

GW - 55

MONITORING REPORTS

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BioTECH REMEDIATION INC.

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**ANNUAL GROUND WATER MONITORING REPORT
THRIFTWAY REFINERY
626 COUNTY ROAD 5500
BLOOMFIELD, NEW MEXICO**

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Environmental Bureau
Oil Conservation Division

prepared for the

THE NEW MEXICO OIL CONSERVATION DIVISION

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and

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March 26, 1997



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**Mr. Will Olsen, Project Manager, Santa Fe Office
and
Mr. Denny Foust, Aztec Office**

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March 26, 1998

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**Elizabeth McNally
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Airstripper Influent and Effluent Laboratory Analysis Reports,
QA/QC Data, and Chain of Custody Records

1.0 INTRODUCTION

In compliance with the Groundwater Discharge Plan GW-55 and pursuant to the requirements of the New Mexico Oil Conservation Division (NMOCD), BioTech Remediation, Inc. (BioTech) on behalf of Thriftway Company submits the following Annual Monitoring and Sampling Report for 1997 for the Thriftway Refinery, 626 County Road 5500, Bloomfield, New Mexico.

This report summarizes the monitoring and sampling activities, compiled groundwater measurement and laboratory analyses data, and the phase-separated product recovery activities for groundwater monitoring wells for 1997 and is the second Annual Report submitted under the most recent Groundwater Discharge Permit. Special activities outside of the normal sampling and monitoring included reworking of the airstripper to improve performance.

2.0 ANNUAL MONITORING AND SAMPLING ACTIVITIES

BioTech personnel completed the monitoring and sampling requirements for the four quarterly monitoring events in 1997. During each monitoring and sampling event, groundwater monitoring well measurements and sample collection strictly followed the procedures outlined below.

2.1 Groundwater Measurement

During each groundwater sampling event, depth-to-groundwater measurements were made in each monitoring well. An ORS Interface Probe was used to measure from the survey point on the top of the well casing to the top of groundwater. Depth measurements were made in feet and were recorded on Water Sampling Record forms following the measurement of each monitoring well. Groundwater measurement data is summarized and presented in Table 1, and groundwater contour plots based on the elevation data were constructed and are found in Figures 1A through 1D.

2.2 Groundwater Sample Collection and Analyses

Before groundwater samples were collected, each monitoring well was purged of approximately three well volumes, approximately five to seven gallons, and then allowed a short recovery period in order for the groundwater to equilibrate within the well casing. During groundwater purging, temperature, pH, dissolved oxygen (DO) and electrical conductivity were measured and recorded onto Water Sampling Record forms. Each monitoring well was considered to be successfully purged and ready for sample collection when the pH and conductivity readings stabilized and did not vary by more than ten percent over two purged well volumes. Following the use of each measuring

instrument, a thorough decontamination and rinsing was performed. The decontamination and rinsing protocols employed are detailed in Section 3.0.

During sample collection, a dedicated disposable bailer was lowered slowly into its respective well casing, taking care not to agitate the casing water. The bailer was allowed to take on water and then carefully removed from the well. Once removed, the bailer was fitted with a flow regulating sample collection nipple to transfer the samples into the appropriate sample container. Groundwater samples were added to each sample container at an approximate rate of 100 ml per minute. In transferring the sample from the bailer to the sample container, extreme care was taken to ensure that each container was filled completely until a meniscus formed, and no headspace or air bubbles were present. The containers were then tightly sealed and observed while rotating to further ascertain that each was completely void of air.

2.3 Sample Preservation

For analyses requiring sample preservation beyond retention at a cool temperature, the vials were prepared in advance by the analyzing laboratory with hydrochloric acid, HCl, which acts as a preservative and prevents bacterial degradation of hydrocarbons during sample transport and laboratory holding time.

2.4 Sample Identification

Immediately following sample collection, containers were labeled with the sample origin, time and date of collection, type of sample, sampler identification, preservative used, and the requested analysis. Once labeled, each sample was logged onto a Chain of Custody Record. By properly labeling and logging each of the samples as they were collected, the potential for sample misidentification was avoided.

2.5 Sample Transport

Once each sample had been collected, labeled, and logged onto the Chain of Custody Record, the containers were placed in an insulated cooler containing ice, where the samples were maintained at approximately 4°C until delivered to On-Site Technologies Laboratory, Farmington, New Mexico. The Chain of Custody Record was completed at the laboratory, and the samples were then relinquished.

2.6 Analyses

Groundwater sampling of the refinery monitoring wells was conducted quarterly, and sampling of the air stripper influent and effluent as well as the pond was conducted

monthly. During each sampling event, collected samples were analyzed for methyl-t-butyl ether (MTBE) and benzene, toluene, ethylbenzene, and xylene (BTEX) per EPA Method 8020 at On-Site Technologies in Farmington, New Mexico. Additionally, samples were collected annually and laboratory-analyzed for total dissolved solids (TDS), cations and anions, and poly-aromatic hydrocarbons (PAHs) at Mountain States Analytical, Inc. in Salt Lake City, Utah. The laboratory results of BTEX analyses are presented in Table 2. The remaining laboratory analyses collected on an annual basis were tabulated, and cations and anions, TDS and pH are found in Table 3; PAHs are found in Table 4; and metals are summarized in Table 5. From field data collected during sampling as well as the analytical laboratory results, several isoconcentration maps were generated. Quarterly benzene concentration maps, free product plume maps, and conductivity contour maps are presented in Figures 2, 3, and 4, respectively. Figures 5 and 6 represent annual contour maps of TDS and chloride, respectively. Laboratory reports, QA/QC data and chain of custody records for the groundwater monitoring wells and the airstripper influent and effluent are included in Appendix A.

3.0 EQUIPMENT DECONTAMINATION

In order to ensure data validity and prevent cross-contamination, BioTech personnel employed and strictly followed decontamination protocols. During all monitoring well measurement and sample collection, the following methods for decontaminating equipment were employed:

- wash with detergent (Alconox) and water
- rinse with water
- wash with detergent (Alconox) and water
- rinse with water
- rinse with de-ionized water
- rinse with pesticide grade methanol

4.0 FREE PRODUCT RECOVERY

The results of free product recovery were documented and are presented in Table 1. During 1997, 255.39 gallons of product was recovered from the groundwater. Most of the product, 250 gallons, was recovered through the groundwater collection system. The remainder of the product was recovered from monitoring wells during monitoring and sampling events and a bi-monthly bailing schedule. Currently, collected product is being stored in a 500 barrel (BBL) tank, which is located within a concrete berm and pad area.

It is anticipated that with an increase in the airstripper operating time resulting from system upgrades which have been completed, greater volumes of product will be recovered. Further discussion regarding the changes in the groundwater collection and treatment system is provided in the following section.

5.0 GROUNDWATER TREATMENT EQUIPMENT

The mechanical operation of the airstripper and associated groundwater treatment equipment has obtained an average on-stream airstripper operation of 63 percent during 1997. The airstripper was in full operation between January and April, 1997. However, in order to enhance operation, the blower was upgraded in the spring of 1997 from a blower with a 350 cubic feet per minute (cfm) capacity to a 1,000 cfm blower. Difficulties with the water transfer pump were encountered in May and June. In July, 1997, a new water transfer pump was installed in the system. However, additional problems with the pump were experienced, and a second new pump was installed in September, 1997. Further pump problems were encountered throughout October and November, 1997, and in December, 1997, an upgraded water transfer pump was installed.

During August, 1997, a flooding of the refinery area resulted in silt entering the airstripper building and holding tank. It is possible that silt may now be moving toward the pump end of the holding tank. This will result in silt being pumped to the air stripper, which will hinder the equipment performance. Currently, BioTech plans on removing the inspection plate on the end of the airstripper and inspecting the interior of the airstripper in early 1998. If solids are found within the air stripper chamber, it will be cleaned and in order to prevent the problem from occurring again, the holding tank will also be cleaned.

6.0 DISCUSSION AND RECOMMENDATIONS

Models which take into consideration groundwater elevation contours, contaminant concentrations, and free product extent indicate inadequate capture at the refinery property line to contain the spread of hydrocarbon contamination and free product. In comparing data collected during 1996 with the 1997 data, minimal change has been realized in overall site conditions; however, it is believed that the reason for this is the down time the airstripper experienced during 1997.

In reviewing the cumulative data contained within this report as well as previously submitted data, BioTech concludes that with the most recent modifications and upgrades made to the groundwater extraction and treatment system during 1997, contaminant plume containment will again be evident along with plume and contaminant concentration reductions. Therefore, BioTech on behalf of Thriftway recommends that the established monitoring and sampling schedule continue through 1998, as well as continuation of the phase-separated product removal operation on a bi-monthly schedule. Additionally, BioTech recommends that the groundwater treatment system continue to be operated as described within this report.

TABLES

TABLE 1
THRIFTWAY REFINERY
SUMMARY OF GROUND WATER MONITOR DATA

WELL #	DATE	TIME	TOP OF PIPE ELEVATION	AIR/OIL INTERFACE (feet)	WATER OUTAGE (feet)	PRODUCT THICKNESS (feet)	WATER LEVEL ELEVATION (feet)	ACCUMULATED PRODUCT (gallons)	CONDUCTIVITY uohms/cm	OXYGEN CONTENT ppm
1	03/05/96	14:10	5449.08	15.10	15.19	0.09	5433.89	1.66		
1	05/31/96		5449.08	15.29	15.31	0.02	5433.77	1.66		
1	10/07/96	13:37	5449.08	15.68	15.68	0.00	5433.40	1.66		
1	12/31/96	16:10	5449.08	15.62	15.62	0.00	5433.46	1.66	4730	1.90
1	03/19/97	14:38	5449.08	15.65	15.65	0.00	5433.43	1.66	4700	N/A
1	06/18/97	10:06	5449.08	15.37	15.37	0.00	5433.71	1.66	4670	0.18
1	09/24/97	15:50	5449.08	15.08	15.08	0.00	5434.00	1.66	4590	0.06
1	12/23/97	12:40	5449.08	15.08	15.08	0.00	5434.00	1.66	4630	NM
2	03/05/96	12:40	5442.65	11.85	11.85	0.00	5430.80			
2	06/04/96		5442.65	12.00	12.00	0.00	5430.65	0.00		
2	10/09/96	15:30	5442.65	12.16	13.50	1.34	5429.15	0.20		
2	12/30/96		5442.65	12.35	12.54	0.19	5430.11	0.35	PRODUCT	PRODUCT
2	03/17/97		5442.65	12.18	12.37	0.19	5430.28	0.37	PRODUCT	PRODUCT
2	06/18/97		5442.65	12.11	12.14	0.03	5430.51	0.43	PRODUCT	PRODUCT
2	09/29/97		5442.65	11.86	11.98	0.12	5430.67	0.43	PRODUCT	PRODUCT
2	12/18/97		5442.65	11.64	11.69	0.05	5430.96	0.43	PRODUCT	PRODUCT
3	03/05/96	12:15	5431.43	5.13	5.13	0.00	5426.30			
3	06/04/96		5431.43	5.22	5.22	0.00	5426.21	0.00		
3	10/09/96	15:00	5431.43	5.17	5.17	0.00	5426.26	0.00		
3	12/31/96	15:45	5431.43	4.60	4.72	0.12	5426.71	0.01	PRODUCT	PRODUCT
3	03/17/97	-	5431.43	3.44	3.44	0.00	5427.99	0.01	N/A	N/A
3	06/18/97	15:35	5431.43	3.38	3.38	0.00	5428.05	0.01	NM	NM
3	09/29/97		5431.43	5.15	5.18	0.03	5426.25	0.02	PRODUCT	PRODUCT
3	12/18/97		5431.43	3.42	3.42	0.00	5428.01	0.02	PRODUCT	PRODUCT
4	03/05/96	11:45	5430.12	5.10	5.10	0.00	5425.02			
4	06/04/96		5430.12	5.18	5.18	0.00	5424.94	0.00		
4	10/09/96	10:40	5430.12	5.62	5.62	0.00	5424.50	0.00		
4	12/31/96	12:00	5430.12	5.18	5.18	0.00	5424.94	0.00	4270	2.70
4	03/19/97		5430.12	4.28	4.28	0.00	5425.84	0.00	4450	N/A
4	06/17/97	13:55	5430.12	4.08	4.08	0.00	5426.04	0.00	5150	0.08
4	09/24/97	13:50	5430.12	4.19	4.19	0.00	5425.93	0.00	4170	0.19
4	12/22/97	9:56	5430.12	4.31	4.31	0.00	5425.81	0.00	3260	0.13

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WELL #	DATE	TIME	TOP OF PIPE ELEVATION	AIR/OIL INTERFACE (feet)	WATER OUTAGE (feet)	PRODUCT THICKNESS (feet)	WATER LEVEL ELEVATION (feet)	ACCUMULATED PRODUCT (gallons)	CONDUCTIVITY	OXYGEN CONTENT ppm
5	03/05/96	11:20	5428.97	4.91	4.91	0.00	5424.06			
5	06/04/96		5428.97	5.10	5.10	0.00	5423.87	0.00		
5	10/09/96	11:20	5428.97	5.55	5.55	0.00	5423.42	0.00		
5	12/31/96	11:30	5428.97	5.19	5.19	0.00	5423.78	0.00	5800	1.90
5	03/19/97	10:50	5428.97	4.63	4.63	0.00	5424.34	0.00	5770	N/A
5	06/17/97	13:55	5428.97	4.41	4.41	0.00	5424.56	0.00	5850	0.30
5	09/24/97	12:00	5428.97	3.77	3.77	0.00	5425.20	0.00	5940	0.09
5	12/19/97	16:20	5428.97	4.37	4.37	0.00	5424.60	0.00	5930	0.06
6	03/05/96	11:55	5430.7	4.95	4.95	0.00	5425.75			
6	06/04/96		5430.7	5.07	5.07	0.00	5425.63	0.00		
6	10/09/96	10:25	5430.7	5.28	5.28	0.00	5425.42	0.00		
6	12/31/96		5430.7	4.65	4.65	0.00	5426.05	0.00	4230	4.70
6	03/19/97	9:07	5430.7	3.65	3.65	0.00	5427.05	0.00	4070	N/A
6	06/17/97	15:33	5430.7	3.62	3.62	0.00	5427.08	0.00	4250	1.71
6	09/24/97	14:55	5430.7	4.58	4.58	0.00	5426.12	0.00	4100	0.21
6	12/19/97	13:45	5430.7	4.23	4.23	0.00	5426.47	0.00	4100	NM
7	03/05/96	14:25	5434.34	7.45	7.89	0.44	5426.45	0.00		
7	05/31/96		5434.34	8.07	8.56	0.49	5425.78	0.06		
7	10/07/96		5434.34	8.29	8.50	0.21	5425.84	0.27		
7	12/30/96		5434.34	7.54	7.54	0.00	5426.80	0.27	PRODUCT	PRODUCT
7	03/19/97	15:27	5434.34	6.55	6.55	0.00	5427.79	0.27	N/A	N/A
7	06/18/97	-	5434.34	6.47	6.47	0.00	5427.87	0.27	NM	NM
7	09/29/97	-	5434.34	8.01	8.01	0.00	5426.33	0.27	NM	NM
7	12/18/97	-	5434.34	6.61	6.61	0.00	5427.73	0.27	NM	NM
8	03/05/96		5432.09	DRY	DRY	#VALUE!	DRY			
8	06/03/96		5432.09	Well silted in to 3.80 ft.		#VALUE!	DRY	0.00		
8	10/08/96		5432.09	Well silted in to 3.80 ft.		#VALUE!	DRY	0.00		
8	12/31/96	15:30	5432.09	3.14	3.14	0.00	5428.95	0.00	NM	NM
8	03/18/97	15:00	5432.09	2.93	2.93	0.00	5429.16	0.00	N/A	N/A
8	06/16/97	-	5432.09	3.00	3.00	0.00	5429.09	0.00	NM	NM
8	09/25/97	15:20	5432.09	2.68	2.68	0.00	5429.41	0.00	NM	NM
8	12/22/97	12:30	5432.09	3.15	3.15	0.00	5428.94	0.00	NM	NM

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WELL #	DATE	TIME	TOP OF PIPE ELEVATION	AIR/OIL INTERFACE (feet)	WATER OUTAGE (feet)	PRODUCT THICKNESS (feet)	WATER LEVEL ELEVATION (feet)	ACCUMULATED PRODUCT (gallons)	CONDUCTIVITY uohms/cm	OXYGEN CONTENT ppm
9	03/05/96	08:45	5435.19	4.09	4.09	0.00	5431.10			
9	06/03/96		5435.19	4.42	4.42	0.00	5430.77	0.00		
9	10/08/96	15:30	5435.19	4.25	4.25	0.00	5430.94	0.00		
9	12/31/96	15:10	5435.19	4.10	4.10	0.00	5431.09	0.00	7510	6.40
9	03/18/97	14:13	5435.19	4.17	4.17	0.00	5431.02	0.00	7270	N/A
9	06/16/97	14:02	5435.19	4.27	4.27	0.00	5430.92	0.00	7450	1.85
9	09/25/97	10:50	5435.19	3.68	3.68	0.00	5431.51	0.00	8490	2.02
9	12/22/97	10:40	5435.19	4.05	4.05	0.00	5431.14	0.00	7150	1.00
10	03/05/96	08:20	5436.56	3.95	3.95	0.00	5432.61			
10	06/03/96		5436.56	4.25	4.25	0.00	5432.31	0.00		
10	10/08/96	14:31	5436.56	4.21	4.21	0.00	5432.35	0.00		
10	12/31/96	14:45	5436.56	4.01	4.01	0.00	5432.55	0.00	7480	3.90
10	03/18/97	13:39	5436.56	4.09	4.09	0.00	5432.47	0.00	7460	N/A
10	06/16/97	11:09	5436.56	4.10	4.10	0.00	5432.46	0.00	7450	0.69
10	09/25/97	11:45	5436.56	3.81	3.81	0.00	5432.75	0.00	7410	1.15
10	12/22/97	11:30	5436.56	3.98	3.98	0.00	5432.58	0.00	7170	0.61
11	06/03/96		5438.65	5.15	5.15	0.00	5433.50	0.00		
11	10/08/96	15:00	5438.65	5.27	5.27	0.00	5433.38	0.00		
11	12/31/96	14:20	5438.65	5.02	5.02	0.00	5433.63	0.00	6970	3.70
11	12/31/96	14:20	5438.65	5.02	5.02	0.00	5433.63	0.00	6970	3.70
11	03/18/97	11:45	5438.65	5.01	5.01	0.00	5433.64	0.00	6870	N/A
11	06/16/97	11:46	5438.65	5.05	5.05	0.00	5433.60	0.00	6900	0.30
11	09/25/97	14:32	5438.65	4.96	4.96	0.00	5433.69	0.00	6890	0.40
11	12/22/97	12:15	5438.65	4.91	4.91	0.00	5433.74	0.00	6900	0.30
12	03/05/96	14:40	5446.09	13.45	14.94	1.49	5431.15	26.45		
12	05/31/96		5446.09	13.74	14.94	1.20	5431.15	28.45		
12	10/07/96		5446.09	14.15	15.62	1.47	5430.47	28.74		
12	12/30/96		5446.09	14.20	15.60	1.40	5430.49	29.34	PRODUCT	PRODUCT
12	03/17/97		5446.09	14.14	15.39	1.25	5430.70	29.56	PRODUCT	PRODUCT
12	06/16/97	-	5446.09	14.23	14.98	0.75	5431.11	30.53	PRODUCT	PRODUCT
12	09/29/97	-	5446.09	13.98	14.53	0.55	5431.56	30.74	PRODUCT	PRODUCT
12	12/18/97	-	5446.09	13.87	14.39	0.52	5431.70	30.98	PRODUCT	PRODUCT

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WELL #	DATE	TIME	TOP OF PIPE ELEVATION	AIR/OIL INTERFACE (feet)	WATER OUTAGE (feet)	PRODUCT THICKNESS (feet)	WATER LEVEL ELEVATION (feet)	ACCUMULATED PRODUCT (gallons)	CONDUCTIVITY uohms/cm	OXYGEN CONTENT ppm
13	03/05/96	15:05	5452.12	17.43	17.43	0.00	5434.69			
13	06/04/96		5452.12	17.72	17.72	0.00	5434.40			
13	10/08/96	11:50	5452.12	18.11	18.11	0.00	5434.01	0.00		
13	12/30/96	15:30	5452.12	18.04	18.04	0.00	5434.08	0.00	6140	5.20
13	03/19/97	10:55	5452.12	17.98	17.98	0.00	5434.14	0.00	6260	N/A
13	06/16/97	9:00	5452.12	17.93	17.93	0.00	5434.19	0.00	6350	0.19
13	09/23/97	16:40	5452.12	17.81	17.81	0.00	5434.31	0.00	6260	0.28
13	12/19/97	15:40	5452.12	17.48	17.48	0.00	5434.64	0.00	6225	0.09
14	03/05/96	15:25	5446.93	12.20	12.53	0.33	5434.40	3.10		
14	05/31/96		5446.93	13.74	14.94	1.20	5431.99	3.10		
14	10/07/96	11:35	5446.93	13.05	13.05	0.00	5433.88	3.10		
14	12/30/96	11:35	5446.93	12.97	12.97	0.00	5433.96	3.10	6070	1.60
14	03/17/97	-	5446.93	12.73	13.50	0.77	5433.43	3.26	PRODUCT	N/A
14	06/16/97	-	5446.93	12.67	13.09	0.42	5433.84	3.58	PRODUCT	NM
14	09/29/97	-	5446.93	12.46	12.63	0.17	5434.30	3.59	PRODUCT	PRODUCT
14	12/18/97	-	5446.93	12.42	12.45	0.03	5434.48	3.59	PRODUCT	PRODUCT
15	03/05/96	08:40	5449.51	13.29	13.29	0.00	5436.22			
15	06/03/96		5449.51	13.41	13.41	0.00	5436.10			
15	10/08/96	11:08	5449.51	13.86	13.86	0.00	5435.65	0.00		
15	12/30/96	14:45	5449.51	13.72	13.72	0.00	5435.79	0.00	4850	6.80
15	03/18/97	10:00	5449.51	13.49	13.49	0.00	5436.02	0.00	4810	N/A
15	06/17/97	9:59	5449.51	13.28	13.28	0.00	5436.23	0.00	4890	1.71
15	09/26/97	12:00	5449.51	12.67	12.67	0.00	5436.84	0.00	5050	0.55
15	12/22/97	13:45	5449.51	12.98	12.98	0.00	5436.53	0.00	5000	1.10
16	03/05/96	09:15	5442.63	8.81	8.81	0.00	5433.82			
16	06/04/96		5442.63	9.02	9.02	0.00	5433.61			
16	10/08/96	12:45	5442.63	9.33	9.33	0.00	5433.30	0.00		
16	12/30/96	16:15	5442.63	9.07	9.07	0.00	5433.56	0.00	7510	3.80
16	03/19/97	15:15	5442.63	8.98	8.98	0.00	5433.65	0.00	N/A	N/A
16	06/18/97	15:26	5442.63	8.91	8.91	0.00	5433.72	0.00	NM	NM
16	09/29/97		5442.63	NM	NM	#VALUE!	#VALUE!	0.00	NM	NM
16	12/22/97		5442.63	NM	NM	#VALUE!	#VALUE!	0.00	NM	NM

TABLE 1
THRIFTWAY REFINERY
SUMMARY OF GROUND WATER MONITOR DATA

WELL #	DATE	TIME	TOP OF PIPE ELEVATION	AIR/OIL INTERFACE (feet)	WATER OUTAGE (feet)	PRODUCT THICKNESS (feet)	WATER LEVEL ELEVATION (feet)	ACCUMULATED PRODUCT (gallons)	CONDUCTIVITY	OXYGEN CONTENT ppm
17	03/05/96	15:40	5435.57	5.84	6.04	0.20	5429.53	4.54		
17	08/04/96		5435.57	5.73	6.22	0.49	5429.35	5.43		
17	10/07/96		5435.57	5.98	6.09	0.11	5429.48	5.44		
17	12/30/96		5435.57	5.91	6.30	0.39	5429.27	5.91	PRODUCT	PRODUCT
17	03/17/97		5435.57	5.63	5.67	0.04	5429.90	5.92	PRODUCT	PRODUCT
17	06/18/97	-	5435.57	5.59	5.59	0.00	5429.98	5.92	NM	NM
17	09/29/97	-	5435.57	5.53	5.82	0.29	5429.75	5.92	NM	NM
17	12/18/97	-	5435.57	5.42	5.78	0.36	5429.79	6.05	NM	NM
18	03/05/96	13:30	5429.1	DRY	DRY	#VALUE!	DRY			
18	06/04/96		5429.1	3.64	3.64	0.00	5425.46			
18	10/09/96	14:40	5429.1	4.24	4.24	0.00	5424.86	0.00		
18	12/30/96	10:45	5429.1	4.06	4.06	0.00	5425.04	0.00	4820	2.50
18	03/19/97	14:00	5429.1	3.26	3.26	0.00	5425.84	0.00	4860	N/A
18	06/18/97	8:52	5429.1	3.00	3.00	0.00	5426.10	0.00	4670	2.03
18	09/24/97	10:35	5429.1	2.50	2.50	0.00	5426.60	0.00	3330	0.76
18	12/23/97	11:40	5429.1	3.29	3.29	0.00	5425.81	0.00	2310	NM
19	03/05/96	10:50	5428.69	3.51	3.51	0.00	5425.18			
19	06/04/96		5428.69	3.99	3.99	0.00	5424.70			
19	10/09/96	14:20	5428.69	3.70	3.70	0.00	5424.99	0.00		
19	12/30/96	17:15	5428.69	3.77	3.77	0.00	5424.92	0.00	6450	3.90
19	03/19/97	11:23	5428.69	3.32	3.32	0.00	5425.37	0.00	6300	N/A
19	06/17/97	16:25	5428.69	3.12	3.12	0.00	5425.57	0.00	4570	0.81
19	09/26/97	14:00	5428.69	2.36	2.36	0.00	5426.33	0.00	1710	0.15
19	12/23/97	10:50	5428.69	2.91	2.91	0.00	5425.78	0.00	6240	0.07
20	03/05/96	09:50	5430.36	5.37	5.37	0.00	5424.99			
20	06/03/96		5430.36	5.59	5.59	0.00	5424.77			
20	10/08/96	16:15	5430.36	5.72	5.72	0.00	5424.64	0.00		
20	12/31/96	9:00	5430.36	5.74	5.74	0.00	5424.62	0.00	5330	0.90
20	03/18/97	15:15	5430.36	5.39	5.39	0.00	5424.97	0.00	6260	N/A
20	06/16/97	15:15	5430.36	5.21	5.21	0.00	5425.15	0.00	5730	0.26
20	09/24/97	17:05	5430.36	4.41	4.41	0.00	5425.95	0.00	3500	0.27
20	12/22/97	15:55	5430.36	4.90	4.90	0.00	5425.46	0.00	6520	0.22

TABLE 1
THRIFTWAY REFINERY
SUMMARY OF GROUND WATER MONITOR DATA

WELL #	DATE	TIME	TOP OF PIPE ELEVATION	AIR/OIL INTERFACE (feet)	WATER OUTAGE (feet)	PRODUCT THICKNESS (feet)	WATER LEVEL ELEVATION (feet)	ACCUMULATED PRODUCT (gallons)	CONDUCTIVITY	OXYGEN CONTENT ppm
21	03/05/96	10:15	5428.62	3.55	3.55	0.00	5425.07			
21	06/03/96		5428.62	3.80	3.80	0.00	5424.82			
21	10/09/96	10:00	5428.62	4.15	4.15	0.00	5424.47	0.00		
21	12/31/96	930	5428.62	3.56	3.56	0.00	5425.06	0.00	5070	1.20
21	03/18/97	1600	5428.62	2.76	2.76	0.00	5425.86	0.00	6270	N/A
21	06/17/97	900	5428.62	2.93	2.93	0.00	5425.69	0.00	7500	0.23
21	09/25/97	1700	5428.62	3.03	3.03	0.00	5425.59	0.00	6050	0.09
21	12/22/97	1525	5428.62	3.07	3.07	0.00	5425.55	0.00	4960	0.40
22	03/05/96	10:25	5430.75	5.64	5.64	0.00	5425.11			
22	06/03/96		5430.75	5.00	5.00	0.00	5425.75			
22	10/08/96	11:45	5430.75	5.35	5.35	0.00	5425.40	0.00		
22	12/31/96	1000	5430.75	4.64	4.64	0.00	5426.11	0.00	6660	1.80
22	03/18/97	1640	5430.75	3.88	3.88	0.00	5426.87	0.00	6490	N/A
22	06/16/97	1615	5430.75	4.15	4.15	0.00	5426.60	0.00	7250	0.21
22	09/26/97	1045	5430.75	4.36	4.36	0.00	5426.39	0.00	7970	0.32
22	12/22/97	1447	5430.75	4.25	4.25	0.00	5426.50	0.00	8690	1.27
23	03/05/96	15:55	5448.32	DRY	DRY	DRY	DRY	0.89		
23	06/04/96		5448.32	NOT MEASURED				0.89		
23	10/07/96	14:35	5448.32	DRY	DRY	DRY	DRY	0.89		
23	12/31/96	1638	5448.32	DRY	DRY	DRY	DRY	0.89	NM	NM
23	03/19/97	1620	5448.32	DRY	DRY	DRY	DRY	0.89	N/A	N/A
23	06/18/97	-	5448.32	NOT MEASURED				0.89	NM	NM
23	09/29/97	-	5448.32	NOT MEASURED				0.89	NM	NM
23	12/18/97	-	5448.32	NOT MEASURED				0.89	NM	NM
24	03/05/96	16:10	5447.53	DRY	DRY	#VALUE!	DRY			
24	06/04/96		5447.53	NOT MEASURED						
24	10/07/96	14:39	5447.53	15.01	15.01	0.00	5432.52	0.00		
24	12/31/96	1637	5447.53	15.00	15.00	0.00	5432.53	0.00	NM	NM
24	03/19/97	1621	5447.53	15.01	15.01	0.00	5432.52	0.00	N/A	N/A
24	06/18/97	-	5447.53	NOT MEASURED			5447.53	0.00	NM	NM
24	09/29/97	-	5447.53	NOT MEASURED			5447.53	0.00	NM	NM
24	12/18/97	-	5447.53	NOT MEASURED			5447.53	0.00	NM	NM

