04	14:55	2003-12-06
22682	Dup	water	2003-12-04	00:00	2003-12-06

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.

Dr. Blair Leftwich, Director

Analytical Report

Sample: 22673 - MW-3

Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	6225	Date Analyzed:	2003-12-09	Analyzed By:	MT
Prep Batch:	5564	Date Prepared:	2003-12-09	Prepared By:	MT

Parameter	Flag	Result	RL	Units	Dilution	RL
Benzene		<0.00100		mg/L	1	0.00100
Toluene		<0.00100		mg/L	1	0.00100
Ethylbenzene		<0.00100		mg/L	1	0.00100
Xylene (isomers)		0.00170		mg/L	1	0.00100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.0999	mg/L	1	0.100	100	65.5 - 119
4-Bromofluorobenzene (4-BFB)		0.0982	mg/L	1	0.100	98	68.6 - 120

Sample: 22673 - MW-3

Analysis:	Chloride (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	6206	Date Analyzed:	2003-12-09	Analyzed By:	JSW
Prep Batch:	5544	Date Prepared:	2003-12-08	Prepared By:	JSW

Parameter	Flag	Result	RL	Units	Dilution	RL
Chloride		26.1		mg/L	5	0.500

Sample: 22674 - MW-8

Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	6225	Date Analyzed:	2003-12-09	Analyzed By:	MT
Prep Batch:	5564	Date Prepared:	2003-12-09	Prepared By:	MT

Parameter	Flag	Result	RL	Units	Dilution	RL
Benzene		<0.00100		mg/L	1	0.00100
Toluene		<0.00100		mg/L	1	0.00100
Ethylbenzene		<0.00100		mg/L	1	0.00100
Xylene (isomers)		<0.00100		mg/L	1	0.00100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.0958	mg/L	1	0.100	96	65.5 - 119
4-Bromofluorobenzene (4-BFB)		0.0960	mg/L	1	0.100	96	68.6 - 120

Sample: 22674 - MW-8

Analysis:	Chloride (IC)	Analytical Method:	E 300.0	Prep Method:	N/A

QC Batch: 6206 Date Analyzed: 2003-12-09 Analyzed By: JSW
Prep Batch: 5544 Date Prepared: 2003-12-08 Prepared By: JSW

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		251	mg/L	10	0.500

Sample: 22675 - RW-3

Analysis: BTEX Analytical Method: S 8021B Prep Method: S 5030B
QC Batch: 6225 Date Analyzed: 2003-12-09 Analyzed By: MT
Prep Batch: 5564 Date Prepared: 2003-12-09 Prepared By: MT

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<0.00100	mg/L	1	0.00100
Toluene		<0.00100	mg/L	1	0.00100
Ethylbenzene		<0.00100	mg/L	1	0.00100
Xylene (isomers)		<0.00100	mg/L	1	0.00100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.0946	mg/L	1	0.100	95	65.5 - 119
4-Bromofluorobenzene (4-BFB)		0.0944	mg/L	1	0.100	94	68.6 - 120

Sample: 22675 - RW-3

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/A
QC Batch: 6206 Date Analyzed: 2003-12-09 Analyzed By: JSW
Prep Batch: 5544 Date Prepared: 2003-12-08 Prepared By: JSW

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		36.3	mg/L	5	0.500

Sample: 22676 - MW-5

Analysis: BTEX Analytical Method: S 8021B Prep Method: S 5030B
QC Batch: 6225 Date Analyzed: 2003-12-09 Analyzed By: MT
Prep Batch: 5564 Date Prepared: 2003-12-09 Prepared By: MT

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<0.00100	mg/L	1	0.00100
Toluene		<0.00100	mg/L	1	0.00100
Ethylbenzene		<0.00100	mg/L	1	0.00100
Xylene (isomers)		<0.00100	mg/L	1	0.00100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.0927	mg/L	1	0.100	93	65.5 - 119

continued ...

sample continued ...