TABLE 1
THRIFTWAY REFINERY
SUMMARY OF GROUND WATER MONITOR DATA

WELL #	DATE	TIME	TOP OF PIPE ELEVATION	AIR/OIL INTERFACE	WATER OUTAGE	PRODUCT THICKNESS	WATER LEVEL ELEVATION	ACCUMULATED PRODUCT	CONDUCTIVITY	OXYGEN CONTENT
				(feet)	(feet)	(feet)	(feet)	(gallons)	uofms/cm	ppm
25	03/05/96	16:15	5447.62	DRY	DRY	#VALUE!	DRY	0.00		
25	06/04/96		5447.62	NOT MEASURED						
25	10/07/96	14:40	5447.62	14.70	14.70	0.00	5432.92	0.00		
25	12/31/96	16:35	5447.62	DRY	DRY	DRY	DRY	0.00	NM	NM
25	03/19/97	16:22	5447.62	DRY	DRY	DRY	DRY	0.00	N/A	N/A
25	06/18/97	16:22	5447.62	NOT MEASURED				0.00	N/A	NM
25	09/29/97		5447.62	NOT MEASURED				0.00	NM	NM
25	12/18/97		5447.62	NOT MEASURED				0.00	NM	NM
26	03/05/96		5447.26	NOT MEASURED				8.55		
26	06/04/96		5447.26	NOT MEASURED				8.55		
26	10/07/96		5447.26	DRY	DRY	DRY		8.55		
26	12/31/96		5447.26	WELL COVERED NOT ACCESSABLE				8.55	NM	NM
26	03/19/97	16:23	5447.26	WELL COVERED NOT ACCESSABLE				8.55	N/A	N/A
26	06/18/97	-	5447.26	WELL COVERED NOT ACCESSABLE				8.55	NM	NM
26	09/29/97	-	5447.26	WELL COVERED NOT ACCESSABLE				8.55	NM	NM
26	12/18/97	-	5447.26	WELL COVERED NOT ACCESSABLE				8.55	NM	NM
27	03/05/96		5448.04					8.44		
27	06/04/96		5448.04	NOT MEASURED		DRY		8.44		
27	10/07/96		5448.04	DRY	DRY	DRY		8.44		
27	12/31/96	16:45	5448.04	DRY	DRY	DRY		8.44	NM	NM
27	03/19/97	16:19	5448.04	DRY	DRY	DRY		8.44	N/A	N/A
27	06/18/97	-	5448.04	NOT MEASURED				8.44	NM	NM
27	09/29/97	-	5448.04	NOT MEASURED				8.44	NM	NM
27	12/18/97	-	5448.04	NOT MEASURED				8.44	NM	NM
28	03/05/96	16:30	5448.06	14.64	14.79	0.15	5433.39	6.17		
28	06/04/96		5448.06	NOT MEASURED				6.17		
28	10/07/96	14:35	5448.06	14.98	14.98	0.00	5433.08	6.17		
28	12/31/96	16:30	5448.06	14.97	14.97	0.00	5433.09	6.17	NM	NM
28	03/19/97	16:17	5448.06	14.96	14.96	0.00	5433.10	6.17	N/A	N/A
28	06/18/97	-	5448.06	NOT MEASURED			5448.06	6.17	NM	NM
28	09/29/97	-	5448.06	NOT MEASURED			5448.06	6.17	NM	NM
28	12/18/97	-	5448.06	NOT MEASURED			5448.06	6.17	NM	NM

TABLE 1
THRIFTWAY REFINERY
SUMMARY OF GROUND WATER MONITOR DATA

WELL #	DATE	TIME	TOP OF PIPE ELEVATION	AIR/OIL INTERFACE (feet)	WATER OUTAGE (feet)	PRODUCT THICKNESS (feet)	WATER LEVEL ELEVATION (feet)	ACCUMULATED PRODUCT (gallons)	CONDUCTIVITY	OXYGEN CONTENT ppm
29	03/05/96		5446.90	NOT MEASURED				7.09		
29	06/04/96		5446.90	NOT MEASURED				7.09		
29	10/07/96	14.42	5446.90	14.59	14.82	0.23	5432.08	7.10		
29	12/31/96	14.42	5446.90	14.65	14.78	0.13	5432.12	7.11	PRODUCT	PRODUCT
29	03/17/97	-	5446.90	14.61	14.69	0.08	5432.21	7.11	PRODUCT	PRODUCT
29	06/18/97	-	5446.90	14.50	14.52	0.02	5432.38	7.13	PRODUCT	PRODUCT
29	09/29/97	-	5446.90	14.36	14.40	0.04	5432.50	7.14	PRODUCT	PRODUCT
29	12/18/97	-	5446.90	14.36	14.40	0.04	5432.50	7.14	PRODUCT	PRODUCT
RW-24	03/05/96			NOT MEASURED				101.48		
RW-24	05/31/96			13.50	14.56	1.06		103.23		
RW-24	10/07/96	15.12		13.87	15.34	1.47		103.52		
RW-24	12/30/96			13.94	15.34	1.40		104.07	PRODUCT	PRODUCT
RW-24	03/17/97			13.90	14.94	1.04		104.21	PRODUCT	PRODUCT
RW-24	06/18/97	-		13.77	14.52	0.75		104.75	PRODUCT	PRODUCT
RW-24	09/29/97	-		13.73	14.25	0.52		104.81	PRODUCT	PRODUCT
RW-24	12/18/97	-		13.72	14.21	0.49		104.92	PRODUCT	PRODUCT
RW-25	03/05/96		5446.67	NOT MEASURED				43.75		
RW-25	05/31/96		5446.67	14.27	14.93	0.66	5431.74	49.25		
RW-25	10/07/96	14.58	5446.67	14.84	15.01	0.17	5431.66	49.26		
RW-25	12/30/96		5446.67	14.89	15.02	0.13	5431.65	49.28	PRODUCT	PRODUCT
RW-25	03/17/97		5446.67	14.77	15.02	0.25	5431.65	49.30	PRODUCT	PRODUCT
RW-25	06/18/97	-	5446.67	14.50	15.29	0.79	5431.38	49.54	PRODUCT	PRODUCT
RW-25	09/29/97	-	5446.67	14.49	14.97	0.48	5431.70	49.60	PRODUCT	PRODUCT
RW-25	12/18/97	-	5446.67	14.39	14.54	0.15	5432.13	49.69	PRODUCT	PRODUCT
RW-26	12/30/96									
RW-26	03/17/97			12.97	13.70	0.73		0.70	PRODUCT	PRODUCT
RW-26	06/18/97			12.00	12.56	0.56		0.87	PRODUCT	PRODUCT
RW-26	09/29/97			11.60	12.35	0.75		2.44	PRODUCT	PRODUCT
RW-26	12/18/97			11.64	11.77	0.13		2.45	PRODUCT	PRODUCT
RW-26				11.63	11.64	0.01		2.45	PRODUCT	PRODUCT
RW-26										
RW-26										
RW-26										

TABLE 1
THRIFTWAY REFINERY
SUMMARY OF GROUND WATER MONITOR DATA

WELL #	DATE	TIME	TOP OF PIPE ELEVATION	AIR/OIL INTERFACE (feet)	WATER OUTAGE (feet)	PRODUCT THICKNESS (feet)	WATER LEVEL ELEVATION (feet)	ACCUMULATED PRODUCT (gallons)	CONDUCTIVITY	OXYGEN CONTENT ppm
T-17-1	03/05/96		5452.41	NOT MEASURED				6.33		
T-17-1	06/04/96		5452.41	17.76	18.28	0.52	5428.39	6.40		
T-17-1	10/10/96		5452.41	18.05	18.11	0.06	5428.56	6.40		
T-17-1	12/30/96		5452.41	DRY	DRY	DRY	DRY	6.40	NM	NM
T-17-1	03/19/97	1628	5452.41	DRY	DRY	DRY	DRY	6.40	N/A	N/A
T-17-1	06/18/97	-	5452.41	DRY	DRY	DRY	DRY	6.40	N/A	N/A
T-17-1	09/29/97	-	5452.41	NM	NM	NM	NM	6.40	NM	NM
T-17-1	12/18/97	-	5452.41	NM	NM	NM	NM	6.40	NM	NM
T-17-2	03/05/96		5453.51	NOT MEASURED						
T-17-2	06/04/96		5453.51	NOT MEASURED						
T-17-2	10/10/96		5453.51	17.35	17.35	0.00	5436.16	0.00		
T-17-2	12/30/96		5453.51	NOT MEASURED				0.00	NM	NM
T-17-2	03/19/97	1632	5453.51	19.74	19.74	0.00	5433.77	0.00	N/A	N/A
T-17-2	06/18/97	-	5453.51	NOT MEASURED			5453.51	0.00	NM	NM
T-17-2	09/29/97	-	5453.51	NOT MEASURED			5453.51	0.00	NM	NM
T-17-2	12/18/97	-	5453.51	NOT MEASURED			5453.51	0.00	NM	NM
T-17-3	03/05/96		5450.98	NOT MEASURED						
T-17-3	06/04/96		5450.98	NOT MEASURED						
T-17-3	10/10/96		5450.98	19.85	19.90	0.05	5431.08	0.00		
T-17-3	12/30/96		5450.98	17.16	17.16	0.00	5433.82	0.00	NM	NM
T-17-3	03/19/97	1629	5450.98	17.2	17.20	0.00	5433.78	0.00	N/A	N/A
T-17-3	06/18/97		5450.98	17.38	17.38	0.00	5433.60	0.00	N/A	N/A
T-17-3	09/29/97		5450.98	NM	NM	NM	#VALUE!	0.00	NM	NM
T-17-3	12/18/97		5450.98	NM	NM	NM	#VALUE!	0.00	NM	NM
UST	04/21/95			GALLONS RECOVERED THIS QUARTER			633.25	633.25		
UST	06/16/95			GALLONS RECOVERED THIS QUARTER			1055.40	1688.65		
UST	08/25/95			GALLONS RECOVERED THIS QUARTER			0.00	1688.65		
UST	11/12/95			GALLONS RECOVERED THIS QUARTER			79.16	1767.81		

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THRIFTWAY REFINERY
SUMMARY OF GROUND WATER MONITOR DATA

WELL #	DATE	TIME	TOP OF PIPE ELEVATION	AIR/OIL INTERFACE (feet)	WATER OUTAGE (feet)	PRODUCT THICKNESS (feet)	WATER LEVEL ELEVATION (feet)	ACCUMULATED PRODUCT (gallons)	CONDUCTIVITY uohms/cm	OXYGEN CONTENT ppm
UST	03/05/96			GALLONS RECOVERED THIS QUARTER			0.00	1767.81		
UST	06/04/96			GALLONS RECOVERED THIS QUARTER			250.00	2017.81		
UST	10/10/96			GALLONS RECOVERED THIS QUARTER			2650.00	4667.81		
UST	12/30/96		NO	GALLONS RECOVERED THIS QUARTER			0.00	4667.81	NM	NM
UST	03/19/97		NO	GALLONS RECOVERED THIS QUARTER			0.00	4667.81	N/A	N/A
UST	06/18/97		NO	GALLONS RECOVERED THIS QUARTER			0.00	4667.81	N/A	N/A
UST	07/09/97		NO	GALLONS RECOVERED			0.00	4667.81	NM	5.85*
UST	10/01/97			GALLONS RECOVERED THIS QUARTER			250.00	4917.81	NM	NM
UST	12/18/97		NO	GALLONS RECOVERED THIS QUARTER			0.00	4917.81	N/A	N/A
UST										
			TOTAL GALLONS OF PRODUCT RECOVERED TO DATE:					5155.48		
	NOTE: NM SIGNIFIES NOT MEASURED									
	* DENOTES AIR STRIPPER EFFLUENT DO CONTENT									
	8101QMR TABL 1 WK4									

TABLE 2
SUMMARY OF MTBE AND BTEX LABORATORY ANALYSIS DATA
THRIFTWAY REFINERY, BLOOMFIELD, NEW MEXICO
(concentrations in ug/L)

Well No.	Date	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes
MW-01	03/05/96	FREE PRODUCT FOUND IN WELL				
MW-01	05/31/96	FREE PRODUCT FOUND IN WELL				
MW-01	10/09/96	244.6	255.1	10.9	36.5	192.8
MW-01	12/31/96	219.6	164.0	5.3	9.8	176.6
MW-01	03/19/97	NM	46.5	1.3	5.1	39.8
MW-01	06/18/97	NM	26.7	0.7	3.8	39.7
MW-01	09/24/97	NM	134.9	5.9	15.8	94.7
MW-01	12/23/97	NM	58.7	1.6	4.9	94.7
MW-02	03/05/96	664.0	3120.0	53.5	484.0	519.8
MW-02	06/04/96	FREE PRODUCT FOUND IN WELL				
MW-02	10/09/96	FREE PRODUCT FOUND IN WELL				
MW-02	12/31/96	FREE PRODUCT FOUND IN WELL				
MW-02	03/19/97	FREE PRODUCT FOUND IN WELL				
MW-02	06/17/97	FREE PRODUCT FOUND IN WELL				
MW-02	09/24/97	FREE PRODUCT FOUND IN WELL				
MW-02	12/23/97	FREE PRODUCT FOUND IN WELL				
MW-03	03/05/96	298.0	117.0	5.9	28.2	16.9
MW-03	06/04/96	NOT SAMPLED				
MW-03	10/09/96	224.7	41.7	4.0	5.8	4.3
MW-03	12/31/96	NOT SAMPLED				
MW-03	03/19/97	NOT SAMPLED				
MW-03	06/17/97	NOT SAMPLED				
MW-03	09/24/97	FREE PRODUCT FOUND IN WELL				
MW-03	12/23/97	FREE PRODUCT FOUND IN WELL				
MW-04	03/05/96	31.5	50.0	5.6	ND	8.3
MW-04	06/04/96	35.0	1.0	3.3	3.3	7.0
MW-04	10/09/96	33.0	0.9	2.1	2.2	1.2
MW-04	12/31/96	27.0	3.5	1.4	1.7	1.6
MW-04	03/19/97	NM	21.7	0.5	2.6	2.3
MW-04	06/17/97	NM	8.4	1.6	2.2	1.4
MW-04	09/24/97	NM	3.7	3.0	5.1	2.0
MW-04	12/22/97	NM	3.8	3.1	3.0	1.3
MW-05	03/05/96	52.9	2.0	0.4	0.6	1.2
MW-05	06/04/96	47.2	0.3	ND	0.2	ND
MW-05	10/09/96	48.6	0.6	ND	ND	ND
MW-05	12/31/96	47.9	4.8	ND	0.2	1.1
MW-05	03/19/97	NM	5.8	ND	0.4	0.2
MW-05	06/17/97	NM	6.7	0.3	0.5	0.2
MW-05	09/24/97	NM	9.6	9.6	9.6	9.6
MW-05	12/19/97	NM	8.6	0.3	0.4	ND

TABLE 2
SUMMARY OF MTBE AND BTEX LABORATORY ANALYSIS DATA
THRIFTWAY REFINERY, BLOOMFIELD, NEW MEXICO
(concentrations in ug/L)

Well No.	Date	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes
MW-06	03/05/96	0.9	0.2	ND	ND	ND
MW-06	06/04/96	8.3	1.0	2.5	0.2	0.8
MW-06	10/09/96	33.5	1.9	3.7	3.2	1.3
MW-06	12/31/96	0.9	0.3	5.4	0.9	1.1
MW-06	03/19/97	NM	0.6	0.8	0.8	4.0
MW-06	06/17/97	NM	19.1	3.3	2.4	0.3
MW-06	09/24/97	NM	20.3	6.2	4.5	1.9
MW-06	12/23/97	NM	ND	ND	ND	ND
MW-07	03/05/96	FREE PRODUCT FOUND IN WELL				
MW-07	05/31/96	FREE PRODUCT FOUND IN WELL				
MW-07	10/09/96	FREE PRODUCT FOUND IN WELL				
MW-07	12/31/96	FREE PRODUCT FOUND IN WELL				
MW-07	03/19/97		NOT SAMPLED			
MW-07	06/17/97		NOT SAMPLED			
MW-07	09/24/97		NOT SAMPLED			
MW-07	12/23/97		NOT SAMPLED			
MW-08	03/05/96		DRY			
MW-08	06/03/96		SILTED IN TO 3.80 FEET BELOW GRADE			
MW-08	10/09/96		SILTED IN TO 3.80 FEET BELOW GRADE			
MW-08	12/31/96	35.8	ND	ND	ND	ND
MW-08	03/18/97	NM	NM	NM	NM	NM
MW-08	06/16/97		SILTED IN TO 3.60 FEET BELOW GRADE			
MW-08	09/25/97	NM	ND	ND	ND	ND
MW-08	12/22/97	NM	1.2	ND	ND	ND
MW-09	03/05/96	16.8	0.8	0.3	1.1	1.3
MW-09	06/03/96	15.8	0.4	ND	ND	ND
MW-09	10/09/96	16.5	ND	ND	ND	ND
MW-09	12/31/96	7.2	ND	ND	ND	ND
MW-09	03/18/97	NM	ND	ND	ND	0.3
MW-09	06/16/97	NM	ND	ND	ND	ND
MW-09	09/25/97	NM	ND	ND	ND	ND
MW-09	12/22/97	NM	ND	ND	ND	ND
MW-10	03/05/96	ND	1.0	ND	0.9	0.4
MW-10	06/03/96	ND	ND	ND	ND	ND
MW-10	10/09/96	ND	ND	ND	ND	ND
MW-10	12/31/96	ND	ND	ND	ND	ND
MW-10	03/18/97	NM	ND	ND	ND	ND
MW-10	06/16/97	NM	ND	ND	ND	ND
MW-10	09/25/97	NM	ND	ND	ND	ND
MW-10	12/22/97	NM	ND	ND	ND	ND

TABLE 2
SUMMARY OF MTBE AND BTEX LABORATORY ANALYSIS DATA
THRIFTWAY REFINERY, BLOOMFIELD, NEW MEXICO
(concentrations in ug/L)

Well No.	Date	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes
MW-11	03/05/96	ND	ND	ND	ND	0.3
MW-11	06/03/96	ND	ND	ND	ND	ND
MW-11	10/09/96	ND	ND	ND	ND	ND
MW-11	12/31/96	ND	ND	ND	ND	ND
MW-11	03/18/97	NM	ND	ND	ND	ND
MW-11	06/16/97	NM	ND	ND	ND	ND
MW-11	09/25/97	NM	ND	ND	ND	ND
MW-11	12/22/97	NM	ND	ND	ND	ND
MW-12	03/05/96	FREE PRODUCT FOUND IN WELL				
MW-12	05/31/96	FREE PRODUCT FOUND IN WELL				
MW-12	10/09/96	FREE PRODUCT FOUND IN WELL				
MW-12	12/31/96	FREE PRODUCT FOUND IN WELL				
MW-12	03/18/97	FREE PRODUCT FOUND IN WELL				
MW-12	06/18/97	FREE PRODUCT FOUND IN WELL				
MW-12	09/25/97	FREE PRODUCT FOUND IN WELL				
MW-12	12/22/97	FREE PRODUCT FOUND IN WELL				
MW-13	03/05/96	ND	ND	ND	ND	0.5
MW-13	06/04/96	ND	ND	ND	ND	ND
MW-13	10/09/96	ND	ND	ND	ND	ND
MW-13	12/30/96	ND	ND	ND	ND	ND
MW-13	03/18/97	NM	ND	ND	ND	ND
MW-13	06/16/97	NM	ND	ND	ND	ND
MW-13	09/23/97	NM	ND	ND	ND	ND
MW-13	12/19/97	NM	ND	ND	ND	ND
MW-14	03/05/96	FREE PRODUCT FOUND IN WELL				
MW-14	05/31/96	FREE PRODUCT FOUND IN WELL				
MW-14	10/09/96	103.7	7698.8	361.7	2107.7	2917.8
MW-14	12/30/96	94.8	6673.5	179.4	857.3	940.5
MW-14	03/19/97		NOT SAMPLED			
MW-14	06/18/97		NOT SAMPLED			
MW-14	09/23/97		NOT SAMPLED			
MW-14	12/19/97		NOT SAMPLED			
MW-15	03/05/96	ND	1.6	0.4	3.8	3.5
MW-15	06/03/96	ND	ND	ND	ND	ND
MW-15	10/09/96	ND	ND	ND	0.2	ND
MW-15	12/30/96	ND	ND	ND	ND	ND
MW-15	03/18/97	NM	ND	ND	ND	ND
MW-15	06/17/97	NM	ND	ND	ND	ND
MW-15	09/26/97	NM	ND	ND	ND	ND
MW-15	12/22/97	NM	ND	ND	ND	ND

TABLE 2
SUMMARY OF MTBE AND BTEX LABORATORY ANALYSIS DATA
THRIFTWAY REFINERY, BLOOMFIELD, NEW MEXICO
(concentrations in ug/L)

Well No.	Date	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes
MW-16	03/05/96	ND	ND	ND	0.6	1.6
MW-16	06/04/96		NOT SAMPLED			
MW-16	10/09/96	ND	ND	ND	0.3	ND
MW-16	12/30/96	ND	ND	ND	ND	ND
MW-16	03/19/97		NOT SAMPLED			
MW-16	06/18/97		NOT SAMPLED			
MW-16	09/23/97		NOT SAMPLED			
MW-16	12/19/97		NOT SAMPLED			
MW-17	03/05/96	FREE PRODUCT FOUND IN WELL				
MW-17	06/04/96	FREE PRODUCT FOUND IN WELL				
MW-17	10/09/96	FREE PRODUCT FOUND IN WELL				
MW-17	12/30/96	FREE PRODUCT FOUND IN WELL				
MW-17	03/18/97	FREE PRODUCT FOUND IN WELL				
MW-17	06/18/97	FREE PRODUCT FOUND IN WELL				
MW-17	09/23/97	FREE PRODUCT FOUND IN WELL				
MW-17	12/22/97	FREE PRODUCT FOUND IN WELL				
MW-18	03/05/96	53.0	6.8	2.4	1.8	14.1
MW-18	06/04/96	36.8	136.4	2.5	6.6	4.7
MW-18	10/09/96	31.9	60.1	1.1	1.5	0.7
MW-18	12/31/96	43.1	176.0	1.9	1.3	0.7
MW-18	03/19/97	NM	150.9	2.4	0.6	2.1
MW-18	06/18/97	NM	34.0	2.1	1.2	0.2
MW-18	09/24/97	NM	33.2	2.3	3.4	1.4
MW-18	12/23/97	NM	63.8	1.2	4.2	0.8
MW-19	03/05/96	80.6	6.1	2.8	24.9	55.3
MW-19	06/04/96	80.5	15.3	2.8	92.9	150.5
MW-19	10/09/96	11.1	1.4	3.0	39.5	58.0
MW-19	12/30/96	65.7	17.9	3.5	43.0	62.5
MW-19	03/19/97	NM	24.6	4.1	164.1	352.2
MW-19	06/17/97	NM	8.1	2.4	96.7	160.5
MW-19	09/26/97	NM	0.8	1.8	11.7	11.0
MW-19	12/23/97	NM	36.9	3.8	244.0	357.4
MW-20	03/05/96	133.4	3.6	16.8	3.3	21.8
MW-20	06/03/96	106.3	1.4	3.8	0.8	1.4
MW-20	10/09/96	73.3	2.5	11.5	7.5	4.4
MW-20	12/31/96	53.3	2.7	14.3	9.5	5.7
MW-20	03/18/97	NM	2.3	2.2	4.4	3.2
MW-20	06/16/97	NM	1.4	4.4	4.0	4.2
MW-20	09/24/97	NM	1.7	4.5	3.8	2.4
MW-20	12/22/97	NM	4.5	6.7	9.3	6.8

TABLE 2
SUMMARY OF MTBE AND BTEX LABORATORY ANALYSIS DATA
THRIFTWAY REFINERY, BLOOMFIELD, NEW MEXICO
(concentrations in ug/L)

Well No.	Date	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes
MW-21	03/05/96	82.0	6.0	2.0	29.3	6.1
MW-21	06/03/96	82.1	0.4	0.3	1.1	0.9
MW-21	10/09/96	46.0	0.7	ND	0.5	0.3
MW-21	12/31/96	51.3	ND	ND	0.5	0.2
MW-21	03/18/97	NM	0.3	ND	0.4	ND
MW-21	06/17/97	NM	ND	ND	0.2	ND
MW-21	09/25/97	NM	ND	0.4	0.9	0.4
MW-21	12/22/97	NM	1.3	1.5	2.4	0.8
MW-22	03/05/96	36.7	ND	ND	0.2	0.4
MW-22	06/03/96	25.3	ND	ND	ND	0.4
MW-22	10/09/96	22.9	ND	ND	ND	ND
MW-22	12/31/96	22.1	ND	ND	ND	ND
MW-22	03/18/97	NM	ND	ND	ND	ND
MW-22	06/16/97	NM	ND	ND	ND	ND
MW-22	09/26/97	NM	ND	ND	ND	ND
MW-22	12/22/97	NM	ND	ND	ND	ND
MW- 23	03/05/96		DRY			
MW- 23	06/04/96		NOT SAMPLED			
MW- 23	10/09/96		NOT SAMPLED			
MW- 23	12/31/96		NOT SAMPLED			
MW- 23	03/18/97		NOT SAMPLED			
MW- 23	06/18/97		NOT SAMPLED			
MW- 23	09/25/97		NOT SAMPLED			
MW- 23	12/19/97		NOT SAMPLED			
MW- 24	10/09/96	25.6	231.7	144.1	122.5	988.8
MW- 24	12/31/96		NOT SAMPLED			
MW- 24	03/18/97		NOT SAMPLED			
MW- 24	06/18/97		NOT SAMPLED			
MW- 24	09/25/97		NOT SAMPLED			
MW- 24	12/19/97		NOT SAMPLED			
MW-25	03/05/96		DRY			
MW-25	06/04/96		NOT SAMPLED			
MW-25	10/09/96	1.0	39.9	11.3	7.4	14.3
MW-25	12/31/96		NOT SAMPLED			
MW-25	03/18/97		NOT SAMPLED			
MW-25	06/18/97		NOT SAMPLED			
MW-25	09/25/97		NOT SAMPLED			
MW-25	12/19/97		NOT SAMPLED			
INFLUENT	06/22/94		PUMP SHUT DOWN			
INFLUENT	09/20/94	50.0	9670.0	754.0	158.0	633.0

TABLE 2
SUMMARY OF MTBE AND BTEX LABORATORY ANALYSIS DATA
THRIFTWAY REFINERY, BLOOMFIELD, NEW MEXICO
(concentrations in ug/L)

Well No.	Date	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes
INFLUENT	01/20/95	NOT SAMPLED				
INFLUENT	04/12/95	24.5	2060.0	987.0	246.0	1689.0
INFLUENT	03/05/96	155.0	6990.0	3570.0	1300.0	6680.0
INFLUENT	06/04/96	95.0	4607.7	1794.7	523.8	2554.0
INFLUENT	10/09/96	13.2	3116.0	1332.2	504.2	1588.0
INFLUENT	12/31/96	SYSTEM SHUT DOWN				
INFLUENT	03/24/97	NM	2110.0	1011.0	47.0	1279.0
INFLUENT	03/28/97	NM	1827.0	850.0	40.6	1146.0
INFLUENT	04/02/97	NM	1436.0	650.0	361.0	1279.0
INFLUENT	07/31/97	NM	4641.0	4939.0	1128.0	4708.0
INFLUENT	09/23/97	NM	1600.0	923.0	660.0	1529.0
INFLUENT	12/22/97	NM	2078.0	1610.0	729.0	2053.0
EFFLUENT	06/22/94	BLOWER SHUT DOWN				
NOTE	09/20/94	ND	9.3	0.9	ND	0.7
SAVE	01/20/95	NOT SAMPLED				
ALL	04/12/95	7.5	97.5	363.0	278.0	2638.0
RESULTS	11/12/95	3.2	33.9	12.3	8.9	48.1
FROM	03/05/95	7.0	50.0	21.2	7.1	43.4
LAB	06/04/96	3.5	2.4	0.7	0.9	3.8
FOR THE	07/18/96	7.4	62.6	43.7	13.1	88.9
STRIPPER	10/09/96	1.2	3.7	ND	1.4	4.4
OUTLET	12/31/96	SYSTEM SHUT DOWN				
EFFLUENT	AIR STRIPPER MODIFIED					
EFFLUENT	03/24/97	NM	3.4	1.9	0.9	2.7
EFFLUENT	03/28/97	NM	18.7	10.5	5.3	16.0
EFFLUENT	04/02/97	NM	5.4	2.6	1.4	4.8
EFFLUENT	04/03/97	NM	ND	ND	ND	ND
EFFLUENT	04/04/97	NM	ND	ND	ND	0.1
EFFLUENT	04/10/97	NM	0.5	0.3	0.2	1.2
EFFLUENT	04/18/97	4.8	4.0	0.4	0.4	1.2
EFFLUENT	LARGER BLOWER INSTALLED					
EFFLUENT	06/09/97	NM	ND	ND	0.5	0.5
EFFLUENT	06/27/97	NM	ND	0.2	0.2	0.4
EFFLUENT	07/25/97	NM	ND	ND	ND	ND
EFFLUENT	07/31/97	NM	ND	ND	ND	ND
EFFLUENT	09/03/97	NM	0.8	0.5	1.1	6.2
EFFLUENT	12/22/97	NM	122.6	97.2	44.5	131.9
EFFLUENT	02/09/98	5.9	77.5	115.5	47.1	134.1
EFFLUENT	02/09/98	5.9	77.5	97.2	44.5	131.9
EFFLUENT	02/19/98	10.0	110.0	110.0	46.0	171.0
EFFLUENT	02/20/98	5.6	83.0	96.0	46.0	209.0
EFFLUENT	02/23/98	13.0	200.0	160.0	81.0	289.0
EFFLUENT	03/03/98	30.0	220.0	140.0	84.0	243.0
EFFLUENT	03/04/98	22.0	200.0	140.0	80.0	247.0

TABLE 2
SUMMARY OF MTBE AND BTEX LABORATORY ANALYSIS DATA
THRIFTWAY REFINERY, BLOOMFIELD, NEW MEXICO
(concentrations in ug/L)

Well No.	Date	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes
EFFLUENT	03/05/98	17.0	130.0	94.0	56.0	176.0
	03/05/98	STRIPPER SHUT DOWN FOR CLEANING				
POND	10/09/96	ND	ND	ND	0.5	0.4
POND	12/31/96	NOT SAMPLED				
POND	03/18/97	NOT SAMPLED				
POND	06/18/97	NOT SAMPLED				
POND	09/23/97	NOT SAMPLED				
POND	12/19/97	NOT SAMPLED				
UST LINER	03/19/97	NM	ND	ND	1.7	1.0
NMWQCC	12/24/87	20.0	10.0	750.0	750.0	620.0
ND - NON-DETECT						
810\QMRTABL2.XLS						

TABLE 3
SUMMARY OF LABORATORY ANALYSIS DATA
MAJOR CATIONS AND ANIONS, TDS AND pH
THRIFTWAY REFINERY, BLOOMFIELD, NEW MEXICO
(concentrations in mg/L)

Well No.	Date	CATIONS					ANIONS				TDS	TDS Dried at 180 C	pH	CONDUCTIVITY at 25 C in uS/cm	TOTAL HARDNESS as CaCO3
		Sodium	Calcium	Magnesium	Potassium	Chloride	Sulfate	Carbonate CO3 as CaCO3	Bicarbonate HCO3 as CaCO3	Hydroxide OH as CaCO3					
MW-01	03/19/97	646	482	44.0	5.5	47.6	2,518	<1	336.00	<1	4,079	4,166	7.05	4,470	1,365
MW-01	12/23/97	645	458	34.0	5.2	47.2	2,495	<1	289.00	<1	3,973	4,024	7.06	4,290	1,284
MW-04	03/19/97	866	199	19.6	8.6	196.0	1,332	<1	863.00	<1	3,484	3,276	7.31	4,250	578
MW-04	12/22/97	648	96	31.0	6.7	116.0	875	<1	914.00	<1	2,687	2,458	7.29	3,270	367
MW-05	03/19/97	1,282	44	10.6	7.5	478.0	1,518	2.66	864.34	<1	4,204	4,022	8.33	5,610	153
MW-05	12/19/97	1,325	37	7.2	7.0	385.0	1,798	<1	868.00	<1	4,428	4,132	8.39	5,690	123
MW-06	03/19/97	793	192	25.0	9.2	100.5	1,495	<1	691.00	<1	3,306	3,142	7.79	4,010	582
MW-06	12/23/97	762	106	15.5	7.5	94.4	1,314	<1	772.00	<1	3,071	2,744	7.69	3,730	329
MW-08	12/22/97	INSUFFICIENT SAMPLE FOR THESE TESTS													
MW-09	03/18/97	1,528	395	42.4	9.4	89.5	3,761	<1	330.00	<1	6,155	6,164	7.62	7,020	1,161
MW-09	12/22/97	1,510	326	28.4	6.4	65.1	3,936	<1	365.00	<1	6,237	6,398	7.71	7,040	931
MW-10	03/18/97	1,522	365	36.6	10.6	52.4	3,868	<1	313.00	<1	6,168	6,062	7.40	7,190	1,062
MW-10	12/22/97	1,455	318	19.5	6.3	50.6	3,747	<1	326.00	<1	5,922	5,970	7.45	6,740	874
MW-11	03/18/97	1,315	421	36.4	15.0	29.4	3,875	<1	244.00	<1	5,936	5,900	7.41	6,670	1,201
MW-11	12/22/97	1,290	420	19.5	11.0	17.8	3,902	<1	241.00	<1	5,901	6,018	7.41	6,470	1,129
MW-13	03/18/97	1,126	432	41.8	11.4	119.0	3,378	<1	288.00	<1	5,396	5,488	7.28	6,210	1,251
MW-13	12/19/97	1,155	416	31.0	7.9	125.0	3,437	<1	300.00	<1	5,472	5,456	7.28	5,980	1,166
MW-15	03/18/97	776	381	36.8	8.8	48.1	2,568	<1	200.00	<1	4,019	4,066	7.60	4,610	1,103
MW-15	12/22/97	825	375	21.4	6.8	78.5	2,696	<1	204.00	<1	4,207	4,258	7.62	4,640	1,025
MW-18	03/19/97	882	198	25.8	9.1	91.3	1,720	<1	757.00	<1	3,683	3,532	7.28	4,470	801
MW-18	12/23/97	565	93	10.6	4.9	65.0	928	<1	597.00	<1	2,263	2,008	7.59	2,830	276
MW-19	03/19/97	1,335	196	45.8	6.0	273.0	2,390	<1	995.00	<1	5,241	4,850	7.63	6,060	678
MW-19	12/23/97	1,215	118	30.6	4.6	264.0	1,880	<1	1,228.00	<1	4,740	4,238	7.41	5,560	421
MW-20	03/18/97	969	464	52.4	8.1	115.0	2,649	<1	836.00	<1	5,094	4,892	7.00	5,590	1,374
MW-20	12/22/97	1,060	500	42.6	6.3	222.0	2,796	<1	756.00	<1	5,383	5,218	7.02	5,860	1,424
MW-21	03/18/97	1,315	338	39.8	11.4	78.5	2,800	<1	682.00	<1	5,265	5,050	7.08	5,890	1,008
MW-21	12/22/97	965	180	24.4	6.8	68.6	1,704	<1	974.00	<1	3,943	3,546	7.16	4,610	550
MW-22	03/18/97	1,229	379	37.0	10.3	30.6	3,422	<1	388.00	<1	5,496	5,518	7.11	6,250	1,099
MW-22	12/22/97	1,740	494	25.5	10.2	67.8	4,733	<1	449.00	<1	7,520	7,602	7.17	8,180	1,339
INFLUENT	03/24/97	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

TABLE 3
SUMMARY OF LABORATORY ANALYSIS DATA
MAJOR CATIONS AND ANIONS, TDS AND pH
THRIFTWAY REFINERY, BLOOMFIELD, NEW MEXICO
(concentrations in mg/L)

Well No.	Date	CATIONS					ANIONS				TDS	TDS Dried at 180 C	pH	CONDUCTIVITY at 25 C in uS/cm	TOTAL HARDNESS as CaCO3
		Sodium	Calcium	Magnesium	Potassium	Chloride	Sulfate	Carbonate CO3 as CaCO3	Bicarbonate HCO3 as CaCO3	Hydroxide OH as CaCO3					
INFLUENT	07/31/97	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
INFLUENT	09/23/97	768	297	38.4	10.9	1,068.0	1,662	<1	<1	<1	3,844	3,746	2.49	6,870	900
INFLUENT	12/22/97	7	272	31.2	6.6	768.0	1,414	<1	86.00	<1	3,304	3,410	5.47	4,530	808
EFFLUENT	03/24/97	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
EFFLUENT	08/27/97	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
EFFLUENT	09/23/97	760	384	38.4	11.0	711.0	1,692	<1	158.00	<1	3,644	3,736	7.22	5,030	867
EFFLUENT	12/22/97	732	274	31.6	6.6	648.0	1,401	<1	278.00	<1	3,371	3,416	7.57	4,470	814

NS - NOT SAMPLED

TABLE 4
SUMMARY OF LABORATORY ANALYSIS
POLYCYCLIC AROMATIC HYDROCARBONS
THRIFTWAY REFINERY, BLOOMFIELD, NEW MEXICO
(concentrations in mg/L)

Well No.	Date	Acenaphthene	Acenaphthylene	Anthracene	Benz (a) anthracene	Benzo (b) fluoranthene	Benzo (k) fluoranthene	Benzo (ghi) perylene	Benzo (a) pyrene	Chrysene	Dibenz (a,h) anthracene	Fluoranthene	Fluorene	Naphthalene	Phenanthrene	Pyrene	Indeno (1,2,3 - cd) pyrene	2 - Methyl naphthalene
MW-01	04/03/97	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-01	12/23/97	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-04	03/19/97	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-04	12/22/97	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-05	04/03/97	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-05	12/19/97	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-06	04/03/97	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-06	12/23/97	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-08	12/22/97	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-09	03/19/97	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-09	12/22/97	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-10	03/19/97	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-10	12/22/97	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-11	03/19/97	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-11	12/22/97	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-13	04/03/97	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-13	12/19/97	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-15	03/19/97	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-15	12/22/97	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-18	03/19/97	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-18	12/23/97	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-19	03/19/97	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-19	12/23/97	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-20	03/19/97	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-20	12/22/97	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-21	04/03/97	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-21	12/22/97	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-22	04/03/97	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-22	12/22/97	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
INFLUENT	03/24/97	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
INFLUENT	07/31/97	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
INFLUENT	10/06/97	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	176.0	ND	ND	ND	133.0
INFLUENT	12/22/97	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	87.0	ND	ND	ND	33.0
EFFLUENT	03/24/97	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
EFFLUENT	06/27/97	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
EFFLUENT	10/06/97	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
EFFLUENT	12/22/97	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	14.0	ND	ND	ND	ND

NS - NOT SAMPLED

TABLE 5
SUMMARY OF METALS LABORATORY ANALYSIS DATA
THRIFTWAY REFINERY, BLOOMFIELD, NEW MEXICO
(concentrations in mg/L)

Well No.	Date	Fluoride Method EPA 300.0	Bromide Method EPA 300.0	Mercury Method SW-846 7470	Arsenic Method SW-846 6010A	Barium Method SW-846 6010A	Cadmium Method SW-846 6010A	Chromium Method SW-846 6010A	Lead SW-846 6010A	Selenium SW-846 6010A	Silver SW-846 6010A
MW-01	03/19/97	ND	0.2	ND	ND	0.09	ND	ND	ND	ND	ND
MW-01	12/23/97	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-04	03/19/97	ND	0.4	ND	ND	0.49	ND	ND	ND	ND	ND
MW-04	12/22/97	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-05	03/19/97	ND	0.5	ND	ND	0.20	ND	ND	ND	ND	ND
MW-05	12/19/97	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-06	03/19/97	ND	0.6	ND	ND	0.05	ND	ND	ND	ND	ND
MW-06	12/23/97	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-08	12/22/97	INSUFFICIENT SAMPLE FOR THESE TESTS									
MW-09	03/18/97	ND	0.2	ND	ND	0.09	ND	ND	ND	ND	ND
MW-09	12/22/97	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-10	03/18/97	ND	0.3	ND	ND	0.32	ND	ND	ND	ND	ND
MW-10	12/22/97	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-11	03/18/97	ND	ND	ND	ND	1.15	ND	ND	ND	ND	ND
MW-11	12/22/97	ND	ND	ND	ND	ND	ND	0.053	ND	ND	ND
MW-13	03/18/97	ND	0.4	ND	ND	0.43	ND	ND	ND	ND	ND
MW-13	12/19/97	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-15	03/18/97	ND	0.3	ND	ND	0.08	ND	ND	ND	ND	ND
MW-15	12/22/97	ND	1.0	ND	ND	ND	ND	ND	ND	ND	ND
MW-18	03/19/97	ND	0.3	0.0029	ND	0.14	ND	ND	ND	ND	ND

TABLE 5
SUMMARY OF METALS LABORATORY ANALYSIS DATA
THRIFTWAY REFINERY, BLOOMFIELD, NEW MEXICO
(concentrations in mg/L)

Well No.	Date	Fluoride Method EPA 300.0	Bromide Method EPA 300.0	Mercury Method SW-846 7470	Arsenic Method SW-846 6010A	Barium Method SW-846 6010A	Cadmium Method SW-846 6010A	Chromium Method SW-846 6010A	Lead SW-846 6010A	Selenium SW-846 6010A	Silver SW-846 6010A
MW-18	12/23/97	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-19	03/19/97	ND	0.5	ND	ND	0.31	ND	ND	ND	ND	ND
MW-19	12/23/97	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-20	03/18/97	ND	0.6	ND	ND	0.35	ND	ND	ND	ND	ND
MW-20	12/22/97	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-21	03/18/97	ND	0.4	ND	ND	0.19	ND	ND	ND	ND	ND
MW-21	12/22/97	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-22	03/18/97	ND	0.4	ND	ND	0.22	ND	ND	ND	ND	ND
MW-22	12/22/97	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
INFLUENT	03/24/97	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
INFLUENT	07/31/97	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
INFLUENT	10/06/97	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
INFLUENT	12/22/97	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
EFFLUENT	03/24/97	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
EFFLUENT	06/27/97	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
EFFLUENT	10/06/97	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
EFFLUENT	12/22/97	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

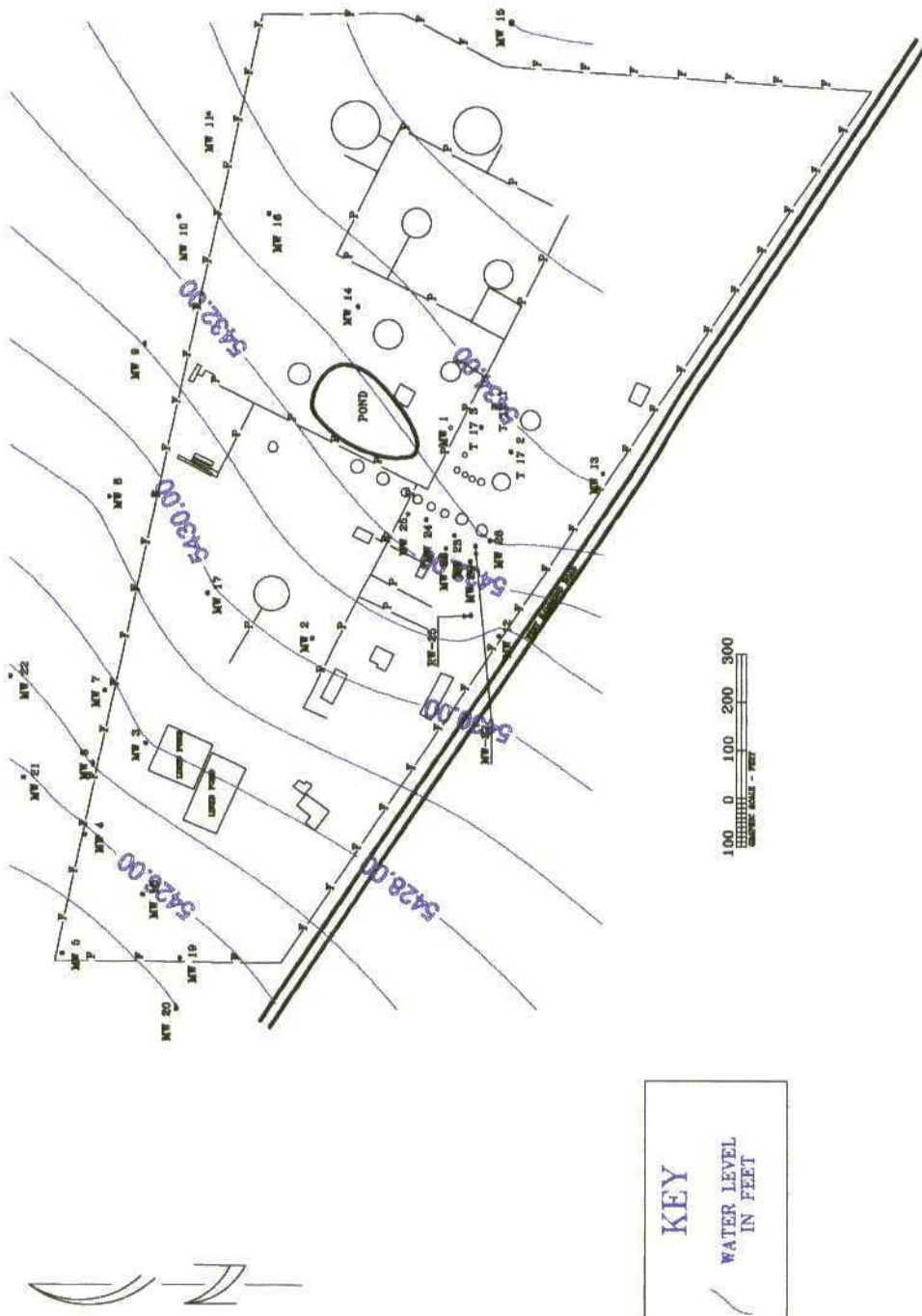
NS - NOT SAMPLED

TABLE 6
THRIFWAY REFINERY AIR STRIPPER
1997 ON-STREAM RECORD INCLUSIVE

MONTH	DAYS IN MONTH	DAYS ON-LINE	ON-STREAM FACTOR	COMMENTS
JANUARY	31	31	100%	FULL OPERATION
FEBRUARY	28	28	100%	FULL OPERATION
MARCH	31	31	100%	FULL OPERATION
APRIL	30	30	100%	FULL OPERATION
MAY	31	16	52%	PUMP FAILURE
JUNE	30	0	0%	PUMP PURCHASE PENDING
JULY	31	23	74%	PUMP INSTALLED
AUGUST	31	23	74%	PUMP FAILURE
SEPTEMBER	30	24	80%	NEW PUMP INSTALLED
OCTOBER	31	13	42%	PUMP FAILURE
NOVEMBER	30	0	0%	PUMP PURCHASE PENDING
DECEMBER	31	11	35%	NEW STYLE PUMP INSTALLED
AVERAGE			63.12%	

THE AVERAGE ON-STREAM FACTOR
FOR 1997 IS 63.12%

FIGURES



KEY

WATER LEVEL
IN FEET

100 0 100 200 300
GRAPHIC SCALE - FEET

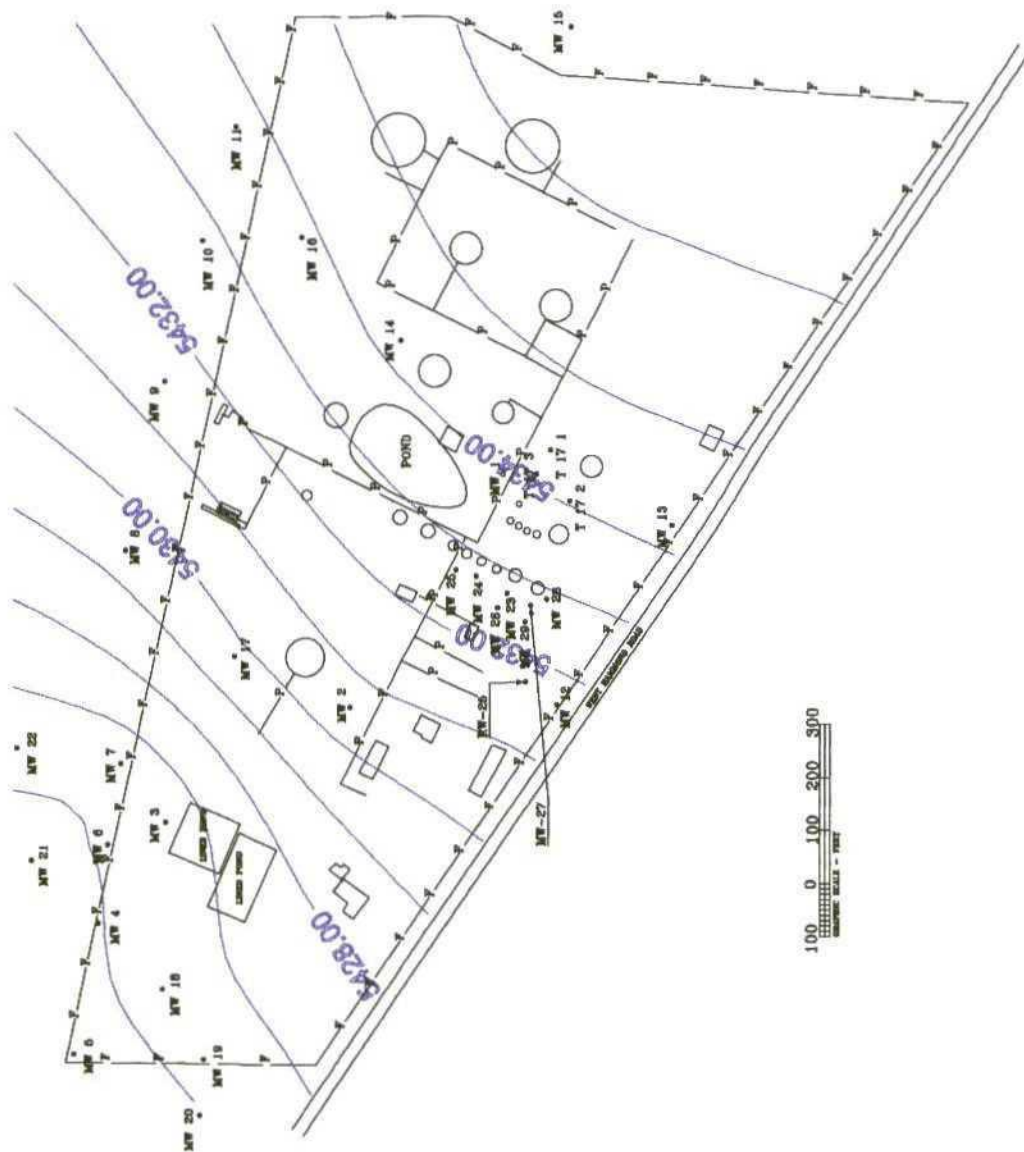
THRIFTWAY REFINERY
626 COUNTY ROAD 5500
BLOOMFIELD, NEW MEXICO

810\031767WL.SKD

DRAWN BY: K. SINKS
FIGURE 1A. WATER LEVEL
CONTOUR MAP
MARCH 17, 1997



710 EAST 20TH STREET, SUITE 400
FARMINGTON, NEW MEXICO 87401
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FAX: (505) 584-3604



KEY

WATER LEVEL
IN FEET

THRIFTWAY REFINERY
626 COUNTY ROAD 5500
BLOOMFIELD, NEW MEXICO

810\061797WLSKD

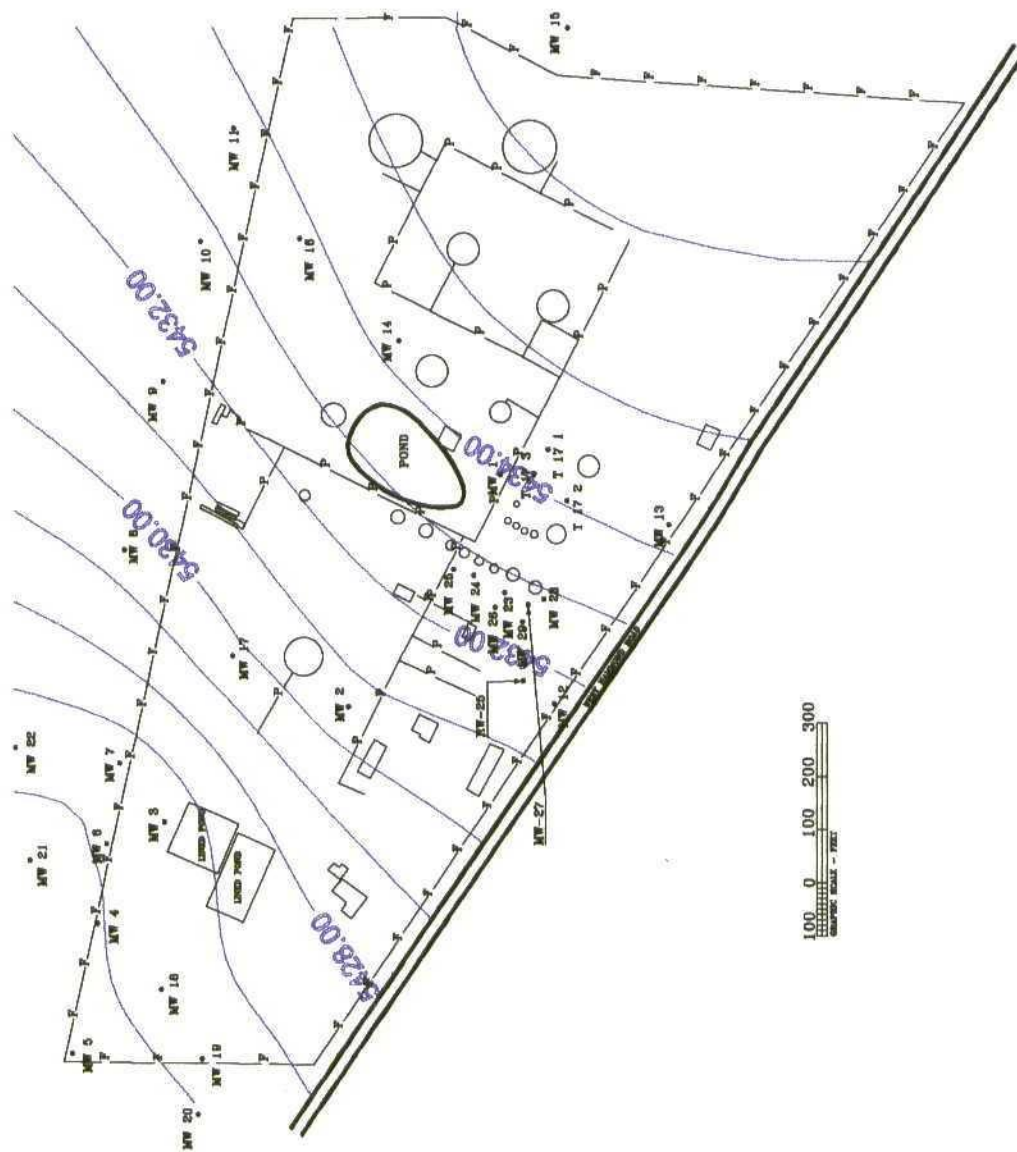
DRAWN BY: K. SINKS

FIGURE 1B. WATER LEVEL
CONTOUR MAP

JUNE 17, 1997



710 EAST 20TH STREET, SUITE 400
FARMINGTON, NEW MEXICO 87401
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FAX: (505) 564-3604