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
4-Bromofluorobenzene (4-BFB)		0.0953	mg/L	1	0.100	95	68.6 - 120

Sample: 22676 - MW-5

Analysis:	Chloride (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	6206	Date Analyzed:	2003-12-09	Analyzed By:	JSW
Prep Batch:	5544	Date Prepared:	2003-12-08	Prepared By:	JSW

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		36.5	mg/L	5	0.500

Sample: 22677 - MW-7

Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	6225	Date Analyzed:	2003-12-09	Analyzed By:	MT
Prep Batch:	5564	Date Prepared:	2003-12-09	Prepared By:	MT

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<0.00100	mg/L	1	0.00100
Toluene		<0.00100	mg/L	1	0.00100
Ethylbenzene		<0.00100	mg/L	1	0.00100
Xylene (isomers)		<0.00100	mg/L	1	0.00100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.0932	mg/L	1	0.100	93	65.5 - 119
4-Bromofluorobenzene (4-BFB)		0.0939	mg/L	1	0.100	94	68.6 - 120

Sample: 22677 - MW-7

Analysis:	Chloride (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	6206	Date Analyzed:	2003-12-09	Analyzed By:	JSW
Prep Batch:	5544	Date Prepared:	2003-12-08	Prepared By:	JSW

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		230	mg/L	10	0.500

Sample: 22678 - MW-4

Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	6225	Date Analyzed:	2003-12-09	Analyzed By:	MT
Prep Batch:	5564	Date Prepared:	2003-12-09	Prepared By:	MT

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		0.00150	mg/L	1	0.00100
Toluene		<0.00100	mg/L	1	0.00100
Ethylbenzene		<0.00100	mg/L	1	0.00100
Xylene (isomers)		<0.00100	mg/L	1	0.00100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.0920	mg/L	1	0.100	92	65.5 - 119
4-Bromofluorobenzene (4-BFB)		0.0978	mg/L	1	0.100	98	68.6 - 120

Sample: 22678 - MW-4

Analysis:	Chloride (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	6259	Date Analyzed:	2003-12-11	Analyzed By:	JSW
Prep Batch:	5597	Date Prepared:	2003-12-10	Prepared By:	JSW

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		104	mg/L	5	0.500

Sample: 22679 - WW-2

Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	6225	Date Analyzed:	2003-12-09	Analyzed By:	MT
Prep Batch:	5564	Date Prepared:	2003-12-09	Prepared By:	MT

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<0.00100	mg/L	1	0.00100
Toluene		<0.00100	mg/L	1	0.00100
Ethylbenzene		<0.00100	mg/L	1	0.00100
Xylene (isomers)		<0.00100	mg/L	1	0.00100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.0923	mg/L	1	0.100	92	65.5 - 119
4-Bromofluorobenzene (4-BFB)		0.0952	mg/L	1	0.100	95	68.6 - 120

Sample: 22679 - WW-2

Analysis:	Chloride (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	6259	Date Analyzed:	2003-12-11	Analyzed By:	JSW
Prep Batch:	5597	Date Prepared:	2003-12-10	Prepared By:	JSW

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		52.4	mg/L	5	0.500

Sample: 22680 - WW-1

Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	6225	Date Analyzed:	2003-12-09	Analyzed By:	MT
Prep Batch:	5564	Date Prepared:	2003-12-09	Prepared By:	MT

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<0.00100	mg/L	1	0.00100
Toluene		<0.00100	mg/L	1	0.00100
Ethylbenzene		<0.00100	mg/L	1	0.00100
Xylene (isomers)		<0.00100	mg/L	1	0.00100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.0933	mg/L	1	0.100	93	65.5 - 119
4-Bromofluorobenzene (4-BFB)		0.0952	mg/L	1	0.100	95	68.6 - 120

Sample: 22680 - WW-1

Analysis:	Chloride (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	6259	Date Analyzed:	2003-12-11	Analyzed By:	JSW
Prep Batch:	5597	Date Prepared:	2003-12-10	Prepared By:	JSW

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		65.3	mg/L	5	0.500

Sample: 22681 - MW-6

Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	6225	Date Analyzed:	2003-12-09	Analyzed By:	MT
Prep Batch:	5564	Date Prepared:	2003-12-09	Prepared By:	MT

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<0.00100	mg/L	1	0.00100
Toluene		<0.00100	mg/L	1	0.00100
Ethylbenzene		<0.00100	mg/L	1	0.00100
Xylene (isomers)		<0.00100	mg/L	1	0.00100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.0950	mg/L	1	0.100	95	65.5 - 119
4-Bromofluorobenzene (4-BFB)		0.0962	mg/L	1	0.100	96	68.6 - 120

Sample: 22681 - MW-6

Analysis:	Chloride (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	6259	Date Analyzed:	2003-12-11	Analyzed By:	JSW
Prep Batch:	5597	Date Prepared:	2003-12-10	Prepared By:	JSW