KEY

WATER LEVEL
IN FEET

THRIFTWAY REFINERY
626 COUNTY ROAD 5500
BLOOMFIELD, NEW MEXICO

810\WLO91997.SKD

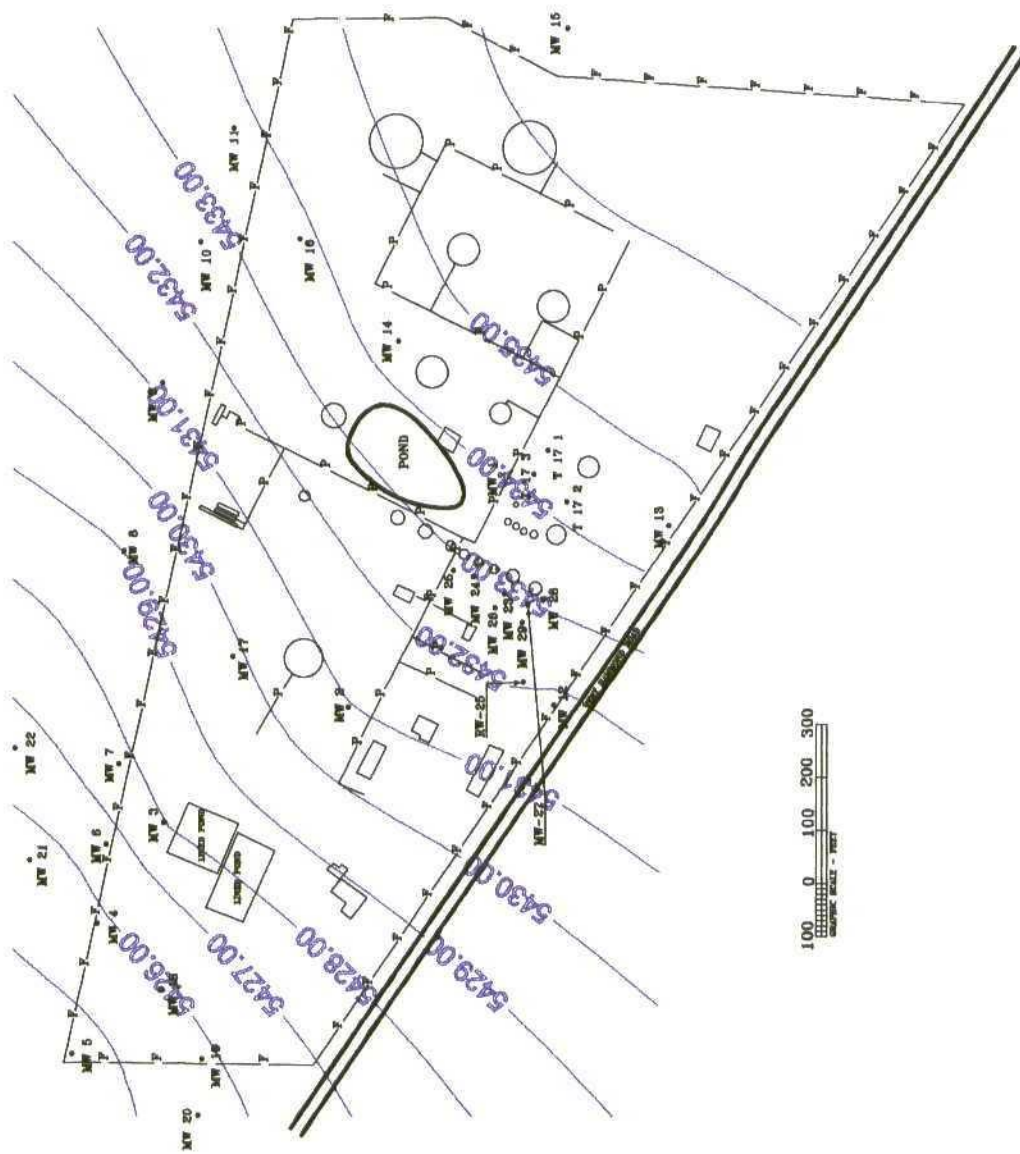
DRAWN BY: K. SINKS

FIGURE 1C. WATER LEVEL
CONTOUR MAP

SEPTEMBER 19, 1997



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FAX: (505) 564-3604



KEY

WATER LEVEL
IN FEET

THRIFTWAY REFINERY
626 COUNTY ROAD 5500
BLOOMFIELD, NEW MEXICO

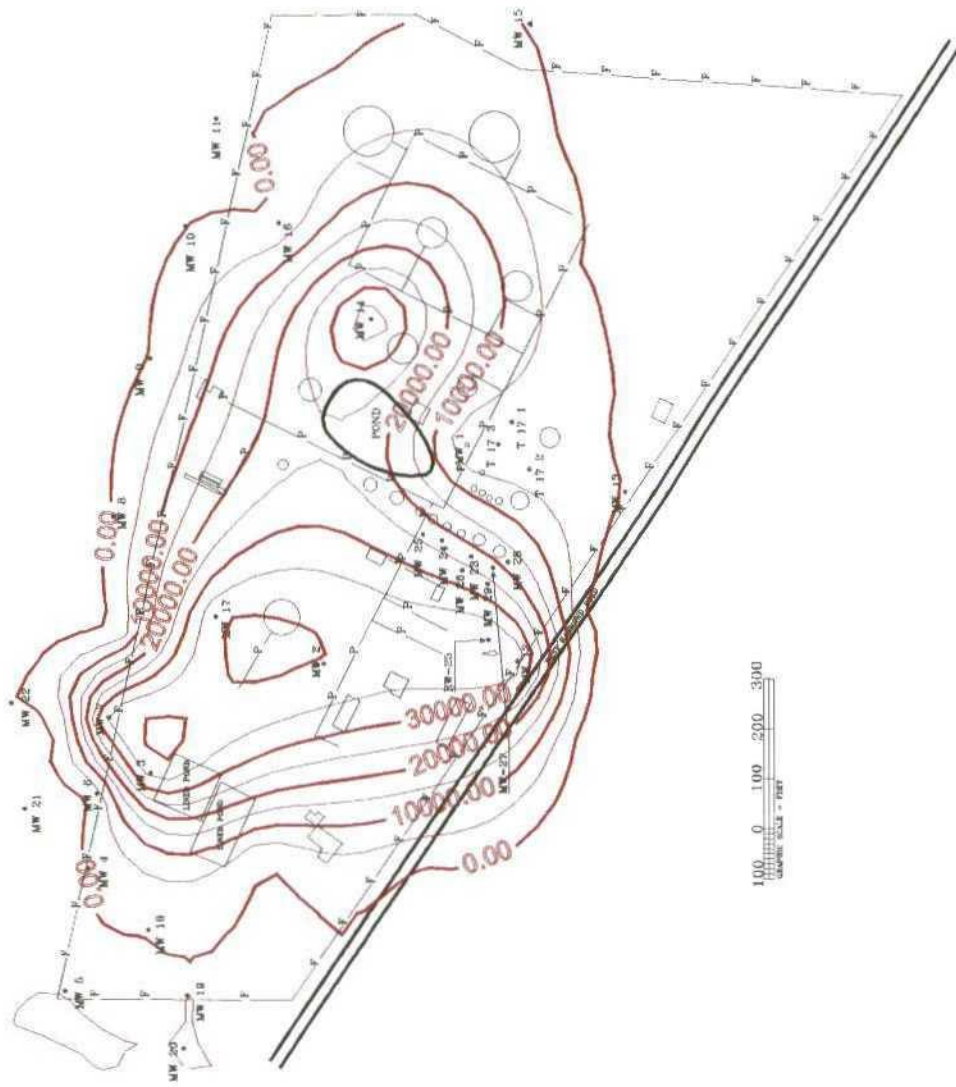
810\WL122297.SKD

DRAWN BY: K. SINKS
FIGURE 1D. WATER LEVEL
CONTOUR MAP

DECEMBER 22, 1997



710 EAST 20TH STREET, SUITE 400
FARMINGTON, NEW MEXICO 87401
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FAX: (505) 564-3604



KEY

BENZENE CONC.
IN ppb

THRIFTWAY REFINERY
626 COUNTY ROAD 5500
BLOOMFIELD, NEW MEXICO

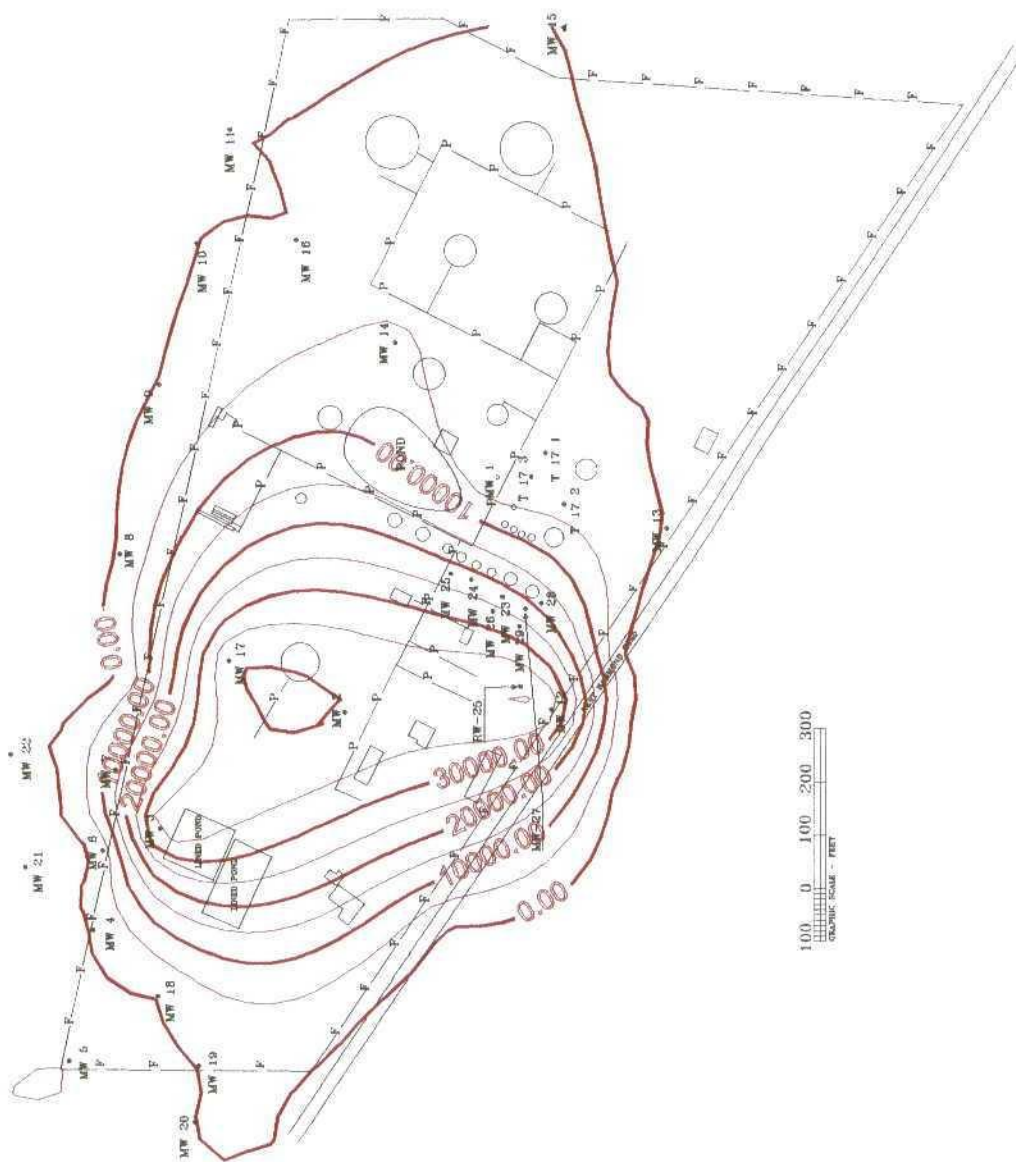
510/CJ1797/2.SKD

SCIENTIST: R. KENNEMER
DRAWN BY: K. SINKS
FIGURE 2A. BENZENE
CONCENTRATION CONTOUR MAP

MARCH 17, 1997



710 EAST 20TH STREET, SUITE 400
FARMINGTON, NEW MEXICO 87401
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FAX: (505) 632-9850

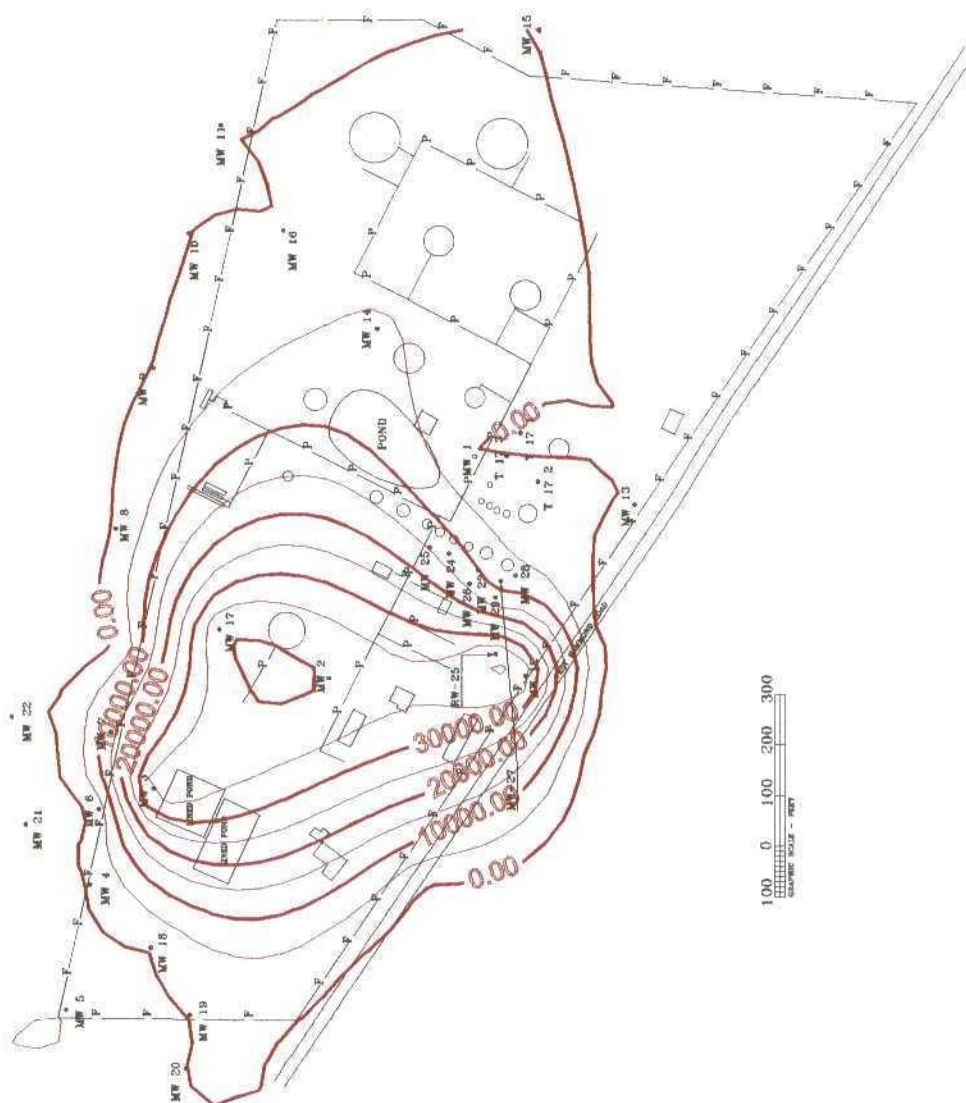


DRAWN BY: K. SINKS
 FIGURE 2B. BENZENE
 CONCENTRATION CONTOUR MAP
 JUNE 17, 1997

THRIFTWAY REFINERY
 626 COUNTY ROAD 5500
 BLOOMFIELD, NEW MEXICO
 810\061797H2 SKD

710 EAST 20TH STREET, SUITE 400
 FARMINGTON, NEW MEXICO 87401
 OFFICE: (505) 632-3365
 FAX: (505) 632-9850





KEY
BENZENE CONC.
IN ppb

100 0 100 200 300
GRAPHIC SCALE - FEET

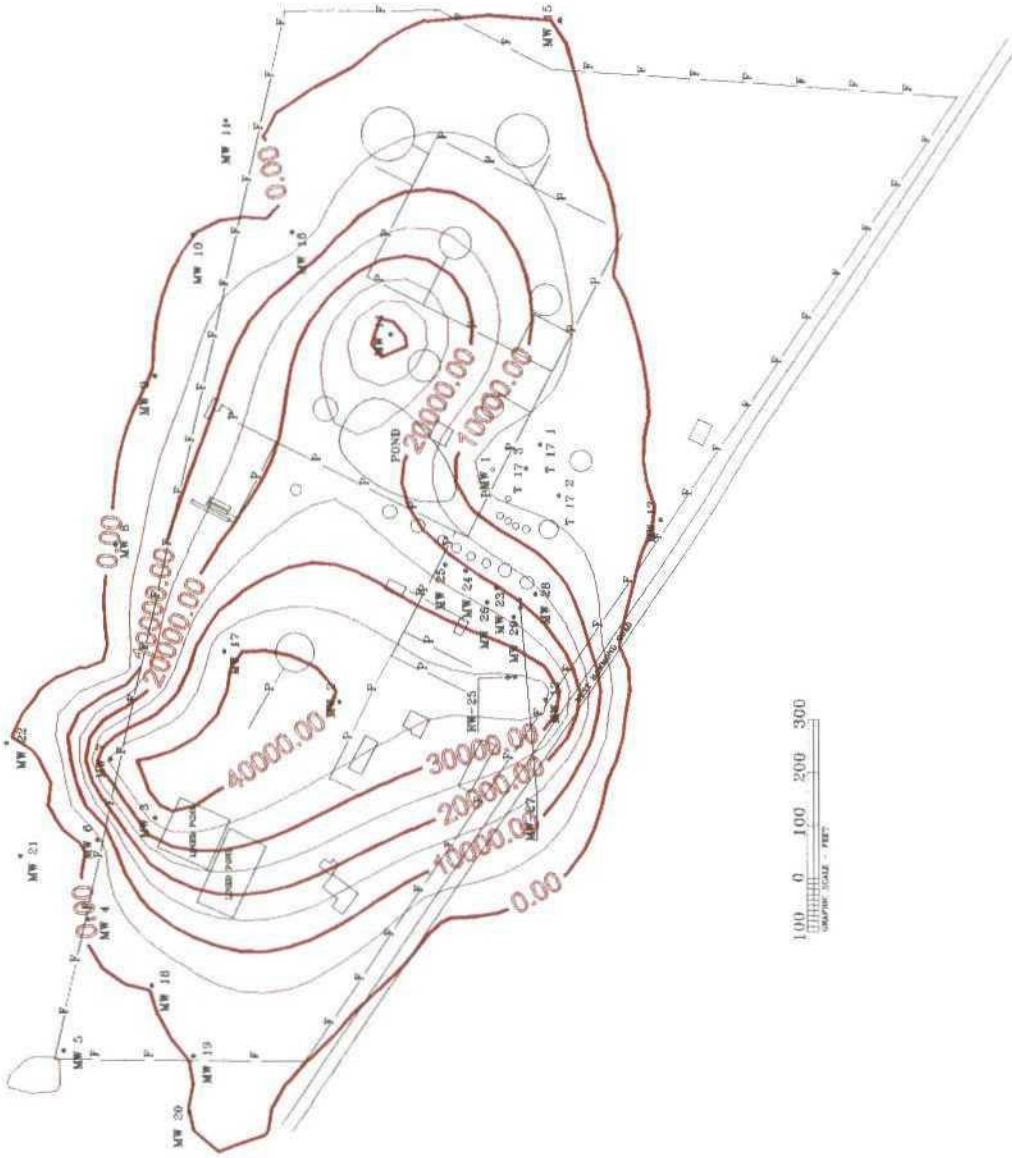
THRIFTWAY REFINERY
626 COUNTY ROAD 5500
BLOOMFIELD, NEW MEXICO

810\092597B2.SKD

DRAWN BY: K. SINKS
FIGURE 2C. BENZENE
CONCENTRATION CONTOUR MAP
SEPTEMBER 25, 1997



710 EAST 20TH STREET, SUITE 400
FARMINGTON, NEW MEXICO 87401
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FAX: (505) 632-9850



KEY
BENZENE CONC.
IN ppb

DRAWN BY: K. SINKS

FIGURE 2D BENZENE PLUME

DECEMBER 22, 1997

THRIFTWAY REFINERY
626 COUNTY ROAD 5500
BLOOMFIELD, NEW MEXICO

810\12229710\SND



710 EAST 20TH STREET, SUITE 400
FARMINGTON, NEW MEXICO 87401
OFFICE: (505) 327-4965
FAX: (505) 561-3604

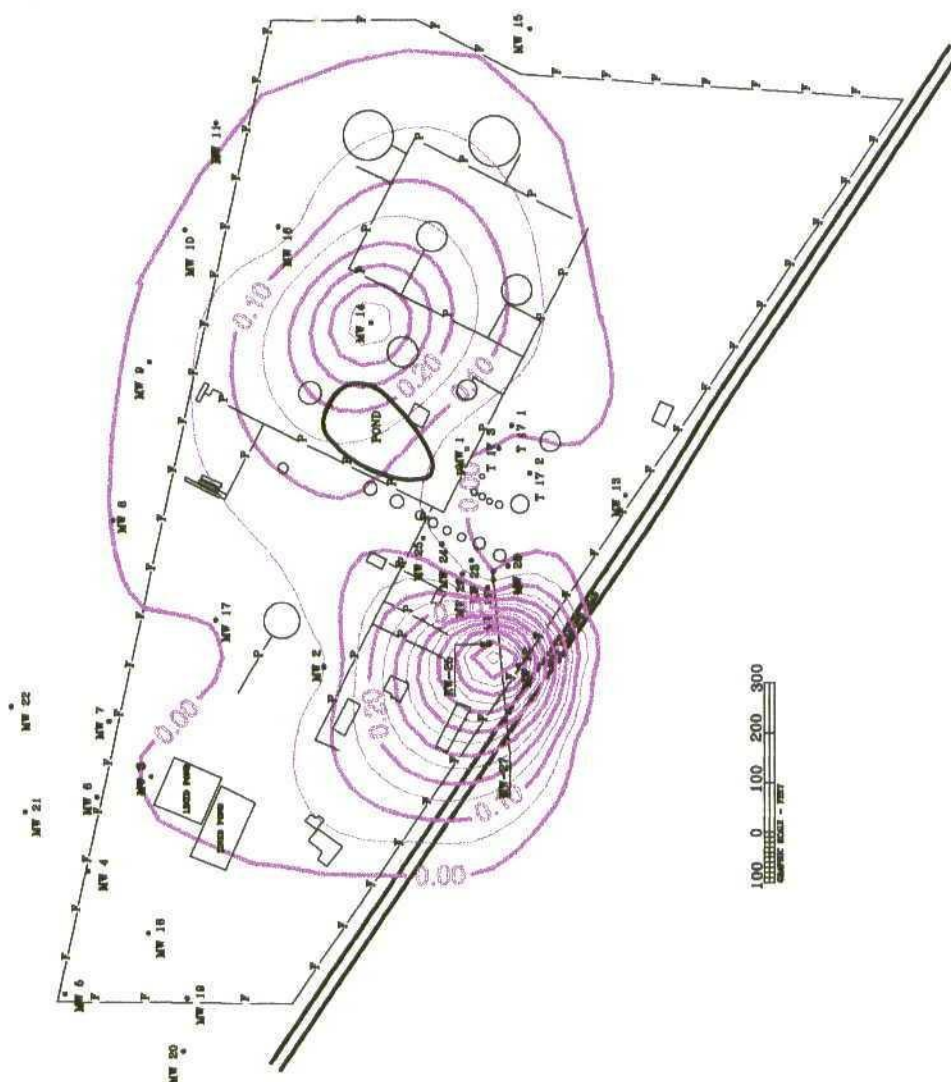


KEY
PRODUCT THICKNESS
IN FEET OF PRODUCT

SCIENTIST: R. KENNEMER
DRAWN BY: K. SINKS
FIGURE 3A, FREE PRODUCT
CONTOUR MAP
MARCH 17, 1997

BioTech
REMEDICATION
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FAX: (505) 632-9850