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		45.3	mg/L	5	0.500

Sample: 22682 - Dup

Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	6225	Date Analyzed:	2003-12-09	Analyzed By:	MT
Prep Batch:	5564	Date Prepared:	2003-12-09	Prepared By:	MT

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<0.00100	mg/L	1	0.00100
Toluene		<0.00100	mg/L	1	0.00100
Ethylbenzene		<0.00100	mg/L	1	0.00100
Xylene (isomers)		<0.00100	mg/L	1	0.00100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.0965	mg/L	1	0.100	96	65.5 - 119
4-Bromofluorobenzene (4-BFB)		0.0976	mg/L	1	0.100	98	68.6 - 120

Sample: 22682 - Dup

Analysis:	Chloride (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	6259	Date Analyzed:	2003-12-11	Analyzed By:	JSW
Prep Batch:	5597	Date Prepared:	2003-12-10	Prepared By:	JSW

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		254	mg/L	10	0.500

Method Blank (1) QC Batch: 6206

Parameter	Flag	Result	Units	RL
Chloride		<0.500	mg/L	0.5

Method Blank (1) QC Batch: 6225

Parameter	Flag	Result	Units	RL
Benzene		<0.00100	mg/L	0.001
Toluene		<0.00100	mg/L	0.001
Ethylbenzene		<0.00100	mg/L	0.001
Xylene (isomers)		<0.00100	mg/L	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.0942	mg/L	1	0.100	94	70 - 130
4-Bromofluorobenzene (4-BFB)		0.0975	mg/L	1	0.100	98	70 - 130

Method Blank (1) QC Batch: 6259

Parameter	Flag	Result	Units	RL
Chloride		<0.500	mg/L	0.5

Laboratory Control Spike (LCS-1) QC Batch: 6206

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	RPD	Rec. Limit	RPD Limit
Chloride	11.3	11.2	mg/L	1	12.5	<1.49	90	1	90 - 110	20

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

Laboratory Control Spike (LCS-1) QC Batch: 6225

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	RPD	Rec. Limit	RPD Limit
Benzene	0.0996	0.0994	mg/L	1	0.100	<0.000410	100	0	79.7 - 110	20
Toluene	0.0986	0.0982	mg/L	1	0.100	<0.000760	99	0	81.7 - 108	20
Ethylbenzene	0.0920	0.0931	mg/L	1	0.100	<0.00100	92	1	80.4 - 109	20
Xylene (isomers)	0.300	0.300	mg/L	1	0.300	<0.00100	100	0	81 - 109	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	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.0901	0.0907	mg/L	1	0.100	90	91	65.5 - 119
4-Bromofluorobenzene (4-BFB)	0.0945	0.0959	mg/L	1	0.100	94	96	68.6 - 120

Laboratory Control Spike (LCS-1) QC Batch: 6259

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	RPD	Rec. Limit	RPD Limit
Chloride	11.2	11.2	mg/L	1	12.5	<1.49	90	0	90 - 110	20

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

Matrix Spike (MS-1) QC Batch: 6206

Param	MS Result	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	RPD	Rec. Limit	RPD Limit
Chloride	25600	25700	mg/L	1000	12.5	14600	88	0	56.4 - 130	20

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

Matrix Spike (MS-1) QC Batch: 6259

Param	MS Result	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	RPD	Rec. Limit	RPD Limit
Chloride	1110	1100	mg/L	50	12.5	578	85	1	56.4 - 130	20

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

Standard (ICV-1) QC Batch: 6206

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/L	12.5	11.3	90	90 - 110	2003-12-09

Standard (CCV-1) QC Batch: 6206

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/L	12.5	11.3	90	90 - 110	2003-12-09

Standard (ICV-1) QC Batch: 6225

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/L	0.100	0.0971	97	85 - 115	2003-12-09
Toluene		mg/L	0.100	0.0966	97	85 - 115	2003-12-09
Ethylbenzene		mg/L	0.100	0.0909	91	85 - 115	2003-12-09
Xylene (isomers)		mg/L	0.300	0.294	98	85 - 115	2003-12-09

Standard (CCV-1) QC Batch: 6225

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/L	0.100	0.0985	98	85 - 115	2003-12-09
Toluene		mg/L	0.100	0.0976	98	85 - 115	2003-12-09
Ethylbenzene		mg/L	0.100	0.0919	92	85 - 115	2003-12-09
Xylene (isomers)		mg/L	0.300	0.295	98	85 - 115	2003-12-09