THRIFTWAY REFINERY
626 COUNTY ROAD 5500
BLOOMFIELD, NEW MEXICO
810\031797PLSKD



KEY
PRODUCT THICKNESS
IN FEET OF PRODUCT

710 EAST 20TH STREET, SUITE 400
FARMINGTON, NEW MEXICO 87401
OFFICE: (505) 632-3365
FAX: (505) 632-9850



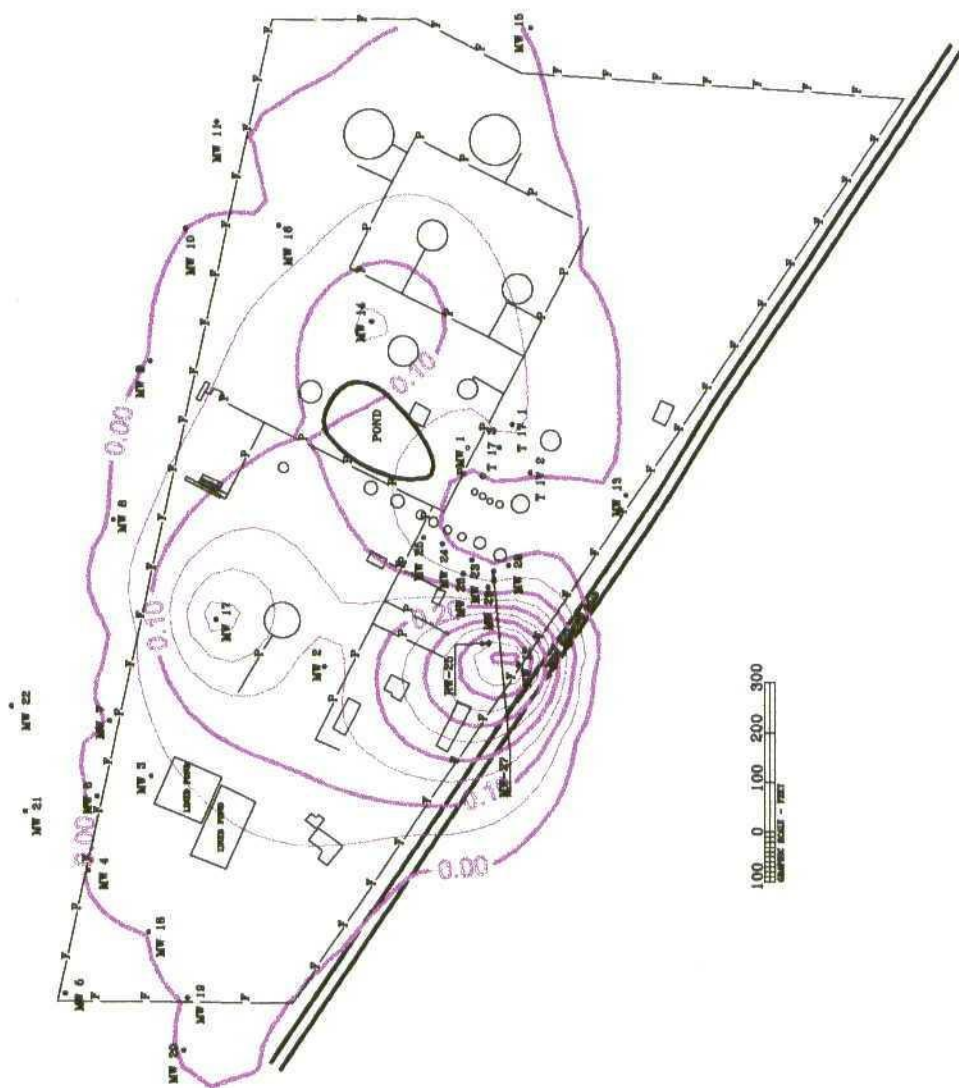
DRAWN BY: K. SINKS

FIGURE 3B. FREE PRODUCT
CONTOUR MAP

JUNE 17, 1997

THRIFTWAY REFINERY
626 COUNTY ROAD 5500
BLOOMFIELD, NEW MEXICO

810\061787PLSKD



KEY
PRODUCT THICKNESS
IN FEET OF PRODUCT

710 EAST 20TH STREET, SUITE 400
FARMINGTON, NEW MEXICO 87401
OFFICE: (505) 632-3365
FAX: (505) 632-9850



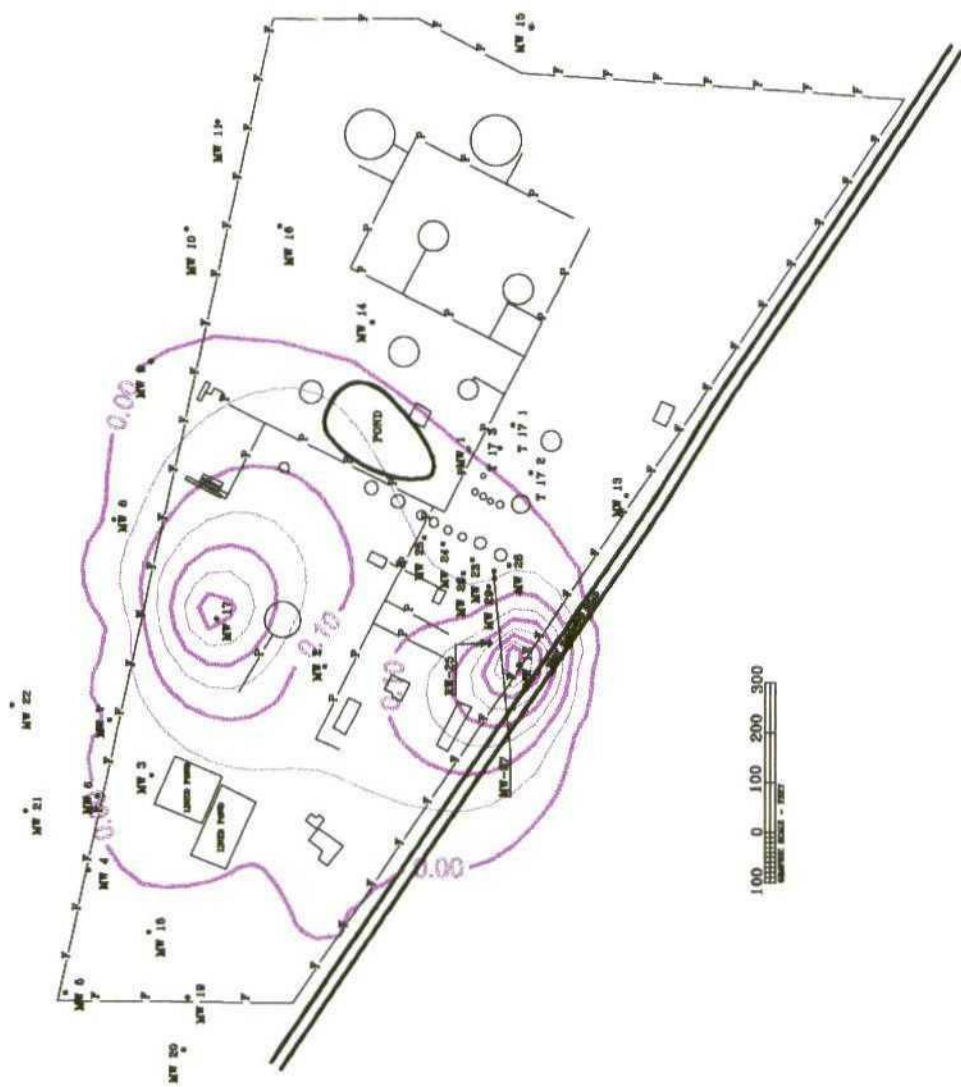
DRAWN BY: K. SINKS

FIGURE 3C. FREE PRODUCT
CONTOUR MAP

SEPTEMBER 25, 1997

THRIFTWAY REFINERY
626 COUNTY ROAD 5500
BLOOMFIELD, NEW MEXICO

810\082597PL.SKD



KEY
PRODUCT THICKNESS
IN FEET OF PRODUCT

THRIFTWAY REFINERY
626 COUNTY ROAD 5500
BLOOMFIELD, NEW MEXICO

B10\122297PL.SKD

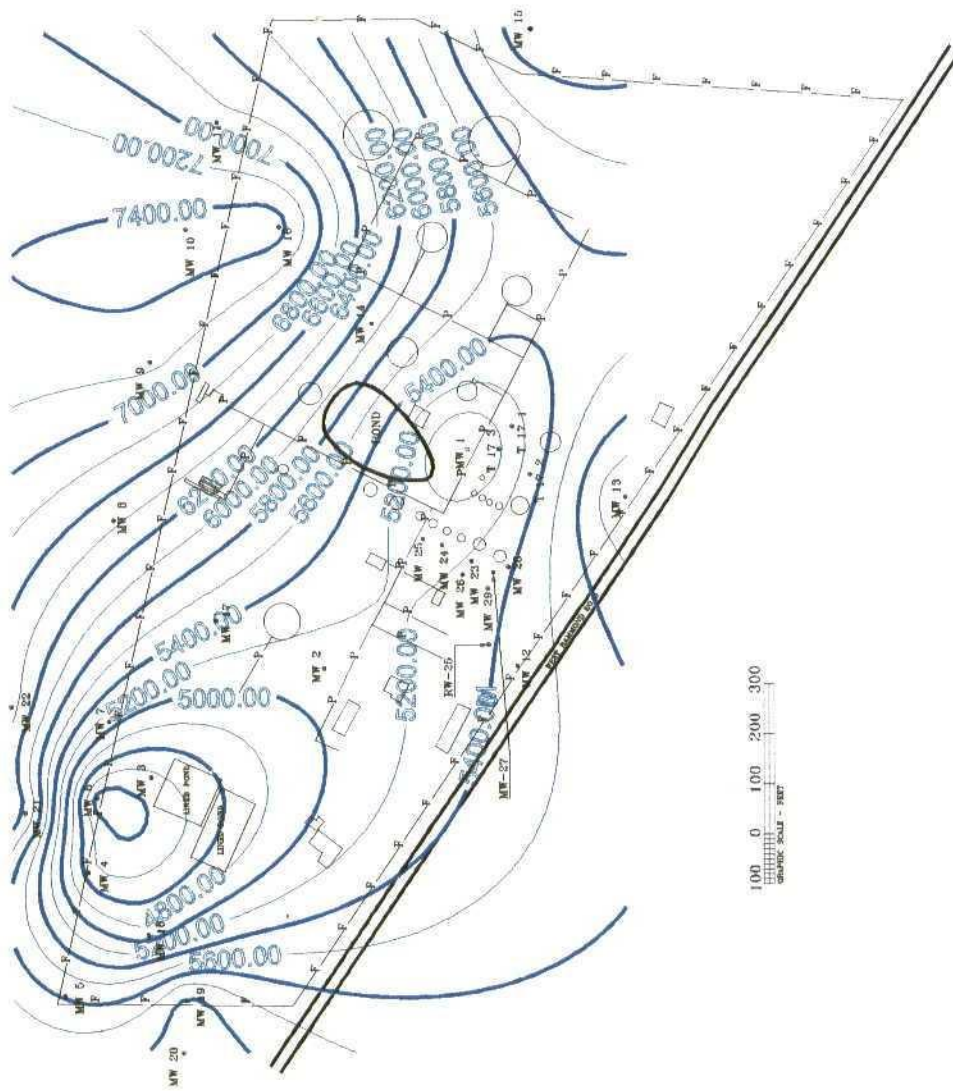
DRAWN BY: K. SINKS

FIGURE 3D. FREE PRODUCT
CONTOUR MAP

DECEMBER 22, 1997



710 EAST 20TH STREET, SUITE 400
FARMINGTON, NEW MEXICO 87401
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FAX: (505)564-3604



KEY
CONDUCTIVITY
IN uohms/cm

THRIFTWAY REFINERY
626 COUNTY ROAD 5500
BLOOMFIELD, NEW MEXICO

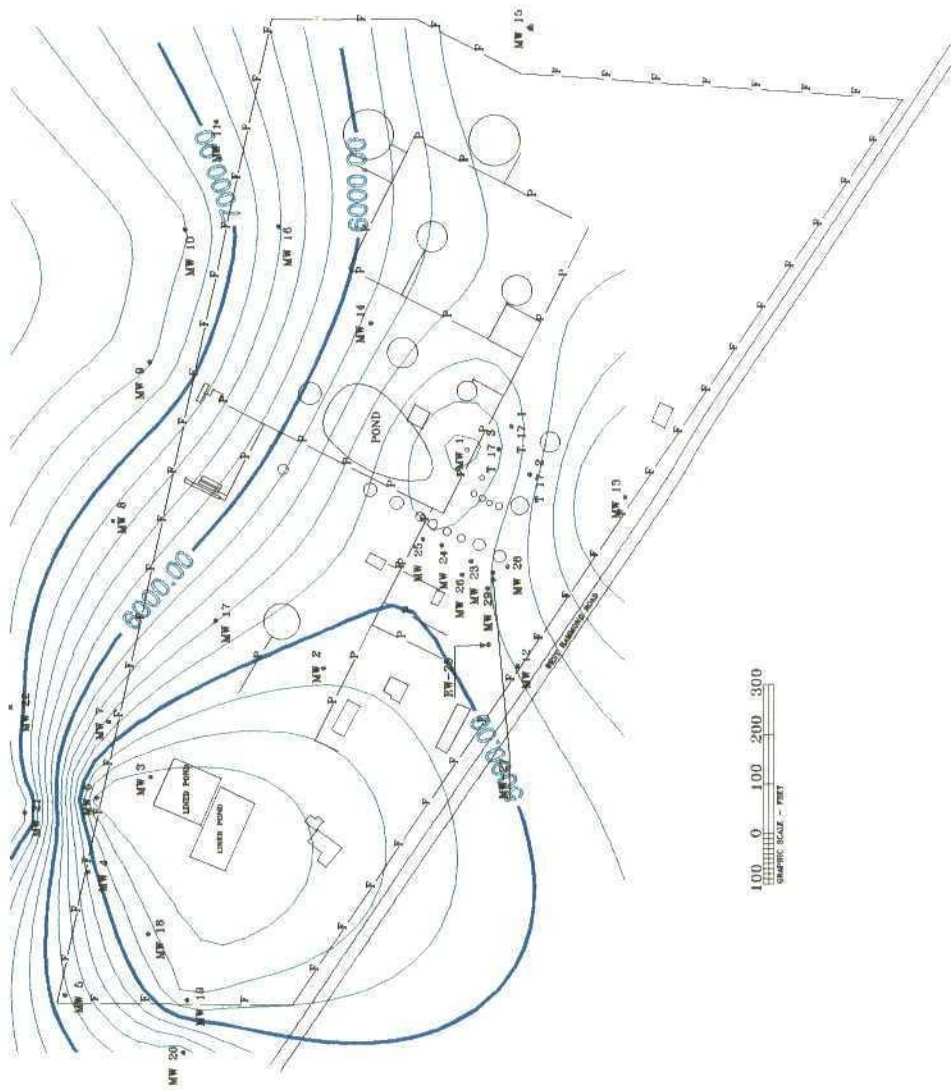
810\031797CD.SKD

SCIENTIST: R. KENNEMER
DRAWN BY: K. SINKS
FIGURE 4A CONDUCTIVITY
CONTOUR MAP

MARCH 17, 1997



710 EAST 20TH STREET, SUITE 400
FARMINGTON, NEW MEXICO 87401
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FAX: (505) 564-3604



KEY
CONDUCTIVITY
IN uohms/cm

THRIFTWAY REFINERY
626 COUNTY ROAD 5500
BLOOMFIELD, NEW MEXICO

810\061797CD.SKD

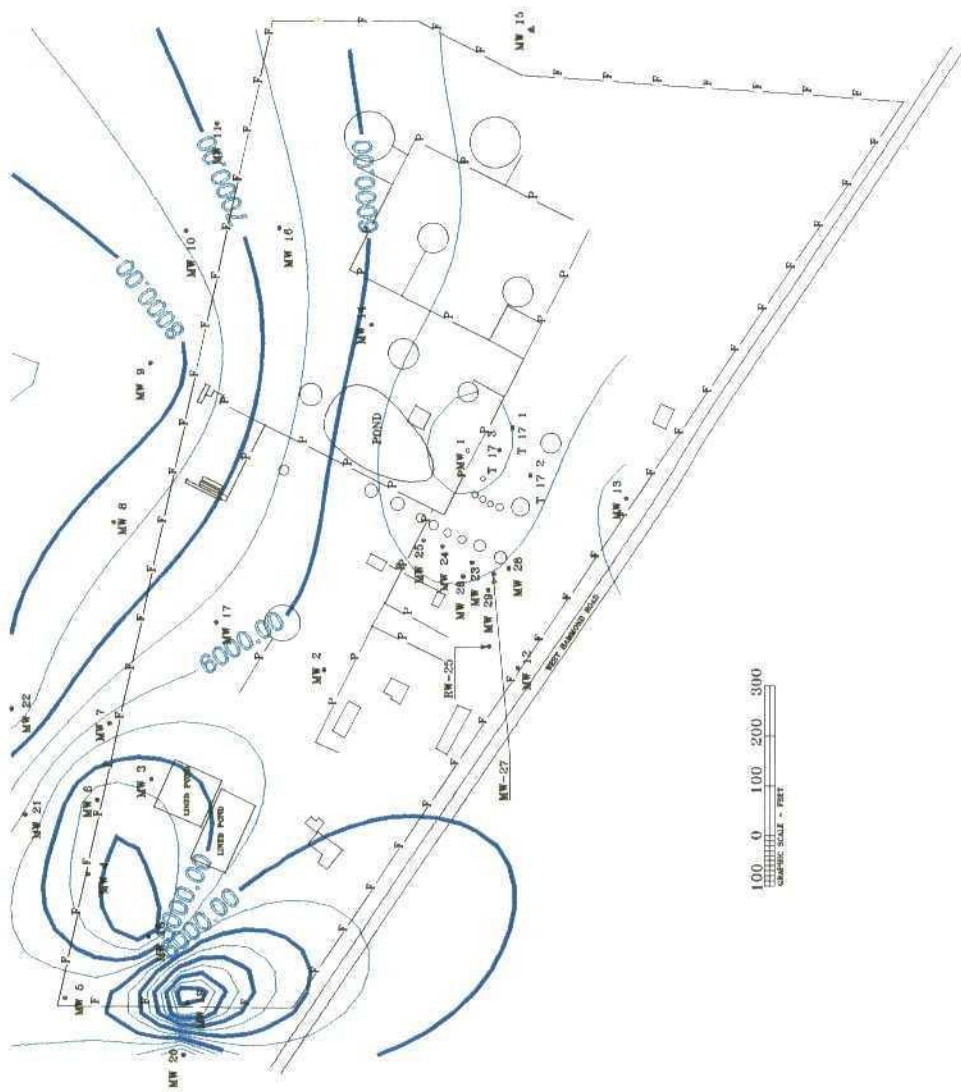
DRAWN BY: K. SINKS

FIGURE 4B CONDUCTIVITY
CONTOUR MAP

JUNE 17, 1997



710 EAST 20TH STREET, SUITE 400
FARMINGTON, NEW MEXICO 87401
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FAX: (505) 564-3604



KEY
CONDUCTIVITY
IN uohms/cm

THRIFTWAY REFINERY
626 COUNTY ROAD 5500
BLOOMFIELD, NEW MEXICO

810\082597CD.SKD

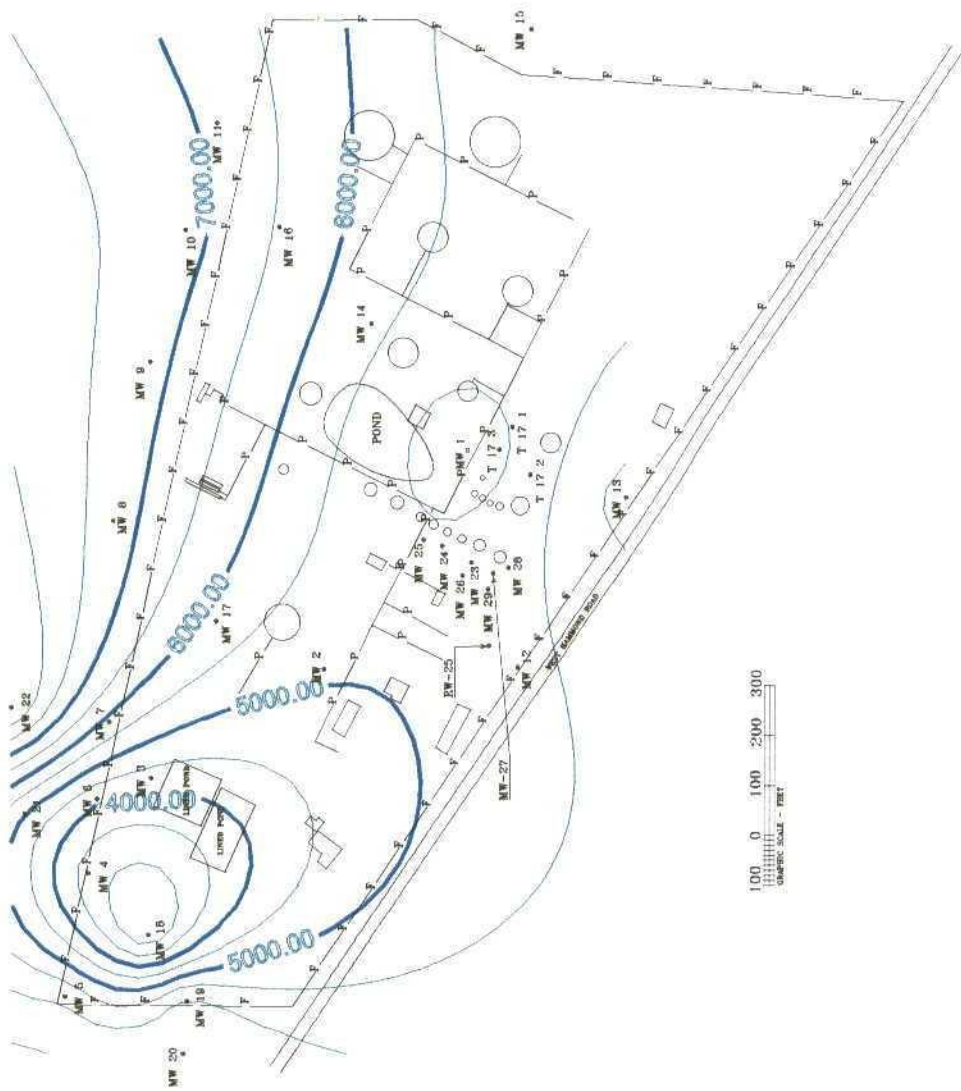
DRAWN BY: K. SINKS

FIGURE 4C CONDUCTIVITY
CONTOUR MAP

SEPTEMBER 25, 1997



710 EAST 20TH STREET, SUITE 400
FARMINGTON, NEW MEXICO 87401
OFFICE: (505) 327-4965
FAX: (505) 564 3804



KEY
CONDUCTIVITY
IN uohms/cm

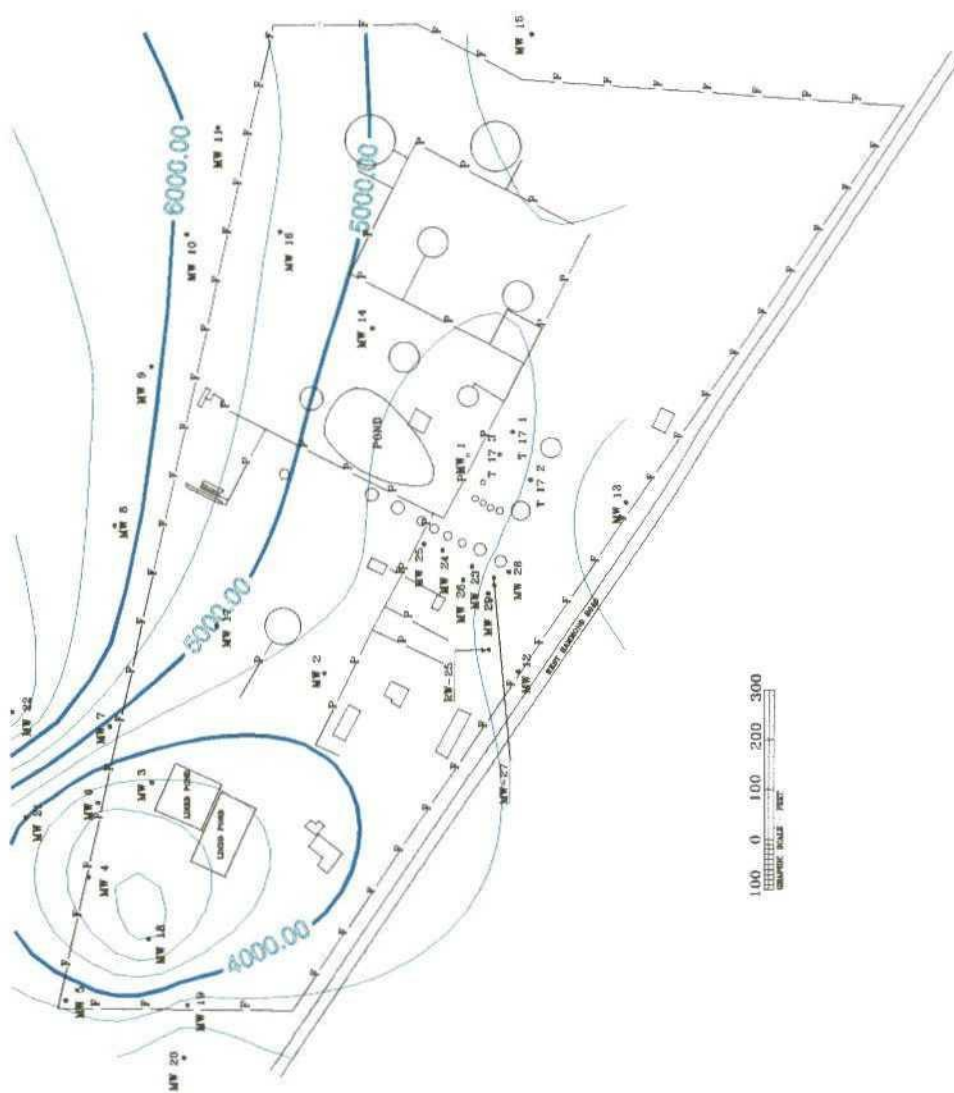
THRIFTWAY REFINERY
626 COUNTY ROAD 5500
BLOOMFIELD, NEW MEXICO

810\122257CD SKD

DRAWN BY: K. SINKS
FIGURE 4D' CONDUCTIVITY
CONTOUR MAP
DECEMBER 22, 1997



710 EAST 20TH STREET, SUITE 400
FARMINGTON, NEW MEXICO 87401
OFFICE: (505) 327-4965
FAX: (505) 564-3604



KEY
TOTAL
DISSOLVED SOLIDS
IN mg/L

THRIFTWAY REFINERY
626 COUNTY ROAD 5500
BLOOMFIELD, NEW MEXICO

810\122297TD.SKD

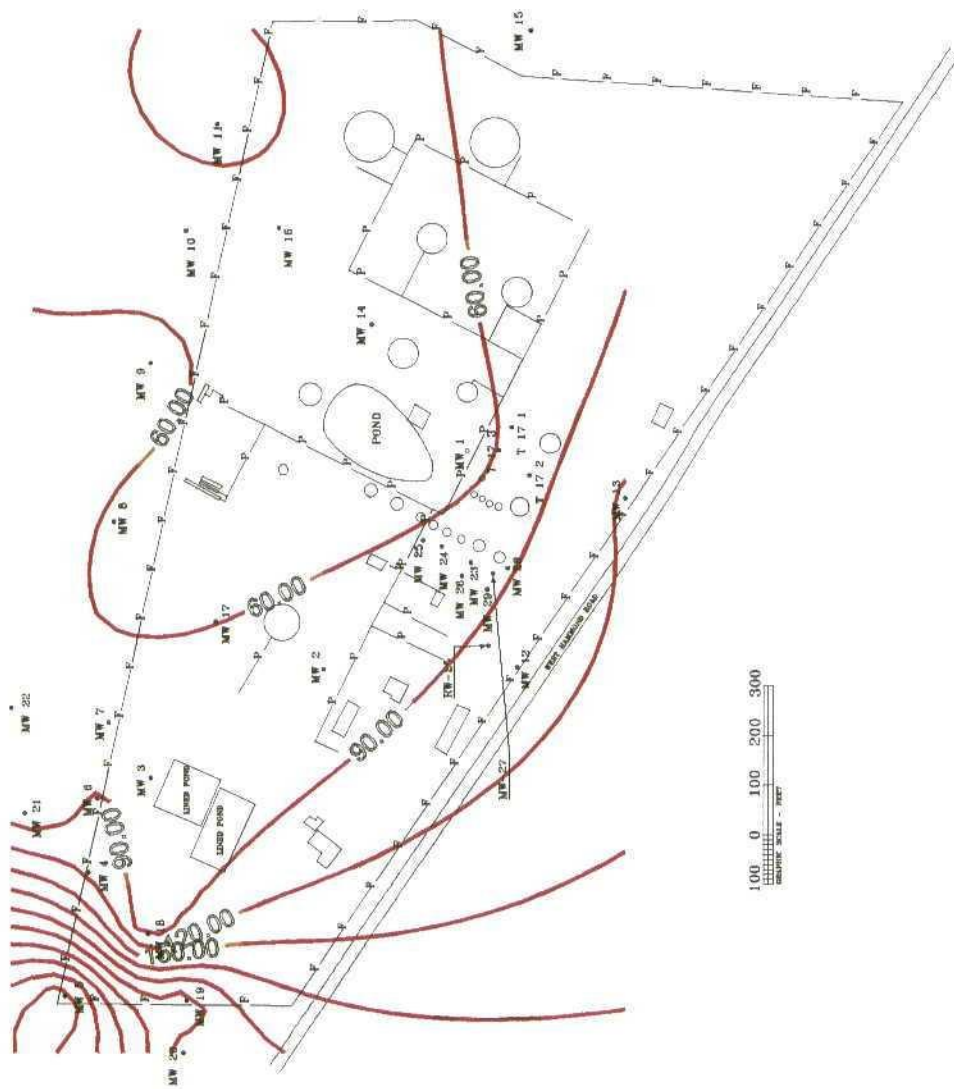
DRAWN BY: K. SINKS

FIGURE 5 TOTAL DISSOLVED
SOLIDS

DECEMBER 22, 1997



710 EAST 20TH STREET, SUITE 400
FARMINGTON, NEW MEXICO 87401
OFFICE: (505) 327-4965
FAX: (505) 584-3604



KEY
TOTAL CHLORIDE
IN mg/L

THRIFTWAY REFINERY
626 COUNTY ROAD 5500
BLOOMFIELD, NEW MEXICO

810\122297CL.SKD

DRAWN BY: K. SINKS

FIGURE 6 CHLORIDE PLUME

DECEMBER 22, 1997

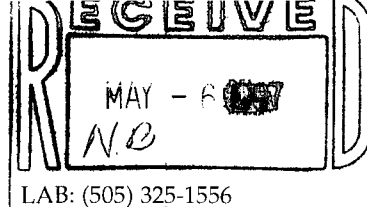


710 EAST 20TH STREET, SUITE 400
FARMINGTON, NEW MEXICO 87401
OFFICE: (505) 327-4965
FAX: (505) 564-3604

APPENDICES

APPENDIX A

OFF: (505) 325-5667



ANALYTICAL REPORT

Attn: *Terry Griffin*
Company: *BioTech Remediation*
Address: *710 E 20th Street, Suite 400*
City, State: *Farmington, NM 87401*

Date: *26-Mar-97*
COC No.: *6028*
Sample No.: *13978*
Job No.: *B97-229*

Project Name: *Thriftway Refinery 626 CR 5500 Bloomfield, NM 87413*
Project Location: *MW-01*
Sampled by: *KS* Date: *19-Mar-97* Time: *15:00*
Analyzed by: *DC* Date: *24-Mar-97*
Sample Matrix: *Liquid*

Parameter	Result	Unit of Measure	Detection Limit	Unit of Measure
<i>Benzene</i>	<i>46.5</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>Toluene</i>	<i>1.3</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>Ethylbenzene</i>	<i>5.1</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>m,p-Xylene</i>	<i>36.5</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>o-Xylene</i>	<i>3.3</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>TOTAL</i>	<i>92.7</i>	<i>ug/L</i>		

Method - SW-846 EPA Method 8020 Aromatic Volatile Organics by Gas Chromatography

Approved By: *DC*

Date: *3/26/97*

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: *Terry Griffin*
Company: *BioTech Remediation*
Address: *710 E 20th Street, Suite 400*
City, State: *Farmington, NM 87401*

Date: *26-Mar-97*
COC No.: *6028*
Sample No.: *13979*
Job No.: *B97-229*

Project Name: *Thriftway Refinery 626 CR 5500 Bloomfield, NM 87413*
Project Location: *MW-04*
Sampled by: *KS* Date: *19-Mar-97* Time: *10:30*
Analyzed by: *DC* Date: *24-Mar-97*
Sample Matrix: *Liquid*

<i>Parameter</i>	<i>Result</i>	<i>Unit of Measure</i>	<i>Detection Limit</i>	<i>Unit of Measure</i>
<i>Benzene</i>	<i>21.7</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>Toluene</i>	<i>0.5</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>Ethylbenzene</i>	<i>2.6</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>m,p-Xylene</i>	<i>1.1</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>o-Xylene</i>	<i>1.2</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>TOTAL</i>	<i>27.1</i>	<i>ug/L</i>		