Standard (ICV-1) QC Batch: 6259

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/L	12.5	11.2	90	90 - 110	2003-12-11

Standard (CCV-1) QC Batch: 6259

3120801

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: Chevron

SITE MANAGER: Cindy Crain

PROJECT NO.: 0114 0-001

PROJECT NAME: New Mexico FE Stx

PAGE OF

LAB. PO #

DATE	TIME	WATER	SOIL	OTHER	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	PARAMETERS/METHOD NUMBER: BTEX	PARAMETERS/METHOD NUMBER: Chloride	LAB. I.D. NUMBER (LAB USE ONLY)	REMARKS (I.E., FILTERED, UNFILTERED, PRESERVED, UNPRESERVED, GRAB COMPOSITE)
12/4	1142	✓			MW-3	3	2	1	22673	
	1204	✓			MW-8				74	
	1235	✓			MW-3				75	
	1314	✓			MW-5				76	
	1350	✓			MW-7				77	
	1414	✓			MW-4				78	
	1430	✓			MW-2				79	
	1437	✓			MW-1				80	
↓	1455	✓			MW-6	↓	↓	↓	81	
12/4		✓			Dup	3	2	1	82	

SAMPLED BY: (Signature) Kim Jones
DATE: 12/4/03 TIME: 1455

RELINQUISHED BY: (Signature) Kim Jones
DATE: 12/4/03 TIME: 1830

~~RELINQUISHED~~ RECEIVED BY: (Signature) Helen Shelton
DATE: 12/04/03 TIME: 1830

~~RELINQUISHED~~ RECEIVED BY: (Signature) Helen Shelton
DATE: 12/05/03 TIME: 1730

RECEIVED BY: (Signature)
DATE: TIME:

SAMPLE SHIPPED BY: (Circle)
FEDEX BUS UPS HAND DELIVERED OTHER:
AIRBILL #: 146130483

COMMENTS:

TURNAROUND TIME NEEDED: Standard

RECEIVING LABORATORY: Trace Analysis
ADDRESS:
CITY: Lubbock STATE: ZIP:
CONTACT: PHONE:

RECEIVED BY: (Signature) Vicki Ornelas
DATE: 12-6-03 TIME: 9:16

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

SAMPLE TYPE: BUS

MA

22673-82

3120801

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: Chevron

SITE MANAGER: Cindy Crain

PROJECT NO.: 0114 0-001

PROJECT NAME: New Mexico "F" State

PAGE OF

LAB. PO #

PARAMETERS/METHOD NUMBER

DATE	TIME	WATER	SOIL	OTHER	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	BTEX	Chloride	LAB. I.D. NUMBER (LAB USE ONLY)	REMARKS (I.E., FILTERED, UNFILTERED, PRESERVED, UNPRESERVED, GRAB COMPOSITE)
12/4	1142	✓			MW-3	3	2	1	22673	
	1204	✓			MW-8				74	
	1235	✓			RW-3				75	
	1314	✓			MW-5				76	
	1350	✓			MW-7				77	
	1414	✓			MW-4				78	
	1430	✓			MW-2				79	
	1437	✓			MW-1				80	
↓	1455	✓			MW-6	↓	↓	↓	81	
12/4		✓			Dup	3	2	1	82	

SAMPLED BY: (Signature) Kim Jones

DATE: 12/4/03 TIME: 1455

RELINQUISHED BY: (Signature) received Helen Shelton

DATE: 12/04/03 TIME: 1830

RECEIVED BY: (Signature)

DATE: TIME:

RELINQUISHED BY: (Signature) Kim Jones

DATE: 12/4/03 TIME: 1830

RECEIVED BY: (Signature) Helen Shelton

DATE: 12/05/03 TIME: 1730

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

AIRBILL #: 146130483

COMMENTS:

TURNAROUND TIME NEEDED: Standard

RECEIVING LABORATORY: Trace Analysis

ADDRESS:

CITY: Lubbock STATE: ZIP:

CONTACT: PHONE:

RECEIVED BY: (Signature) Vicki Ansley

DATE: 12-4-03 TIME: 9:16

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

SAMPLE TYPE: Bus

MA 12/11 FIP

LARSON & ASSOCIATES, INC.

P. O. Box 50685 ◆ Midland, Texas 79710-0685

Ph. (432) 687-0901