Method - SW-846 EPA Method 8020 Aromatic Volatile Organics by Gas Chromatography

Approved By: *[Signature]*
Date: *3/26/97*

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: *Terry Griffin*
Company: *BioTech Remediation*
Address: *710 E 20th Street, Suite 400*
City, State: *Farmington, NM 87401*

Date: *26-Mar-97*
COC No.: *6028*
Sample No.: *13980*
Job No.: *B97-229*

Project Name: *Thriftway Refinery 626 CR 5500 Bloomfield, NM 87413*
Project Location: *MW-05*
Sampled by: *KS* Date: *19-Mar-97* Time: *11:05*
Analyzed by: *DC* Date: *24-Mar-97*
Sample Matrix: *Liquid*

<i>Parameter</i>	<i>Result</i>	<i>Unit of Measure</i>	<i>Detection Limit</i>	<i>Unit of Measure</i>
<i>Benzene</i>	<i>5.8</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>Toluene</i>	<i><0.2</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>Ethylbenzene</i>	<i>0.4</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>m,p-Xylene</i>	<i>0.2</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>o-Xylene</i>	<i><0.2</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>TOTAL</i>	<i>6.4</i>	<i>ug/L</i>		

Method - *SW-846 EPA Method 8020 Aromatic Volatile Organics by Gas Chromatography*

Approved By: *[Signature]*
Date: *3/26/97*

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LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: *Terry Griffin*
Company: *BioTech Remediation*
Address: *710 E 20th Street, Suite 400*
City, State: *Farmington, NM 87401*

Date: *26-Mar-97*
COC No.: *6028*
Sample No.: *13981*
Job No.: *B97-229*

Project Name: *Thriftway Refinery 626 CR 5500 Bloomfield, NM 87413*
Project Location: *MW-06*
Sampled by: *KS* Date: *19-Mar-97* Time: *9:27*
Analyzed by: *DC* Date: *24-Mar-97*
Sample Matrix: *Liquid*

<i>Parameter</i>	<i>Result</i>	<i>Unit of Measure</i>	<i>Detection Limit</i>	<i>Unit of Measure</i>
<i>Benzene</i>	<i>0.6</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>Toluene</i>	<i>0.8</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>Ethylbenzene</i>	<i>0.8</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>m,p-Xylene</i>	<i>0.8</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>o-Xylene</i>	<i>3.2</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>TOTAL</i>	<i>6.2</i>	<i>ug/L</i>		

Method - *SW-846 EPA Method 8020 Aromatic Volatile Organics by Gas Chromatography*

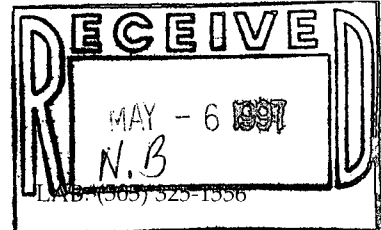
Approved By: *DC*

Date: *3/26/97*

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OFF: (505) 325-5667



ANALYTICAL REPORT

Attn: *Terry Griffin*
Company: *BioTech Remediation*
Address: *710 E 20th Street, Suite 400*
City, State: *Farmington, NM 87401*

Date: *26-Mar-97*
COC No.: *6024*
Sample No.: *13948*
Job No.: *B97-229*

Project Name: *Thriftway Refinery 626 CR 5500 Bloomfield, NM 87413*
Project Location: *MW-09*
Sampled by: *KS* Date: *18-Mar-97* Time: *14:30*
Analyzed by: *DC* Date: *22-Mar-97*
Sample Matrix: *Liquid*

Parameter	Result	Unit of Measure	Detection Limit	Unit of Measure
<i>Benzene</i>	<i><0.2</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>Toluene</i>	<i><0.2</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>Ethylbenzene</i>	<i><0.2</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>m,p-Xylene</i>	<i>0.3</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>o-Xylene</i>	<i><0.2</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>TOTAL</i>	<i>0.3</i>	<i>ug/L</i>		

Method - *SW-846 EPA Method 8020 Aromatic Volatile Organics by Gas Chromatography*

Approved By: *[Signature]*
Date: *3/26/97*

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LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: *Terry Griffin*
Company: *BioTech Remediation*
Address: *710 E 20th Street, Suite 400*
City, State: *Farmington, NM 87401*

Date: *26-Mar-97*
COC No.: *6024*
Sample No.: *13949*
Job No.: *B97-229*

Project Name: *Thriftway Refinery 626 CR 5500 Bloomfield, NM 87413*
Project Location: *MW-10*
Sampled by: *KS* Date: *18-Mar-97* Time: *13:55*
Analyzed by: *DC* Date: *22-Mar-97*
Sample Matrix: *Liquid*

<i>Parameter</i>	<i>Result</i>	<i>Unit of Measure</i>	<i>Detection Limit</i>	<i>Unit of Measure</i>
<i>Benzene</i>	<i><0.2</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>Toluene</i>	<i><0.2</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>Ethylbenzene</i>	<i><0.2</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>m,p-Xylene</i>	<i><0.2</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>o-Xylene</i>	<i><0.2</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>TOTAL</i>	<i><0.2</i>	<i>ug/L</i>		

Method - SW-846 EPA Method 8020 Aromatic Volatile Organics by Gas Chromatography

Approved By: *DC*
Date: *3/26/97*

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ANALYTICAL REPORT

Attn: *Terry Griffin*
Company: *BioTech Remediation*
Address: *710 E 20th Street, Suite 400*
City, State: *Farmington, NM 87401*

Date: *26-Mar-97*
COC No.: *6024*
Sample No.: *13950*
Job No.: *B97-229*

Project Name: *Thriftway Refinery 626 CR 5500 Bloomfield, NM 87413*
Project Location: *MW-11*
Sampled by: *KS* Date: *18-Mar-97* Time: *11:59*
Analyzed by: *DC* Date: *22-Mar-97*
Sample Matrix: *Liquid*

<i>Parameter</i>	<i>Result</i>	<i>Unit of Measure</i>	<i>Detection Limit</i>	<i>Unit of Measure</i>
<i>Benzene</i>	<i><0.2</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>Toluene</i>	<i><0.2</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>Ethylbenzene</i>	<i><0.2</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>m,p-Xylene</i>	<i><0.2</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>o-Xylene</i>	<i><0.2</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>TOTAL</i>	<i><0.2</i>	<i>ug/L</i>		

Method - *SW-846 EPA Method 8020 Aromatic Volatile Organics by Gas Chromatography*

Approved By: *[Signature]*
Date: *3/26/97*

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ANALYTICAL REPORT

Attn: *Terry Griffin*
Company: *BioTech Remediation*
Address: *710 E 20th Street, Suite 400*
City, State: *Farmington, NM 87401*

Date: *26-Mar-97*
COC No.: *6024*
Sample No.: *13951*
Job No.: *B97-229*

Project Name: *Thriftway Refinery 626 CR 5500 Bloomfield, NM 87413*
Project Location: *MW-13*
Sampled by: *KS* Date: *18-Mar-97* Time: *10:55*
Analyzed by: *DC* Date: *22-Mar-97*
Sample Matrix: *Liquid*

<i>Parameter</i>	<i>Result</i>	<i>Unit of Measure</i>	<i>Detection Limit</i>	<i>Unit of Measure</i>
<i>Benzene</i>	<i><0.2</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>Toluene</i>	<i><0.2</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>Ethylbenzene</i>	<i><0.2</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>m,p-Xylene</i>	<i><0.2</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>o-Xylene</i>	<i><0.2</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>TOTAL</i>	<i><0.2</i>	<i>ug/L</i>		

Method - *SW-846 EPA Method 8020 Aromatic Volatile Organics by Gas Chromatography*

Approved By: *[Signature]*
Date: *3/26/97*

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: *Terry Griffin*
Company: *BioTech Remediation*
Address: *710 E 20th Street, Suite 400*
City, State: *Farmington, NM 87401*

Date: *26-Mar-97*
COC No.: *6024*
Sample No.: *13952*
Job No.: *B97-229*

Project Name: *Thriftway Refinery 626 CR 5500 Bloomfield, NM 87413*
Project Location: *MW-15*
Sampled by: *KS* Date: *18-Mar-97* Time: *10:00*
Analyzed by: *DC* Date: *22-Mar-97*
Sample Matrix: *Liquid*

<i>Parameter</i>	<i>Result</i>	<i>Unit of Measure</i>	<i>Detection Limit</i>	<i>Unit of Measure</i>
<i>Benzene</i>	<i><0.2</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>Toluene</i>	<i><0.2</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>Ethylbenzene</i>	<i><0.2</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>m,p-Xylene</i>	<i><0.2</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>o-Xylene</i>	<i><0.2</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>TOTAL</i>	<i><0.2</i>	<i>ug/L</i>		

Method - SW-846 EPA Method 8020 Aromatic Volatile Organics by Gas Chromatography

Approved By: *[Signature]*
Date: *3/26/97*

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: *Terry Griffin*
Company: *BioTech Remediation*
Address: *710 E 20th Street, Suite 400*
City, State: *Farmington, NM 87401*

Date: *26-Mar-97*
COC No.: *6028*
Sample No.: *13982*
Job No.: *B97-229*

Project Name: *Thriftway Refinery 626 CR 5500 Bloomfield, NM 87413*
Project Location: *MW-18*
Sampled by: *KS* Date: *19-Mar-97* Time: *14:15*
Analyzed by: *DC* Date: *24-Mar-97*
Sample Matrix: *Liquid*

<i>Parameter</i>	<i>Result</i>	<i>Unit of Measure</i>	<i>Detection Limit</i>	<i>Unit of Measure</i>
<i>Benzene</i>	150.9	ug/L	0.2	ug/L
<i>Toluene</i>	2.4	ug/L	0.2	ug/L
<i>Ethylbenzene</i>	0.6	ug/L	0.2	ug/L
<i>m,p-Xylene</i>	1.1	ug/L	0.2	ug/L
<i>o-Xylene</i>	1.0	ug/L	0.2	ug/L
<i>TOTAL</i>	155.9	ug/L		

Method - SW-846 EPA Method 8020 Aromatic Volatile Organics by Gas Chromatography

Approved By: *DC*
Date: *3/26/97*

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: *Terry Griffin*
Company: *BioTech Remediation*
Address: *710 E 20th Street, Suite 400*
City, State: *Farmington, NM 87401*

Date: *26-Mar-97*
COC No.: *6028*
Sample No.: *13983*
Job No.: *B97-229*

Project Name: *Thriftway Refinery 626 CR 5500 Bloomfield, NM 87413*
Project Location: *MW-19*
Sampled by: *KS* Date: *19-Mar-97* Time: *11:45*
Analyzed by: *DC* Date: *24-Mar-97*
Sample Matrix: *Liquid*

<i>Parameter</i>	<i>Result</i>	<i>Unit of Measure</i>	<i>Detection Limit</i>	<i>Unit of Measure</i>
<i>Benzene</i>	<i>24.6</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>Toluene</i>	<i>4.1</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>Ethylbenzene</i>	<i>164.1</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>m,p-Xylene</i>	<i>351.0</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>o-Xylene</i>	<i>1.2</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>TOTAL</i>	<i>545.0</i>	<i>ug/L</i>		

Method - SW-846 EPA Method 8020 Aromatic Volatile Organics by Gas Chromatography

Approved By: *[Signature]*
Date: *3/26/97*

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LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: *Terry Griffin*
Company: *BioTech Remediation*
Address: *710 E 20th Street, Suite 400*
City, State: *Farmington, NM 87401*

Date: *26-Mar-97*
COC No.: *6024*
Sample No.: *13953*
Job No.: *B97-229*

Project Name: *Thriftway Refinery 626 CR 5500 Bloomfield, NM 87413*
Project Location: *MW-20*
Sampled by: *KS* Date: *18-Mar-97* Time: *15:30*
Analyzed by: *DC* Date: *22-Mar-97*
Sample Matrix: *Liquid*

<i>Parameter</i>	<i>Result</i>	<i>Unit of Measure</i>	<i>Detection Limit</i>	<i>Unit of Measure</i>
<i>Benzene</i>	<i>2.3</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>Toluene</i>	<i>2.2</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>Ethylbenzene</i>	<i>4.4</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>m,p-Xylene</i>	<i>3.2</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>o-Xylene</i>	<i><0.2</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>TOTAL</i>	<i>12.1</i>	<i>ug/L</i>		

Method - *SW-846 EPA Method 8020 Aromatic Volatile Organics by Gas Chromatography*

Approved By: *[Signature]*
Date: *3/26/97*

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: *Terry Griffin*
Company: *BioTech Remediation*
Address: *710 E 20th Street, Suite 400*
City, State: *Farmington, NM 87401*

Date: *26-Mar-97*
COC No.: *6024*
Sample No.: *13954*
Job No.: *B97-229*

Project Name: *Thriftway Refinery 626 CR 5500 Bloomfield, NM 87413*
Project Location: *MW-21*
Sampled by: *KS* Date: *18-Mar-97* Time: *16:20*
Analyzed by: *DC* Date: *22-Mar-97*
Sample Matrix: *Liquid*

<i>Parameter</i>	<i>Result</i>	<i>Unit of Measure</i>	<i>Detection Limit</i>	<i>Unit of Measure</i>
<i>Benzene</i>	<i>0.3</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>Toluene</i>	<i><0.2</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>Ethylbenzene</i>	<i>0.4</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>m,p-Xylene</i>	<i><0.2</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>o-Xylene</i>	<i><0.2</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>TOTAL</i>	<i>0.7</i>	<i>ug/L</i>		

Method - SW-846 EPA Method 8020 Aromatic Volatile Organics by Gas Chromatography

Approved By: *[Signature]*
Date: *3/26/97*

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: *Terry Griffin*
Company: *BioTech Remediation*
Address: *710 E 20th Street, Suite 400*
City, State: *Farmington, NM 87401*

Date: *26-Mar-97*
COC No.: *6024*
Sample No.: *13955*
Job No.: *B97-229*

Project Name: *Thriftway Refinery 626 CR 5500 Bloomfield, NM 87413*
Project Location: *MW-22*
Sampled by: *KS* Date: *18-Mar-97* Time: *17:00*
Analyzed by: *DC* Date: *22-Mar-97*
Sample Matrix: *Liquid*

<i>Parameter</i>	<i>Result</i>	<i>Unit of Measure</i>	<i>Detection Limit</i>	<i>Unit of Measure</i>
<i>Benzene</i>	<i><0.2</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>Toluene</i>	<i><0.2</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>Ethylbenzene</i>	<i><0.2</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>m,p-Xylene</i>	<i><0.2</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>o-Xylene</i>	<i><0.2</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>TOTAL</i>	<i><0.2</i>	<i>ug/L</i>		

Method - SW-846 EPA Method 8020 Aromatic Volatile Organics by Gas Chromatography

Approved By: *DC*
Date: *3/26/97*

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: *Terry Griffin*
Company: *BioTech Remediation*
Address: *710 E 20th Street, Suite 400*
City, State: *Farmington, NM 87401*

Date: *26-Mar-97*
COC No.: *6024*
Sample No.: *14024*
Job No.: *B97-229*

Project Name: *Thriftway Refinery 626 CR 5500 Bloomfield, NM 87413*
Project Location: *Travel Blank*
Sampled by: *KS* Date: *18-Mar-97* Time: *8:30*
Analyzed by: *DC* Date: *22-Mar-97*
Sample Matrix: *Liquid*

<i>Parameter</i>	<i>Result</i>	<i>Unit of Measure</i>	<i>Detection Limit</i>	<i>Unit of Measure</i>
<i>Benzene</i>	<i><0.2</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>Toluene</i>	<i><0.2</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>Ethylbenzene</i>	<i><0.2</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>m,p-Xylene</i>	<i><0.2</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>o-Xylene</i>	<i><0.2</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>TOTAL</i>	<i><0.2</i>	<i>ug/L</i>		

Method - SW-846 EPA Method 8020 Aromatic Volatile Organics by Gas Chromatography

Approved By: *[Signature]*
Date: *3/26/97*

OFF: (505) 325-5667



LAB: (505) 325-1556

QUALITY ASSURANCE REPORT

for EPA Method 8020

Date Analyzed: 22-Mar-97

Internal QC No.: 0527-STD

Surrogate QC No.: 0528-STD

Reference Standard QC No.: 0529/30-QC

Method Blank

Parameter	Result	Unit of Measure
Average Amount of All Analytes In Blank	<0.2	ppb

Calibration Check

Parameter	Unit of Measure	True Value	Analyzed Value	% Diff	Limit
Benzene	ppb	20.0	18.9	5	15%
Toluene	ppb	20.0	19.5	2	15%
Ethylbenzene	ppb	20.0	19.8	1	15%
m,p-Xylene	ppb	40.0	38.2	5	15%
o-Xylene	ppb	20.0	19.7	1	15%

Matrix Spike

Parameter	1 - Percent Recovered	2 - Percent Recovered	Limit	%RSD	Limit
Benzene	91	90	(39-150)	1	20%
Toluene	94	93	(46-148)	1	20%
Ethylbenzene	96	94	(32-160)	1	20%
m,p-Xylene	92	91	(35-145)	1	20%
o-Xylene	94	94	(35-145)	1	20%

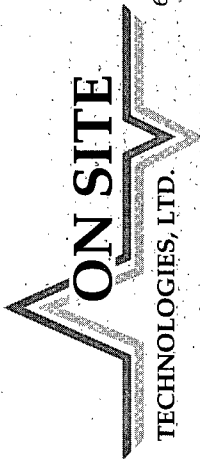
Surrogate Recoveries

Laboratory Identification	S1 Percent Recovered	S2 Percent Recovered	Laboratory Identification	S1 Percent Recovered	S2 Percent Recovered
Limit Percent Recovered	(70-130)		Limit Percent Recovered	(70-130)	
13948-6024	96		13954-6024	97	
13949-6024	96		13955-6024	97	
13950-6024	96		14024-6024	97	
13951-6024	97				
13952-6024	97				
13953-6024	92				

S1: Fluorobenzene

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -



CHAIN OF CUSTODY RECORD

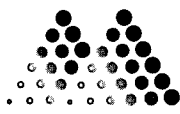
6024

Date: 3/13/97

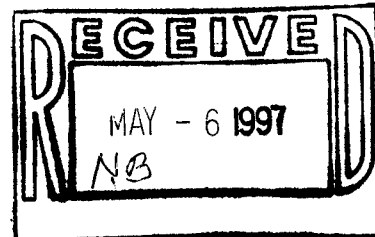
Page of

657 W. Maple • P. O. Box 2606 • Farmington NM 87499
LAB: (505) 325-5667 • FAX: (505) 325-6256

Purchase Order No. B97-229		Job No.		Name Terry Griffin		Title	
SEND INVOICE TO		Company Same		Company BioTech Remediation			
Address		Dept.		Mailing Address 710 E. 20th Suite 400			
City, State, Zip				City, State, Zip Farmington, NM 87401			
				Telephone No. 632-3365		Telefax No. 632-9850	
Sampling Location: Thruway Refinery 626 Rd. 5500, Bloomfield, nm 87413				ANALYSIS REQUESTED			
Sampler: Ken Sicks Ken Sicks							
SAMPLE IDENTIFICATION		SAMPLE DATE TIME		MATRIX		PRES.	
mw-09		3/13/97		H2O		1750P	
mw-10		↓		↓		↓	
mw-11		↓		↓		↓	
mw-13		↓		↓		↓	
mw-15		↓		↓		↓	
mw-20		↓		↓		↓	
mw-21		↓		↓		↓	
mw-22		↓		↓		↓	
TRAVEL BLANK		3/13/97 1630				1-1274-6274	
Relinquished by: Ken Sicks				Date/Time 3/13/97 0800		Received by: Harold Reese	
Relinquished by:				Date/Time		Date/Time	
Relinquished by:				Date/Time		Date/Time	
Method of Shipment:				Rush		24-48 Hours	
Authorized by: (Client Signature Must Accompany Request)				Date		10 Working Days	
						Special Instructions:	



Mountain States Analytical



The Quality Solution

April 4, 1997

Mr. David Cox
On Site Technologies, Ltd.
612 E Murray Drive
Farmington, NM 87401

Reference:

Project: Thriftway Refinery
Project No.: 21000/B101001
MSAI Group: 15642

Dear Mr. Cox:

Enclosed are the analytical results for your project referenced above. The following samples are included in the report.

13985-6029	13986-6029	13989-6029
13990-6029		

All holding times were met for the tests performed on these samples.

If the report is acceptable, please approve the enclosed invoice and forward it for payment.

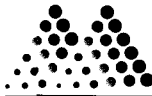
Thank you for selecting Mountain States Analytical, Inc. to serve as your analytical laboratory on this project. If you have any questions concerning these results, please feel free to contact me at any time.

We look forward to working with you on future projects.

With Regards,

Rolf E. Larsen
Project Manager

Analytical Report



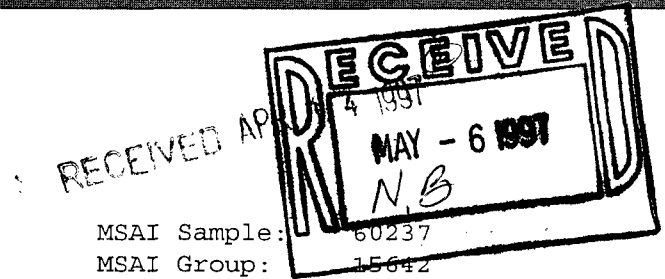
Mountain States Analytical

The Quality Solution

On Site Technologies, Ltd.
612 E Murray Drive
Farmington, NM 87401

Attn: Mr. David Cox
Project: Thriftway Refinery

Sample ID: 13985-6029 *MM-01* ^(pc)
Matrix: Waste Water

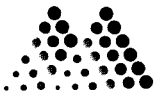


MSAI Sample: 60237
MSAI Group: 15642
Date Reported: 04/04/97
Discard Date: 05/04/97
Date Submitted: 03/21/97
Date Sampled: 03/19/97
Collected by: KS
Purchase Order: 6029
Project No.: 21000/B101001

Test	Analysis	Results as Received	Units	Limit of Quantitation
3000	SVOA Extraction, Water Method: SW-846 3510B	Complete		

Respectfully Submitted,
Reviewed and Approved by:

Rolf E. Larsen
Rolf E. Larsen
Project Manager



Mountain States Analytical

The Quality Solution

On Site Technologies, Ltd.
612 E Murray Drive
Farmington, NM 87401

Attn: Mr. David Cox
Project: Thriftway Refinery

Sample ID: 13986-6029 MW-04
Matrix: Waste Water

RECEIVED APR 14 1997

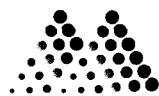
MSAI Sample: 60238
MSAI Group: 15642
Date Reported: 04/04/97
Discard Date: 05/04/97
Date Submitted: 03/21/97
Date Sampled: 03/19/97
Collected by: KS
Purchase Order: 6029
Project No.: 21000/B101001

Test	Analysis	Results as Received	Units	Limit of Quantitation
6719	Polycyclic Aromatic Hydrocarbons Method: SW-846 8270A			
	Acenaphthene	ND	ug/l	10
	Acenaphthylene	ND	ug/l	10
	Anthracene	ND	ug/l	10
	Benz (a) anthracene	ND	ug/l	10
	Benzo (b) fluoranthene	ND	ug/l	10
	Benzo (k) fluoranthene	ND	ug/l	10
	Benzo (ghi) perylene	ND	ug/l	10
	Benzo (a) pyrene	ND	ug/l	10
	Chrysene	ND	ug/l	10
	Dibenz (a,h) anthracene	ND	ug/l	10
	Fluoranthene	ND	ug/l	10
	Fluorene	ND	ug/l	10
	Naphthalene	ND	ug/l	10
	Phenanthrene	ND	ug/l	10
	Pyrene	ND	ug/l	10
	Indeno (1,2,3-cd) pyrene	ND	ug/l	10
	2-Methylnaphthalene	ND	ug/l	10

ND - Not detected at the limit of quantitation

Respectfully Submitted,
Reviewed and Approved by:


Rolf E. Larsen
Project Manager



Mountain States Analytical

The Quality Solution

On Site Technologies, Ltd.
612 E Murray Drive
Farmington, NM 87401

Attn: Mr. David Cox
Project: Thriftway Refinery

Sample ID: 13989-6029 MW-18
Matrix: Waste Water

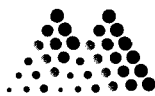
MSAI Sample: 60241
MSAI Group: 15642
Date Reported: 04/04/97
Discard Date: 05/04/97
Date Submitted: 03/21/97
Date Sampled: 03/19/97
Collected by: KS
Purchase Order: 6029
Project No.: 21000/B101001

Test	Analysis	Results as Received	Units	Limit of Quantitation
6719	Polycyclic Aromatic Hydrocarbons Method: SW-846 8270A			
	Acenaphthene	ND	ug/l	10
	Acenaphthylene	ND	ug/l	10
	Anthracene	ND	ug/l	10
	Benz (a) anthracene	ND	ug/l	10
	Benzo (b) fluoranthene	ND	ug/l	10
	Benzo (k) fluoranthene	ND	ug/l	10
	Benzo (ghi) perylene	ND	ug/l	10
	Benzo (a) pyrene	ND	ug/l	10
	Chrysene	ND	ug/l	10
	Dibenz (a, h) anthracene	ND	ug/l	10
	Fluoranthene	ND	ug/l	10
	Fluorene	ND	ug/l	10
	Naphthalene	ND	ug/l	10
	Phenanthrene	ND	ug/l	10
	Pyrene	ND	ug/l	10
	Indeno (1, 2, 3-cd) pyrene	ND	ug/l	10
	2-Methylnaphthalene	ND	ug/l	10
3000	SVOA Extraction, Water Method: SW-846 3510B	Complete		

ND - Not detected at the limit of quantitation

Respectfully Submitted,
Reviewed and Approved by:

Rolf E. Larsen
Project Manager



Mountain States Analytical

The Quality Solution

On Site Technologies, Ltd.
612 E Murray Drive
Farmington, NM 87401

Attn: Mr. David Cox
Project: Thriftway Refinery

Sample ID: 13990-6029 MW-19 (mc)
Matrix: Waste Water

RECEIVED APR 14 1997 (PL)

MSAI Sample: 60242
MSAI Group: 15642
Date Reported: 04/04/97
Discard Date: 05/04/97
Date Submitted: 03/21/97
Date Sampled: 03/19/97
Collected by: KS
Purchase Order: 6029
Project No.: 21000/B101001

Test	Analysis	Results as Received	Units	Limit of Quantitation
6719	Polycyclic Aromatic Hydrocarbons Method: SW-846 8270A			
	Acenaphthene	ND	ug/l	10
	Acenaphthylene	ND	ug/l	10
	Anthracene	ND	ug/l	10
	Benz(a)anthracene	ND	ug/l	10
	Benzo(b)fluoranthene	ND	ug/l	10
	Benzo(k)fluoranthene	ND	ug/l	10
	Benzo(ghi)perylene	ND	ug/l	10
	Benzo(a)pyrene	ND	ug/l	10
	Chrysene	ND	ug/l	10
	Dibenz(a,h)anthracene	ND	ug/l	10
	Fluoranthene	ND	ug/l	10
	Fluorene	ND	ug/l	10
	Naphthalene	10	ug/l	10
	Phenanthrene	ND	ug/l	10
	Pyrene	ND	ug/l	10
	Indeno(1,2,3-cd)pyrene	ND	ug/l	10
	2-Methylnaphthalene	10	ug/l	10

ND - Not detected at the limit of quantitation

Respectfully Submitted,
Reviewed and Approved by:

Rolf E. Larsen
Project Manager

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLK01

Lab Name: MOUNTAIN STATES

Contract:

Lab Code: MSAI

Case No.:

SAS No.:

SDG No.: OST

Matrix: (soil/water) WATER

Lab Sample ID: 970324WB

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: X0490

Level: (low/med) LOW

Date Received: _____

% Moisture: _____ decanted: (Y/N) _____

Date Extracted:

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 03/25/97

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
---------	----------	--	---

95-48-7-----	2-Methylphenol (o-Cresol) _____	25	U
N0019500-----	3 and 4-Methylphenol _____	0.0	U
67-72-1-----	Hexachloroethane _____	10	U
98-95-3-----	Nitrobenzene _____	10	U
87-68-3-----	Hexachlorobutadiene _____	10	U
88-06-2-----	2,4,6-Trichlorophenol _____	25	U
95-95-4-----	2,4,5-Trichlorophenol _____	25	U
121-14-2-----	2,4-Dinitrotoluene _____	10	U
118-74-1-----	Hexachlorobenzene _____	10	U
87-86-5-----	Pentachlorophenol _____	25	U
110-86-1-----	Pyridine _____	10	U

3C
WATER SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: MOUNTAIN STATES

Contract:

Lab Code: MSAI

Case No.:

SAS No.:

SDG No.: OST

Matrix Spike - EPA Sample No.: 7080.12

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC. LIMITS REC.
Phenol	400		64	16	5-112
2-Chlorophenol	400		210	52	23-134
1,4-Dichlorobenzene	400		180	45	20-124
N-Nitrosodi-N-propylami	400		230	58	1-230
1,2,4-Trichlorobenzene	400		190	48	44-142
4-Chloro-3-methylphenol	400		240	60	22-147
Acenaphthene	400		220	55	47-145
4-Nitrophenol	400		110	28	1-132
2,4-Dinitrotoluene	400	0.0	240	60	39-139
Pentachlorophenol	400	0.0	240	60	14-176
Pyrene	400		230	58	52-115

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	REC.
Phenol	400	59	15	6	42	5-112
2-Chlorophenol	400	200	50	4	40	23-134
1,4-Dichlorobenzene	400	160	40	12	28	20-124
N-Nitrosodi-N-propylami	400	230	58	0	38	1-230
1,2,4-Trichlorobenzene	400	180	45	6	28	44-142
4-Chloro-3-methylphenol	400	230	58	3	42	22-147
Acenaphthene	400	220	55	0	31	47-145
4-Nitrophenol	400	100	25	11	50	1-132
2,4-Dinitrotoluene	400	230	58	3	38	39-139
Pentachlorophenol	400	230	58	3	50	14-176
Pyrene	400	230	58	0	31	52-115

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 11 outside limits

Spike Recovery: 0 out of 22 outside limits

COMMENTS:

CHAIN OF CUSTODY RECORD

5069

ON SITE

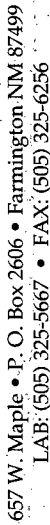
TECHNOLOGIES, LTD.

657 W. Maple • P. O. Box 2606 • Farmington NM 87499
LAB: (505) 325-5667 • FAX: (505) 325-6256

Date: 3/20/97

Page 2 of 2

Purchase Order No.: <u>6029</u>		Job No. <u>2-1000 / B101001</u>		Name <u>DAVID COX</u>		Title																																																											
SEND INVOICE TO		Company		Company <u>OK SITE</u>																																																													
Address		Dept.		Mailing Address																																																													
City, State, Zip				City, State, Zip																																																													
City, State, Zip				Telephone No.		Telefax No.																																																											
Sampling Location: <u>THRIFTWAY REFINERY 626 CR 5500</u> <u>Bloomfield, NM 87413</u>				ANALYSIS REQUESTED																																																													
Sampler: <u>KS</u>				<u>PAH</u> <u>10°C</u> <u>Wet</u> LAB ID																																																													
<table border="1"> <thead> <tr> <th rowspan="2">SAMPLE IDENTIFICATION</th> <th colspan="2">SAMPLE DATE</th> <th rowspan="2">TIME</th> <th rowspan="2">MATRIX</th> <th rowspan="2">PRES.</th> <th rowspan="2">Number of Containers</th> <th rowspan="2">REPORT RESULTS TO</th> </tr> <tr> <th>DATE</th> <th>TIME</th> </tr> </thead> <tbody> <tr> <td>THRIFTWAY REFINERY MWL-01</td> <td>3/19/97</td> <td>1500</td> <td>H₂O</td> <td>COOL</td> <td>1</td> <td>✓</td> <td>13985-6029</td> </tr> <tr> <td>MW-04</td> <td></td> <td>1030</td> <td></td> <td></td> <td>1</td> <td>✓</td> <td>13986</td> </tr> <tr> <td>MW-05</td> <td></td> <td>1105</td> <td></td> <td></td> <td>1</td> <td>✓</td> <td>13987</td> </tr> <tr> <td>MW-06</td> <td></td> <td>0927</td> <td></td> <td></td> <td>1</td> <td>✓</td> <td>13988</td> </tr> <tr> <td>MW-18</td> <td></td> <td>1415</td> <td></td> <td></td> <td>1</td> <td>✓</td> <td>13989</td> </tr> <tr> <td>MW-19</td> <td></td> <td>1600</td> <td></td> <td></td> <td>1</td> <td>✓</td> <td>13990</td> </tr> </tbody> </table>				SAMPLE IDENTIFICATION	SAMPLE DATE		TIME	MATRIX	PRES.	Number of Containers	REPORT RESULTS TO	DATE	TIME	THRIFTWAY REFINERY MWL-01	3/19/97	1500	H ₂ O	COOL	1	✓	13985-6029	MW-04		1030			1	✓	13986	MW-05		1105			1	✓	13987	MW-06		0927			1	✓	13988	MW-18		1415			1	✓	13989	MW-19		1600			1	✓	13990				
SAMPLE IDENTIFICATION	SAMPLE DATE		TIME		MATRIX	PRES.						Number of Containers	REPORT RESULTS TO																																																				
	DATE	TIME																																																															
THRIFTWAY REFINERY MWL-01	3/19/97	1500	H ₂ O	COOL	1	✓	13985-6029																																																										
MW-04		1030			1	✓	13986																																																										
MW-05		1105			1	✓	13987																																																										
MW-06		0927			1	✓	13988																																																										
MW-18		1415			1	✓	13989																																																										
MW-19		1600			1	✓	13990																																																										
Relinquished by: <u>[Signature]</u>				Date/Time <u>3/20/97 1300</u>		Received by: <u>[Signature]</u>																																																											
Relinquished by:				Date/Time		Date/Time																																																											
Relinquished by:				Date/Time		Date/Time																																																											
Method of Shipment:				Rush		Special Instructions:																																																											
Authorized by: <u>[Signature]</u>				Date <u>3/20/97</u>																																																													



CHAIN OF CUSTODY RECORD

657 W. Maple • P. O. Box 2606 • Farmington NM 87499
LAB: (505) 325-5667 • FAX: (505) 325-6256

Distribution:	White – On Site	Yellow – LAB	Pink – Sampler	Goldenrod – Client
---------------	-----------------	--------------	----------------	--------------------

2C
WATER SEMIVOLATILE SURROGATE RECOVERY

Lab Name: MOUNTAIN STATES

Contract:

Lab Code: MSAI

Case No.:

SAS No.:

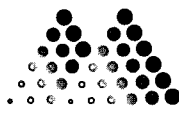
SDG No.: OST

	EPA SAMPLE NO.	S1 (2FP) #	S2 (PHL) #	S3 (NBZ) #	S4 (FBP) #	S5 (TBP) #	S6 (TPH) #	S7 #	S8 #	TOT OUT
01	SBLK01	36	29	55	60	60	56			0
02	SBLK01LCS	40	29	64	62	65	62			0
03	7080.12	21	21	45	50	48	45			0
04	7080.12MS	35	12	52	48	51	50			0
05	7080.12MSD	32	15	50	45	51	52			0
06	13986	40	34	61	74	70	61			0
07	13989	45	38	66	74	70	54			0
08	13990	42	39	62	76	70	60			0
09										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24										
25										
26										
27										
28										
29										
30										

QC LIMITS

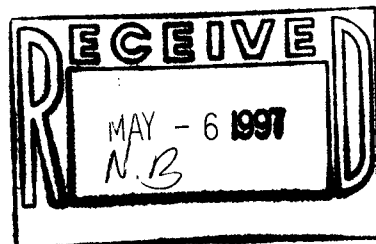
S1 (2FP) = 2-Fluorophenol (21-110)
 S2 (PHL) = Phenol-d6 (10-110)
 S3 (NBZ) = Nitrobenzene-d5 (35-114)
 S4 (FBP) = 2-Fluorobiphenyl (43-116)
 S5 (TBP) = 2,4,6-Tribromophenol (10-123)
 S6 (TPH) = Terphenyl-d14 (33-141)

Column to be used to flag recovery values
 * Values outside of contract required QC limits
 D Surrogate diluted out



Mountain States Analytical

The Quality Solution



April 4, 1997

Mr. David Cox
On Site Technologies, Ltd.
612 E Murray Drive
Farmington, NM 87401

Reference:

Project: Thriftway Refinery
Project No.: 21000/B101001
MSAI Group: 15641

Dear Mr. Cox:

Enclosed are the analytical results for your project referenced above. The following samples are included in the report.

13956-6025	13957-6025	13958-6025
13959-6025	13960-6025	13961-6025
13962-6025		

All holding times were met for the tests performed on these samples.

If the report is acceptable, please approve the enclosed invoice and forward it for payment.

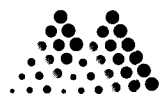
Thank you for selecting Mountain States Analytical, Inc. to serve as your analytical laboratory on this project. If you have any questions concerning these results, please feel free to contact me at any time.

We look forward to working with you on future projects.

With Regards,

Rolf E. Larsen
Project Manager

Analytical Report



Mountain States Analytical

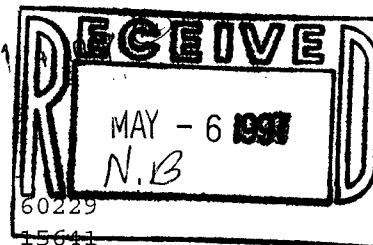
The Quality Solution

On Site Technologies, Ltd.
612 E Murray Drive
Farmington, NM 87401

Attn: Mr. David Cox
Project: Thriftway Refinery

Sample ID: 13956-6025 *mw-09* (oc)
Matrix: Waste Water

RECEIVED APR 1



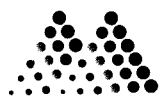
MSAI Sample: 60229
MSAI Group: 15641
Date Reported: 04/04/97
Discard Date: 05/04/97
Date Submitted: 03/21/97
Date Sampled: 03/18/97
Collected by: KS
Purchase Order: 6025
Project No.: 21000/B101001

Test	Analysis	Results as Received	Units	Limit of Quantitation
6719	Polycyclic Aromatic Hydrocarbons Method: SW-846 8270A			
	Acenaphthene	ND	ug/l	10
	Acenaphthylene	ND	ug/l	10
	Anthracene	ND	ug/l	10
	Benz (a) anthracene	ND	ug/l	10
	Benzo (b) fluoranthene	ND	ug/l	10
	Benzo (k) fluoranthene	ND	ug/l	10
	Benzo (ghi) perylene	ND	ug/l	10
	Benzo (a) pyrene	ND	ug/l	10
	Chrysene	ND	ug/l	10
	Dibenz (a,h) anthracene	ND	ug/l	10
	Fluoranthene	ND	ug/l	10
	Fluorene	ND	ug/l	10
	Naphthalene	ND	ug/l	10
	Phenanthrene	ND	ug/l	10
	Pyrene	ND	ug/l	10
	Indeno (1,2,3-cd) pyrene	ND	ug/l	10
	2-Methylnaphthalene	ND	ug/l	10
3000	SVOA Extraction, Water Method: SW-846 3510B	Complete		

ND - Not detected at the limit of quantitation

Respectfully Submitted,
Reviewed and Approved by:

Rolf E. Larsen
Project Manager



Mountain States Analytical

The Quality Solution

On Site Technologies, Ltd.
612 E Murray Drive
Farmington, NM 87401

Attn: Mr. David Cox
Project: Thriftway Refinery

Sample ID: 13957-6025 MW-10 (12)
Matrix: Waste Water

RECEIVED APR 14 1997 (12)

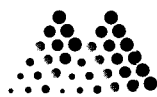
MSAI Sample: 60230
MSAI Group: 15641
Date Reported: 04/04/97
Discard Date: 05/04/97
Date Submitted: 03/21/97
Date Sampled: 03/18/97
Collected by: KS
Purchase Order: 6025
Project No.: 21000/B101001

Test	Analysis	Results as Received	Units	Limit of Quantitation
6719	Polycyclic Aromatic Hydrocarbons Method: SW-846 8270A			
	Acenaphthene	ND	ug/l	10
	Acenaphthylene	ND	ug/l	10
	Anthracene	ND	ug/l	10
	Benz (a) anthracene	ND	ug/l	10
	Benzo (b) fluoranthene	ND	ug/l	10
	Benzo (k) fluoranthene	ND	ug/l	10
	Benzo (ghi) perylene	ND	ug/l	10
	Benzo (a) pyrene	ND	ug/l	10
	Chrysene	ND	ug/l	10
	Dibenz (a,h) anthracene	ND	ug/l	10
	Fluoranthene	ND	ug/l	10
	Fluorene	ND	ug/l	10
	Naphthalene	ND	ug/l	10
	Phenanthrene	ND	ug/l	10
	Pyrene	ND	ug/l	10
	Indeno (1,2,3-cd) pyrene	ND	ug/l	10
	2-Methylnaphthalene	ND	ug/l	10
3000	SVOA Extraction, Water Method: SW-846 3510B	Complete		

ND - Not detected at the limit of quantitation

Respectfully Submitted,
Reviewed and Approved by:

Rolf E. Larsen
Project Manager



Mountain States Analytical

The Quality Solution

On Site Technologies, Ltd.
612 E Murray Drive
Farmington, NM 87401

Attn: Mr. David Cox
Project: Thriftway Refinery

Sample ID: 13958-6025 MW-11
Matrix: Waste Water

RECEIVED APR 14 1997

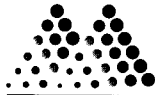
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MSAI Group: 15641
Date Reported: 04/04/97
Discard Date: 05/04/97
Date Submitted: 03/21/97
Date Sampled: 03/18/97
Collected by: KS
Purchase Order: 6025
Project No.: 21000/B101001

Test	Analysis	Results as Received	Units	Limit of Quantitation
6719	Polycyclic Aromatic Hydrocarbons Method: SW-846 8270A			
	Acenaphthene	ND	ug/l	10
	Acenaphthylene	ND	ug/l	10
	Anthracene	ND	ug/l	10
	Benz (a) anthracene	ND	ug/l	10
	Benzo (b) fluoranthene	ND	ug/l	10
	Benzo (k) fluoranthene	ND	ug/l	10
	Benzo (ghi) perylene	ND	ug/l	10
	Benzo (a) pyrene	ND	ug/l	10
	Chrysene	ND	ug/l	10
	Dibenz (a,h) anthracene	ND	ug/l	10
	Fluoranthene	ND	ug/l	10
	Fluorene	ND	ug/l	10
	Naphthalene	ND	ug/l	10
	Phenanthrene	ND	ug/l	10
	Pyrene	ND	ug/l	10
	Indeno (1,2,3-cd) pyrene	ND	ug/l	10
	2-Methylnaphthalene	ND	ug/l	10
3000	SVOA Extraction, Water Method: SW-846 3510B	Complete		

ND - Not detected at the limit of quantitation

Respectfully Submitted,
Reviewed and Approved by:

Rolf E. Larsen
Project Manager



Mountain States Analytical

The Quality Solution

On Site Technologies, Ltd.
612 E Murray Drive
Farmington, NM 87401

Attn: Mr. David Cox
Project: Thriftway Refinery

Sample ID: 13959-6025
Matrix: Waste Water

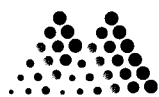
RECEIVED APR 14 1997

MSAI Sample: 60232
MSAI Group: 15641
Date Reported: 04/04/97
Discard Date: 05/04/97
Date Submitted: 03/21/97
Date Sampled: 03/18/97
Collected by: KS
Purchase Order: 6025
Project No.: 21000/B101001

Test	Analysis	Results as Received	Units	Limit of Quantitation
3000	SVOA Extraction, Water Method: SW-846 3510B	Complete		

Respectfully Submitted,
Reviewed and Approved by:

Rolf E. Larsen
Project Manager



Mountain States Analytical

The Quality Solution

On Site Technologies, Ltd.
612 E Murray Drive
Farmington, NM 87401

Attn: Mr. David Cox
Project: Thriftway Refinery

Sample ID: 13960-6025 MW-15 (pc)
Matrix: Waste Water

RECEIVED APR 14 1997 (pc)

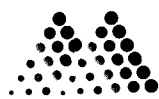
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MSAI Group: 15641
Date Reported: 04/04/97
Discard Date: 05/04/97
Date Submitted: 03/21/97
Date Sampled: 03/18/97
Collected by: KS
Purchase Order: 6025
Project No.: 21000/B101001

Test	Analysis	Results as Received	Units	Limit of Quantitation
6719	Polycyclic Aromatic Hydrocarbons Method: SW-846 8270A			
	Acenaphthene	ND	ug/l	10
	Acenaphthylene	ND	ug/l	10
	Anthracene	ND	ug/l	10
	Benz(a)anthracene	ND	ug/l	10
	Benzo(b)fluoranthene	ND	ug/l	10
	Benzo(k)fluoranthene	ND	ug/l	10
	Benzo(ghi)perylene	ND	ug/l	10
	Benzo(a)pyrene	ND	ug/l	10
	Chrysene	ND	ug/l	10
	Dibenz(a,h)anthracene	ND	ug/l	10
	Fluoranthene	ND	ug/l	10
	Fluorene	ND	ug/l	10
	Naphthalene	ND	ug/l	10
	Phenanthrene	ND	ug/l	10
	Pyrene	ND	ug/l	10
	Indeno(1,2,3-cd)pyrene	ND	ug/l	10
	2-Methylnaphthalene	ND	ug/l	10
3000	SVOA Extraction, Water Method: SW-846 3510B	Complete		

ND - Not detected at the limit of quantitation

Respectfully Submitted,
Reviewed and Approved by:

Rolf E. Larsen
Project Manager



Mountain States Analytical

The Quality Solution

On Site Technologies, Ltd.
612 E Murray Drive
Farmington, NM 87401

Attn: Mr. David Cox
Project: Thriftway Refinery

Sample ID: 13961-6025 *MW-20*
Matrix: Waste Water

RECEIVED APR 14 1997 *(cc)*

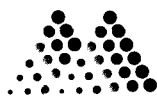
MSAI Sample: 60234
MSAI Group: 15641
Date Reported: 04/04/97
Discard Date: 05/04/97
Date Submitted: 03/21/97
Date Sampled: 03/18/97
Collected by: KS
Purchase Order: 6025
Project No.: 21000/B101001

Test	Analysis	Results as Received	Units	Limit of Quantitation
6719	Polycyclic Aromatic Hydrocarbons Method: SW-846 8270A			
	Acenaphthene	ND	ug/l	10
	Acenaphthylene	ND	ug/l	10
	Anthracene	ND	ug/l	10
	Benz (a) anthracene	ND	ug/l	10
	Benzo (b) fluoranthene	ND	ug/l	10
	Benzo (k) fluoranthene	ND	ug/l	10
	Benzo (ghi) perylene	ND	ug/l	10
	Benzo (a) pyrene	ND	ug/l	10
	Chrysene	ND	ug/l	10
	Dibenz (a, h) anthracene	ND	ug/l	10
	Fluoranthene	ND	ug/l	10
	Fluorene	ND	ug/l	10
	Naphthalene	ND	ug/l	10
	Phenanthrene	ND	ug/l	10
	Pyrene	ND	ug/l	10
	Indeno (1,2,3-cd) pyrene	ND	ug/l	10
	2-Methylnaphthalene	ND	ug/l	10
3000	SVOA Extraction, Water Method: SW-846 3510B	Complete		

ND - Not detected at the limit of quantitation

Respectfully Submitted,
Reviewed and Approved by:

R. E. Larsen
Rolf E. Larsen
Project Manager



Mountain States Analytical

The Quality Solution

On Site Technologies, Ltd.
612 E Murray Drive
Farmington, NM 87401

Attn: Mr. David Cox
Project: Thriftway Refinery

Sample ID: 13962-6025 MW-21^(P)
Matrix: Waste Water

RECEIVED APR 14 1997^(m)

MSAI Sample: 60235
MSAI Group: 15641
Date Reported: 04/04/97
Discard Date: 05/04/97
Date Submitted: 03/21/97
Date Sampled: 03/18/97
Collected by: KS
Purchase Order: 6025
Project No.: 21000/B101001

Test	Analysis	Results as Received	Units	Limit of Quantitation
-----	-----	-----	-----	-----
3000	SVOA Extraction, Water Method: SW-846 3510B	Complete		

Respectfully Submitted,
Reviewed and Approved by:

Rolf E. Larsen
Project Manager

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLK01

Lab Name: MOUNTAIN STATES

Contract:

Lab Code: MSAI

Case No.:

SAS No.:

SDG No.: OST

Matrix: (soil/water) WATER

Lab Sample ID: 970324WB

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: X0490

Level: (low/med) LOW

Date Received: _____

% Moisture: _____ decanted: (Y/N) _____

Date Extracted:

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 03/25/97

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
---------	----------	--	---

95-48-7-----	2-Methylphenol (o-Cresol) _____	25	U
N0019500-----	3 and 4-Methylphenol _____	0.0	U
67-72-1-----	Hexachloroethane _____	10	U
98-95-3-----	Nitrobenzene _____	10	U
87-68-3-----	Hexachlorobutadiene _____	10	U
88-06-2-----	2,4,6-Trichlorophenol _____	25	U
95-95-4-----	2,4,5-Trichlorophenol _____	25	U
121-14-2-----	2,4-Dinitrotoluene _____	10	U
118-74-1-----	Hexachlorobenzene _____	10	U
87-86-5-----	Pentachlorophenol _____	25	U
110-86-1-----	Pyridine _____	10	U

2C
WATER SEMIVOLATILE SURROGATE RECOVERY

Lab Name: MOUNTAIN STATES

Contract:

Lab Code: MSAI

Case No.:

SAS No.:

SDG No.: OST

	EPA SAMPLE NO.	S1 (2FP) #	S2 (PHL) #	S3 (NBZ) #	S4 (FBP) #	S5 (TBP) #	S6 (TPH) #	S7 #	S8 #	TOT OUT
01	SBLK01	36	29	55	60	60	56			0
02	SBLK01LCS	40	29	64	62	65	62			0
03	7080.12	21	21	45	50	48	45			0
04	7080.12MS	35	12	52	48	51	50			0
05	7080.12MSD	32	15	50	45	51	52			0
06	13956	20*	22	68	74	24	59			1
07	13957	20*	16	63	69	48	46			1
08	13958	10*	10	64	72	39	47			1
09	13960	12*	26	66	71	14	43			1
10	13961	46	39	69	77	70	55			0
11										
12										
13										
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28										
29										
30										

QC LIMITS

S1 (2FP) = 2-Fluorophenol (21-110)
 S2 (PHL) = Phenol-d6 (10-110)
 S3 (NBZ) = Nitrobenzene-d5 (35-114)
 S4 (FBP) = 2-Fluorobiphenyl (43-116)
 S5 (TBP) = 2,4,6-Tribromophenol (10-123)
 S6 (TPH) = Terphenyl-d14 (33-141)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogate diluted out

3C
WATER SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: MOUNTAIN STATES

Contract:

Lab Code: MSAI

Case No.:

SAS No.:

SDG No.: OST

Matrix Spike - EPA Sample No.: 7080.12

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC. LIMITS REC.
Phenol	400		64	16	5-112
2-Chlorophenol	400		210	52	23-134
1,4-Dichlorobenzene	400		180	45	20-124
N-Nitrosodi-N-propylami	400		230	58	1-230
1,2,4-Trichlorobenzene	400		190	48	44-142
4-Chloro-3-methylphenol	400		240	60	22-147
Acenaphthene	400		220	55	47-145
4-Nitrophenol	400		110	28	1-132
2,4-Dinitrotoluene	400	0.0	240	60	39-139
Pentachlorophenol	400	0.0	240	60	14-176
Pyrene	400		230	58	52-115

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	REC.
Phenol	400	59	15	6	42	5-112
2-Chlorophenol	400	200	50	4	40	23-134
1,4-Dichlorobenzene	400	160	40	12	28	20-124
N-Nitrosodi-N-propylami	400	230	58	0	38	1-230
1,2,4-Trichlorobenzene	400	180	45	6	28	44-142
4-Chloro-3-methylphenol	400	230	58	3	42	22-147
Acenaphthene	400	220	55	0	31	47-145
4-Nitrophenol	400	100	25	11	50	1-132
2,4-Dinitrotoluene	400	230	58	3	38	39-139
Pentachlorophenol	400	230	58	3	50	14-176
Pyrene	400	230	58	0	31	52-115

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 11 outside limits

Spike Recovery: 0 out of 22 outside limits

COMMENTS:

ON SITE

CHAIN OF CUSTODY RECORD

5068

TECHNOLOGIES, LTD.

657 W. Maple • P. O. Box 2606 • Farmington NM 87499
LAB: (505) 325-5667 • FAX: (505) 325-6256

Date:

3/20/97

Page

1 of 2

Purchase Order No.: 6025		Job No. 2-1000 / B101001	
Name ACCOUNTS PAYABLE		Dept.	
Company ON SITE		Address	
City, State, Zip		City, State, Zip	
Sampling Location:		Telephone No. 585 325 2432	
THIRIFTWAY REFINERY		626 AL 5500	
Bloomfield, NM		87413	
Sampler: KS			
SAMPLE IDENTIFICATION		SAMPLE TIME	
THIRIFTWAY REFINERY MW-09		3/16/97 1430	
MW-10		1355	
MW-11		1159	
MW-13		1055	
MW-15		1000	
MW-20		1530	
MW-21		1620	
MW-22		1700	
REPORT TO		RESULTS TO	
Number of Containers		ANALYSIS REQUESTED	
PAH		LAB ID	
✓		13956-6025	
✓		13957	
✓		13958	
✓		13959	
✓		13960	
✓		13961	
✓		13962	
✓		13963	
Relinquished by:		Date/Time 3/20/97 1500	
Relinquished by:		Date/Time	
Relinquished by:		Date/Time	
Method of Shipment:		10 Working Days	
Authorized by:		Date 3/20/97	
(Client Signature Must Accompany Request)		Special Instructions:	

TECHNOLOGIES, LTD.

657 W. Maple • P. O. Box 2606 • Farmington NM 87499
LAB: (505) 325-5667 • FAX: (505) 325-6256

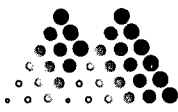
Date: 3/13/97

Page _____ of _____

CHAIN OF CUSTODY RECORD

Purchase Order No. 1397-229		Job No.		Name Terry Griffin		Title	
Name Same		Company		BioTech Remediation			
Address		City, State, Zip		Mailing Address 710 E. 20th St. Suite 400			
City, State, Zip		Telephone No.		City, State, Zip Farmington, NM 87401		Telefax No.	
Sampling Location: The. Htway Refinery 626 Rd 5500, Bloomfield, NM 87413				ANALYSIS REQUESTED			
Sampler: Ken Sinks				PAH			
REPORT TO				RESULTS TO			
SEND INVOICE TO				Number of Containers			
SAMPLE IDENTIFICATION				DATE			
MW-09				3/13			
MW-10				1120 Cool			
MW-11							
MW-13 Petroleum w/ cool core							
MW-15							
MW-20							
MW-21 Petroleum w/ cool core							
MW-22 Petroleum w/ cool core							
Relinquished by: Ken Sinks				Date/Time 3/19/97 0800			
Relinquished by:				Date/Time			
Relinquished by:				Date/Time			
Method of Shipment:				Rush			
Authorized by:				Date			
(Client Signature Must Accompany Request)							

Distribution:	White -- On Site	Yellow -- LAB	Pink -- Sampler	Goldenrod -- Client
---------------	------------------	---------------	-----------------	---------------------



Mountain States Analytical

The Quality Solution

April 10, 1997

Mr. David Cox
On Site Technologies, Ltd.
612 E Murray Drive
Farmington, NM 87401

Reference:

Project: Thriftway Refinery
Project No.: B101001/21000
MSAI Group: 15802

Dear Mr. Cox:

Enclosed are the analytical results for your project referenced above. The following samples are included in the report.

14084-6036 (MW-01) 14085-6036 (MW-05) 14086-6036 (MW-06)
14087-6036 (MW-13) 14088-6036 (MW-21) 14089-6036 (MW-22)

All holding times were met for the tests performed on these samples.

If the report is acceptable, please approve the enclosed invoice and forward it for payment.

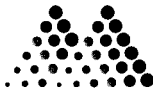
Thank you for selecting Mountain States Analytical, Inc. to serve as your analytical laboratory on this project. If you have any questions concerning these results, please feel free to contact me at any time.

We look forward to working with you on future projects.

With Regards,

Rolf E. Larsen
Project Manager





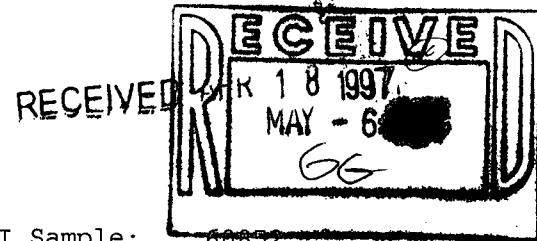
Mountain States Analytical

The Quality Solution

On Site Technologies, Ltd.
612 E Murray Drive
Farmington, NM 87401

Attn: Mr. David Cox
Project: Thriftway Refinery

Sample ID: 14084-6036 (MW-01)
Matrix: Water



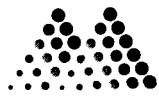
MSAI Sample: 60852
MSAI Group: 15802
Date Reported: 04/10/97
Discard Date: 05/10/97
Date Submitted: 04/04/97
Date Sampled: 04/03/97
Collected by: KS
Purchase Order: 6036
Project No.: B101001/21000

Test	Analysis	Results as Received	Units	Limit of Quantitation
6719	Polycyclic Aromatic Hydrocarbons Method: SW-846 8270A			
	Acenaphthene	ND	ug/l	10
	Acenaphthylene	ND	ug/l	10
	Anthracene	ND	ug/l	10
	Benz (a) anthracene	ND	ug/l	10
	Benzo (b) fluoranthene	ND	ug/l	10
	Benzo (k) fluoranthene	ND	ug/l	10
	Benzo (ghi) perylene	ND	ug/l	10
	Benzo (a) pyrene	ND	ug/l	10
	Chrysene	ND	ug/l	10
	Dibenz (a,h) anthracene	ND	ug/l	10
	Fluoranthene	ND	ug/l	10
	Fluorene	ND	ug/l	10
	Naphthalene	ND	ug/l	10
	Phenanthrene	ND	ug/l	10
	Pyrene	ND	ug/l	10
	Indeno (1,2,3-cd) pyrene	ND	ug/l	10
	2-Methylnaphthalene	ND	ug/l	10
3000	SVOA Extraction, Water Method: SW-846 3510B	Complete		

ND - Not detected at the limit of quantitation

Respectfully Submitted,
Reviewed and Approved by:

Rolf E. Larsen
Project Manager



Mountain States Analytical

The Quality Solution

On Site Technologies, Ltd.
612 E Murray Drive
Farmington, NM 87401

Attn: Mr. David Cox
Project: Thriftway Refinery

Sample ID: 14085-6036 (MW-05)
Matrix: Water

RECEIVED APR 18 1997

MSAI Sample: 60853
MSAI Group: 15802
Date Reported: 04/10/97
Discard Date: 05/10/97
Date Submitted: 04/04/97
Date Sampled: 04/03/97
Collected by: KS
Purchase Order: 6036
Project No.: B101001/21000

Test	Analysis	Results as Received	Units	Limit of Quantitation
6719	Polycyclic Aromatic Hydrocarbons Method: SW-846 8270A			
	Acenaphthene	ND	ug/l	10
	Acenaphthylene	ND	ug/l	10
	Anthracene	ND	ug/l	10
	Benz (a) anthracene	ND	ug/l	10
	Benzo (b) fluoranthene	ND	ug/l	10
	Benzo (k) fluoranthene	ND	ug/l	10
	Benzo (ghi) perylene	ND	ug/l	10
	Benzo (a) pyrene	ND	ug/l	10
	Chrysene	ND	ug/l	10
	Dibenz (a,h) anthracene	ND	ug/l	10
	Fluoranthene	ND	ug/l	10
	Fluorene	ND	ug/l	10
	Naphthalene	ND	ug/l	10
	Phenanthrene	ND	ug/l	10
	Pyrene	ND	ug/l	10
	Indeno (1,2,3-cd) pyrene	ND	ug/l	10
	2-Methylnaphthalene	ND	ug/l	10
3000	SVOA Extraction, Water Method: SW-846 3510B	Complete		

ND - Not detected at the limit of quantitation

Respectfully Submitted,
Reviewed and Approved by:

Rolf E. Larsen
Project Manager



Mountain States Analytical

The Quality Solution

On Site Technologies, Ltd.
612 E Murray Drive
Farmington, NM 87401

Attn: Mr. David Cox
Project: Thriftway Refinery

Sample ID: 14086-6036 (MW-06)
Matrix: Water

RECEIVED APR 18 1997

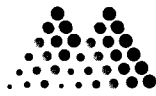
MSAI Sample: 60854
MSAI Group: 15802
Date Reported: 04/10/97
Discard Date: 05/10/97
Date Submitted: 04/04/97
Date Sampled: 04/03/97
Collected by: KS
Purchase Order: 6036
Project No.: B101001/21000

Test	Analysis	Results as Received	Units	Limit of Quantitation
6719	Polycyclic Aromatic Hydrocarbons Method: SW-846 8270A			
	Acenaphthene	ND	ug/l	10
	Acenaphthylene	ND	ug/l	10
	Anthracene	ND	ug/l	10
	Benz (a) anthracene	ND	ug/l	10
	Benzo (b) fluoranthene	ND	ug/l	10
	Benzo (k) fluoranthene	ND	ug/l	10
	Benzo (ghi) perylene	ND	ug/l	10
	Benzo (a) pyrene	ND	ug/l	10
	Chrysene	ND	ug/l	10
	Dibenz (a,h) anthracene	ND	ug/l	10
	Fluoranthene	ND	ug/l	10
	Fluorene	ND	ug/l	10
	Naphthalene	ND	ug/l	10
	Phenanthrene	ND	ug/l	10
	Pyrene	ND	ug/l	10
	Indeno (1,2,3-cd) pyrene	ND	ug/l	10
	2-Methylnaphthalene	ND	ug/l	10
3000	SVOA Extraction, Water Method: SW-846 3510B	Complete		

ND - Not detected at the limit of quantitation

Respectfully Submitted,
Reviewed and Approved by:

Rolf E. Larsen
Project Manager



Mountain States Analytical

The Quality Solution

On Site Technologies, Ltd.
612 E Murray Drive
Farmington, NM 87401

Attn: Mr. David Cox
Project: Thriftway Refinery

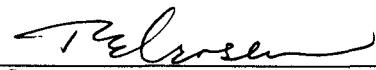
Sample ID: 14087-6036 (MW-13)
Matrix: Water

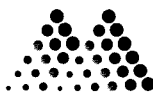
MSAI Sample: 60855
MSAI Group: 15802
Date Reported: 04/10/97
Discard Date: 05/10/97
Date Submitted: 04/04/97
Date Sampled: 04/03/97
Collected by: KS
Purchase Order: 6036
Project No.: B101001/21000

Test	Analysis	Results as Received	Units	Limit of Quantitation
6719	Polycyclic Aromatic Hydrocarbons Method: SW-846 8270A			
	Acenaphthene	ND	ug/l	10
	Acenaphthylene	ND	ug/l	10
	Anthracene	ND	ug/l	10
	Benz (a) anthracene	ND	ug/l	10
	Benzo (b) fluoranthene	ND	ug/l	10
	Benzo (k) fluoranthene	ND	ug/l	10
	Benzo (ghi) perylene	ND	ug/l	10
	Benzo (a) pyrene	ND	ug/l	10
	Chrysene	ND	ug/l	10
	Dibenz (a, h) anthracene	ND	ug/l	10
	Fluoranthene	ND	ug/l	10
	Fluorene	ND	ug/l	10
	Naphthalene	ND	ug/l	10
	Phenanthrene	ND	ug/l	10
	Pyrene	ND	ug/l	10
	Indeno (1, 2, 3-cd) pyrene	ND	ug/l	10
	2-Methylnaphthalene	ND	ug/l	10
3000	SVOA Extraction, Water Method: SW-846 3510B	Complete		

ND - Not detected at the limit of quantitation

Respectfully Submitted,
Reviewed and Approved by:


Rolf E. Larsen
Project Manager



Mountain States Analytical

The Quality Solution

On Site Technologies, Ltd.
612 E Murray Drive
Farmington, NM 87401

Attn: Mr. David Cox
Project: Thriftway Refinery

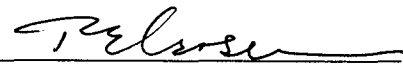
Sample ID: 14088-6036 (MW-21)
Matrix: Water

MSAI Sample: 60856
MSAI Group: 15802
Date Reported: 04/10/97
Discard Date: 05/10/97
Date Submitted: 04/04/97
Date Sampled: 04/03/97
Collected by: KS
Purchase Order: 6036
Project No.: B101001/21000

Test	Analysis	Results as Received	Units	Limit of Quantitation
6719	Polycyclic Aromatic Hydrocarbons Method: SW-846 8270A			
	Acenaphthene	ND	ug/l	10
	Acenaphthylene	ND	ug/l	10
	Anthracene	ND	ug/l	10
	Benz (a) anthracene	ND	ug/l	10
	Benzo (b) fluoranthene	ND	ug/l	10
	Benzo (k) fluoranthene	ND	ug/l	10
	Benzo (ghi) perylene	ND	ug/l	10
	Benzo (a) pyrene	ND	ug/l	10
	Chrysene	ND	ug/l	10
	Dibenz (a,h) anthracene	ND	ug/l	10
	Fluoranthene	ND	ug/l	10
	Fluorene	ND	ug/l	10
	Naphthalene	ND	ug/l	10
	Phenanthrene	ND	ug/l	10
	Pyrene	ND	ug/l	10
	Indeno (1,2,3-cd) pyrene	ND	ug/l	10
	2-Methylnaphthalene	ND	ug/l	10
3000	SVOA Extraction, Water Method: SW-846 3510B	Complete		

ND - Not detected at the limit of quantitation

Respectfully Submitted,
Reviewed and Approved by:


Rolf E. Larsen
Project Manager



Mountain States Analytical

The Quality Solution

On Site Technologies, Ltd.
612 E Murray Drive
Farmington, NM 87401

Attn: Mr. David Cox
Project: Thriftway Refinery

Sample ID: 14089-6036 (MW-22)
Matrix: Water

MSAI Sample: 60857
MSAI Group: 15802
Date Reported: 04/10/97
Discard Date: 05/10/97
Date Submitted: 04/04/97
Date Sampled: 04/03/97
Collected by: KS
Purchase Order: 6036
Project No.: B101001/21000

Test	Analysis	Results as Received	Units	Limit of Quantitation
6719	Polycyclic Aromatic Hydrocarbons Method: SW-846 8270A			
	Acenaphthene	ND	ug/l	(1) 10
	Acenaphthylene	ND	ug/l	10
	Anthracene	ND	ug/l	10
	Benz (a) anthracene	ND	ug/l	10
	Benzo (b) fluoranthene	ND	ug/l	10
	Benzo (k) fluoranthene	ND	ug/l	10
	Benzo (ghi) perylene	ND	ug/l	10
	Benzo (a) pyrene	ND	ug/l	10
	Chrysene	ND	ug/l	10
	Dibenz (a, h) anthracene	ND	ug/l	10
	Fluoranthene	ND	ug/l	10
	Fluorene	ND	ug/l	10
	Naphthalene	ND	ug/l	10
	Phenanthrene	ND	ug/l	10
	Pyrene	ND	ug/l	10
	Indeno (1, 2, 3-cd) pyrene	ND	ug/l	10
	2-Methylnaphthalene	ND	ug/l	10
3000	SVOA Extraction, Water Method: SW-846 3510B	Complete		

(1) The acid surrogates for this sample fell outside of in-house QC limits. Subsequently, these results should be taken as approximate.

ND - Not detected at the limit of quantitation

Respectfully Submitted,
Reviewed and Approved by:


Rolf E. Larsen
Project Manager

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLK01

Lab Name: MOUNTAIN STATES

Contract:

Lab Code: MSAI

Case No.:

SAS No.:

SDG No.: OST

Matrix: (soil/water) WATER

Lab Sample ID: 970404WL

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: Z9200

Level: (low/med) LOW

Date Received: _____

% Moisture: _____ decanted: (Y/N) _____

Date Extracted: 04/04/97

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 04/07/97

Injection Volume: 1.0(uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
---------	----------	--	---

91-20-3-----	Naphthalene	10.0	U
91-57-6-----	2-Methylnaphthalene	10.0	U
208-96-8-----	Acenaphthylene	10.0	U
83-32-9-----	Acenaphthene	10.0	U
86-73-7-----	Fluorene	10.0	U
85-01-8-----	Phenanthrene	10.0	U
120-12-7-----	Anthracene	10.0	U
206-44-0-----	Fluoranthene	10.0	U
129-00-0-----	Pyrene	10.0	U
56-55-3-----	Benz (a) anthracene	10.0	U
218-01-9-----	Chrysene	10.0	U
205-99-2-----	Benzo (b) fluoranthene	10.0	U
207-08-9-----	Benzo (k) fluoranthene	10.0	U
50-32-8-----	Benzo (a) pyrene	10.0	U
193-39-5-----	Indeno (1,2,3-cd) pyrene	10.0	U
53-70-3-----	Dibenz (a,h) anthracene	10.0	U
191-24-2-----	Benzo (ghi) perylene	10.0	U

2C
WATER SEMIVOLATILE SURROGATE RECOVERY

Lab Name: MOUNTAIN STATES

Contract:

Lab Code: MSAI

Case No.:

SAS No.:

SDG No.: OST

	EPA SAMPLE NO.	S1 (2FP) #	S2 (PHL) #	S3 (NBZ) #	S4 (FBP) #	S5 (TBP) #	S6 (TPH) #	S7 #	S8 #	TOT OUT
01	SBLK01	38	29	62	56	56	74			0
02	SBLK01LCS	45	32	70	67	80	83			0
03	SBLK01LCSD	45	31	67	67	80	82			0
04	14084	8*	18	61	56	2*	54			2
05	14085	41	30	51	49	70	54			0
06	14086	42	30	58	59	73	63			0
07	14087	19*	13	59	58	57	68			1
08	14088	24	24	57	55	30	57			0
09	14089	1*	1*	54	55	5*	68			3
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24										
25										
26										
27										
28										
29										
30										

QC LIMITS

S1 (2FP) = 2-Fluorophenol (21-110)
 S2 (PHL) = Phenol-d6 (10-110)
 S3 (NBZ) = Nitrobenzene-d5 (35-114)
 S4 (FBP) = 2-Fluorobiphenyl (43-116)
 S5 (TBP) = 2,4,6-Tribromophenol (10-123)
 S6 (TPH) = Terphenyl-d14 (33-141)

Column to be used to flag recovery values
 * Values outside of contract required QC limits
 D Surrogate diluted out

FORM 3
WATER SEMIVOLATILE LAB CONTROL SAMPLE

Lab Name: MOUNTAIN STATES

Contract:

Lab Code: MSAI

Case No.:

SAS No.:

SDG No.: OST

Matrix Spike - Sample No.: SBLK01

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Acenaphthene	100	0.0	77	77	47-145
Pyrene	100	0.0	80	80	52-115

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC #	% RPD #	QC LIMITS RPD	REC.
Acenaphthene	100	76	76	1	31	47-145
Pyrene	100	80	80	0	31	52-115

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 2 outside limits

Spike Recovery: 0 out of 4 outside limits

COMMENTS:

ON SITE

TECHNOLOGIES, LTD.

657 W. Maple • P. O. Box 2606 • Farmington NM 87499
LAB: (505) 325-5667 • FAX: (505) 325-6256

CHAIN OF CUSTODY RECORD

5124

Date:

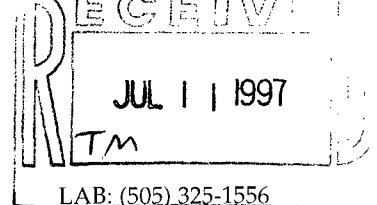
4/3/97

Page

1 of 1

Purchase Order No.: 6036		Job No. B101001/2-1000	
Name ACCOUNTS PAYABLE		Dept.	
Company ON SITE		Address	
City, State, Zip		City, State, Zip	
Sampling Location: THAIFTWAY REFINERY 626 CR 5500 BLOOMFIELD, NM		Analysis Requested	
Sampler: KS		Number of Containers	
SAMPLE IDENTIFICATION		LAB ID	
THAIFTWAY REFINERY MW-01		14084-6036	
MW-05		14085	
MW-06		14086	
MW-13		14087	
MW-21		14088	
MW-22		14089	
Relinquished by: [Signature]		Received by: Pam Olsen msal	
Relinquished by:		Received by:	
Relinquished by:		Received by:	
Method of Shipment:		10 Working Days	
Authorized by: [Signature]		Special Instructions:	
(Client Signature Must Accompany Request)		Date/Time 4-4-97 1015	
Date 4/3/97		Date/Time 7:50L 427	
Date 4/3/97		Date/Time 100	

OFF: (505) 325-5667



ANALYTICAL REPORT

Attn: **Terry Griffin**
Company: **BioTech Remediation**
Address: **710 E 20th Street, Suite 400**
City, State **Farmington, NM 87401**

Date: **30-Jun-97**
COC No.: **6059**
Sample No.: **14982**
Job No.: **2-1000**

Project Name: **Thriftway Refinery 626 CR 5500 Bloomfield, NM**

Project Location: **MW-1**

Sampled by: **KS** Date: **18-Jun-97** Time: **10:06**

Analyzed by: **DC** Date: **25-Jun-97**

Sample Matrix: **Liquid**

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	26.7	ug/L	0.2	ug/L
<i>Toluene</i>	0.7	ug/L	0.2	ug/L
<i>Ethylbenzene</i>	3.8	ug/L	0.2	ug/L
<i>m,p-Xylene</i>	27.0	ug/L	0.2	ug/L
<i>o-Xylene</i>	2.7	ug/L	0.2	ug/L
TOTAL	60.9	ug/L		

ND - Not Detected at Limit of Quantitation

Method - SW-846 EPA Method 8020A Aromatic Volatile Organics by Gas Chromatography

Approved By: 

Date: **6/30/97**

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: **Terry Griffin**
Company: **BioTech Remediation**
Address: **710 E 20th Street, Suite 400**
City, State **Farmington, NM 87401**

Date: **30-Jun-97**
COC No.: **6059**
Sample No.: **14983**
Job No.: **2-1000**

Project Name: **Thriftway Refinery 626 CR 5500 Bloomfield, NM**

Project Location: **MW-4**

Sampled by: **KS** Date: **17-Jun-97** Time: **13:55**

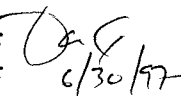
Analyzed by: **DC** Date: **25-Jun-97**

Sample Matrix: **Liquid**

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	8.4	ug/L	0.2	ug/L
<i>Toluene</i>	1.6	ug/L	0.2	ug/L
<i>Ethylbenzene</i>	2.2	ug/L	0.2	ug/L
<i>m,p-Xylene</i>	1.2	ug/L	0.2	ug/L
<i>o-Xylene</i>	0.2	ug/L	0.2	ug/L
TOTAL	13.6	ug/L		

ND - Not Detected at Limit of Quantitation

Method - SW-846 EPA Method 8020A Aromatic Volatile Organics by Gas Chromatography

Approved By: 

Date: **6/30/97**

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: **Terry Griffin**
Company: **BioTech Remediation**
Address: **710 E 20th Street, Suite 400**
City, State **Farmington, NM 87401**

Date: **30-Jun-97**
COC No.: **6059**
Sample No.: **14984**
Job No.: **2-1000**

Project Name: **Thriftway Refinery 626 CR 5500 Bloomfield, NM**

Project Location: **MW-5**

Sampled by: **KS** Date: **17-Jun-97** Time: **13:05**

Analyzed by: **DC** Date: **25-Jun-97**

Sample Matrix: **Liquid**

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	6.7	ug/L	0.2	ug/L
<i>Toluene</i>	0.3	ug/L	0.2	ug/L
<i>Ethylbenzene</i>	0.5	ug/L	0.2	ug/L
<i>m,p-Xylene</i>	0.2	ug/L	0.2	ug/L
<i>o-Xylene</i>	ND	ug/L	0.2	ug/L
TOTAL	7.7	ug/L		

ND - Not Detected at Limit of Quantitation

Method - SW-846 EPA Method 8020A Aromatic Volatile Organics by Gas Chromatography

Approved By: *DC*

Date: *6/30/97*

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: **Terry Griffin**
Company: **BioTech Remediation**
Address: **710 E 20th Street, Suite 400**
City, State **Farmington, NM 87401**

Date: **30-Jun-97**
COC No.: **6059**
Sample No.: **14985**
Job No.: **2-1000**

Project Name: **Thriftway Refinery 626 CR 5500 Bloomfield, NM**

Project Location: **MW-6**

Sampled by: **KS** Date: **17-Jun-97** Time: **15:33**

Analyzed by: **DC** Date: **25-Jun-97**

Sample Matrix: **Liquid**

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	19.1	ug/L	0.2	ug/L
<i>Toluene</i>	3.3	ug/L	0.2	ug/L
<i>Ethylbenzene</i>	2.4	ug/L	0.2	ug/L
<i>m,p-Xylene</i>	0.3	ug/L	0.2	ug/L
<i>o-Xylene</i>	ND	ug/L	0.2	ug/L
TOTAL	25.1	ug/L		

ND - Not Detected at Limit of Quantitation

Method - SW-846 EPA Method 8020A Aromatic Volatile Organics by Gas Chromatography

Approved By: *[Signature]*

Date: *6/30/97*

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: **Terry Griffin**
Company: **BioTech Remediation**
Address: **710 E 20th Street, Suite 400**
City, State **Farmington, NM 87401**

Date: **30-Jun-97**
COC No.: **6059**
Sample No.: **14986**
Job No.: **2-1000**

Project Name: **Thriftway Refinery 626 CR 5500 Bloomfield, NM**

Project Location: **MW-9**

Sampled by: **KS** Date: **16-Jun-97** Time: **14:02**

Analyzed by: **DC** Date: **25-Jun-97**

Sample Matrix: **Liquid**

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	ND	ug/L	0.2	ug/L
<i>Toluene</i>	ND	ug/L	0.2	ug/L
<i>Ethylbenzene</i>	ND	ug/L	0.2	ug/L
<i>m,p-Xylene</i>	ND	ug/L	0.2	ug/L
<i>o-Xylene</i>	ND	ug/L	0.2	ug/L
TOTAL	ND	ug/L		

ND - Not Detected at Limit of Quantitation

Method - *SW-846 EPA Method 8020A Aromatic Volatile Organics by Gas Chromatography*

Approved By: 
Date: **6/30/97**

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: **Terry Griffin**
Company: **BioTech Remediation**
Address: **710 E 20th Street, Suite 400**
City, State **Farmington, NM 87401**

Date: **30-Jun-97**
COC No.: **6059**
Sample No.: **14987**
Job No.: **2-1000**

Project Name: **Thriftway Refinery 626 CR 5500 Bloomfield, NM**

Project Location: **MW-10**

Sampled by: **KS** Date: **16-Jun-97** Time: **11:09**

Analyzed by: **DC** Date: **25-Jun-97**

Sample Matrix: **Liquid**

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	ND	ug/L	0.2	ug/L
<i>Toluene</i>	ND	ug/L	0.2	ug/L
<i>Ethylbenzene</i>	ND	ug/L	0.2	ug/L
<i>m,p-Xylene</i>	ND	ug/L	0.2	ug/L
<i>o-Xylene</i>	ND	ug/L	0.2	ug/L
TOTAL	ND	ug/L		

ND - Not Detected at Limit of Quantitation

Method - SW-846 EPA Method 8020A Aromatic Volatile Organics by Gas Chromatography

Approved By: 

Date: **6/30/97**

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: **Terry Griffin**
Company: **BioTech Remediation**
Address: **710 E 20th Street, Suite 400**
City, State **Farmington, NM 87401**

Date: **30-Jun-97**
COC No.: **6059**
Sample No.: **14988**
Job No.: **2-1000**

Project Name: **Thriftway Refinery 626 CR 5500 Bloomfield, NM**

Project Location: **MW-11**

Sampled by: **KS** Date: **16-Jun-97** Time: **11:46**

Analyzed by: **DC** Date: **25-Jun-97**

Sample Matrix: **Liquid**

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	ND	ug/L	0.2	ug/L
<i>Toluene</i>	ND	ug/L	0.2	ug/L
<i>Ethylbenzene</i>	ND	ug/L	0.2	ug/L
<i>m,p-Xylene</i>	ND	ug/L	0.2	ug/L
<i>o-Xylene</i>	ND	ug/L	0.2	ug/L
TOTAL	ND	ug/L		

ND - Not Detected at Limit of Quantitation

Method - SW-846 EPA Method 8020A Aromatic Volatile Organics by Gas Chromatography

Approved By: 
Date: **6/30/97**

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: **Terry Griffin**
Company: **BioTech Remediation**
Address: **710 E 20th Street, Suite 400**
City, State **Farmington, NM 87401**

Date: **30-Jun-97**
COC No.: **6059**
Sample No.: **14989**
Job No.: **2-1000**

Project Name: **Thriftway Refinery 626 CR 5500 Bloomfield, NM**

Project Location: **MW-13**

Sampled by: **KS** Date: **16-Jun-97** Time: **9:00**

Analyzed by: **DC** Date: **25-Jun-97**

Sample Matrix: **Liquid**

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	ND	ug/L	0.2	ug/L
<i>Toluene</i>	ND	ug/L	0.2	ug/L
<i>Ethylbenzene</i>	ND	ug/L	0.2	ug/L
<i>m,p-Xylene</i>	ND	ug/L	0.2	ug/L
<i>o-Xylene</i>	ND	ug/L	0.2	ug/L
TOTAL	ND	ug/L		

ND - Not Detected at Limit of Quantitation

Method - SW-846 EPA Method 8020A Aromatic Volatile Organics by Gas Chromatography

Approved By: *JAG*

Date: *6/30/97*

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: **Terry Griffin**
Company: **BioTech Remediation**
Address: **710 E 20th Street, Suite 400**
City, State **Farmington, NM 87401**

Date: **30-Jun-97**
COC No.: **6059**
Sample No.: **14990**
Job No.: **2-1000**

Project Name: **Thriftway Refinery 626 CR 5500 Bloomfield, NM**

Project Location: **MW-15**

Sampled by: **KS** Date: **17-Jun-97** Time: **9:59**

Analyzed by: **DC** Date: **25-Jun-97**

Sample Matrix: **Liquid**

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	ND	ug/L	0.2	ug/L
<i>Toluene</i>	ND	ug/L	0.2	ug/L
<i>Ethylbenzene</i>	ND	ug/L	0.2	ug/L
<i>m,p-Xylene</i>	ND	ug/L	0.2	ug/L
<i>o-Xylene</i>	ND	ug/L	0.2	ug/L
TOTAL	ND	ug/L		

ND - Not Detected at Limit of Quantitation

Method - SW-846 EPA Method 8020A Aromatic Volatile Organics by Gas Chromatography

Approved By: *[Signature]*
Date: *6/30/97*

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

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LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: *Terry Griffin*
Company: *BioTech Remediation*
Address: *710 E 20th Street, Suite 400*
City, State *Farmington, NM 87401*

Date: *30-Jun-97*
COC No.: *6059*
Sample No.: *14991*
Job No.: *2-1000*

Project Name: *Thriftway Refinery 626 CR 5500 Bloomfield, NM*
Project Location: *MW-18*
Sampled by: *KS* Date: *18-Jun-97* Time: *8:52*
Analyzed by: *DC* Date: *25-Jun-97*
Sample Matrix: *Liquid*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	<i>34.0</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>Toluene</i>	<i>2.1</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>Ethylbenzene</i>	<i>1.2</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>m,p-Xylene</i>	<i>0.2</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>o-Xylene</i>	<i>ND</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>TOTAL</i>	<i>37.6</i>	<i>ug/L</i>		

ND - Not Detected at Limit of Quantitation

Method - *SW-846 EPA Method 8020A Aromatic Volatile Organics by Gas Chromatography*

Approved By: *[Signature]*

Date: *6/30/97*

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

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ANALYTICAL REPORT

Attn: *Terry Griffin*
Company: *BioTech Remediation*
Address: *710 E 20th Street, Suite 400*
City, State *Farmington, NM 87401*

Date: *30-Jun-97*
COC No.: *6059*
Sample No.: *14992*
Job No.: *2-1000*

Project Name: ***Thriftway Refinery 626 CR 5500 Bloomfield, NM***

Project Location: ***MW-19***

Sampled by: *KS*

Date: *17-Jun-97* Time: *16:25*

Analyzed by: *DC*

Date: *25-Jun-97*

Sample Matrix: *Liquid*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	<i>8.1</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>Toluene</i>	<i>2.4</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>Ethylbenzene</i>	<i>96.7</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>m,p-Xylene</i>	<i>160.5</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>o-Xylene</i>	<i>0.9</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>TOTAL</i>	<i>268.7</i>	<i>ug/L</i>		

ND - Not Detected at Limit of Quantitation

Method - *SW-846 EPA Method 8020A Aromatic Volatile Organics by Gas Chromatography*

Approved By: *[Signature]*

Date: *6/30/97*

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

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LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: **Terry Griffin**
Company: **BioTech Remediation**
Address: **710 E 20th Street, Suite 400**
City, State **Farmington, NM 87401**

Date: **30-Jun-97**
COC No.: **6059**
Sample No.: **14993**
Job No.: **2-1000**

Project Name: **Thriftway Refinery 626 CR 5500 Bloomfield, NM**

Project Location: **MW-20**

Sampled by: **KS** Date: **16-Jun-97** Time: **15:15**

Analyzed by: **DC** Date: **25-Jun-97**

Sample Matrix: **Liquid**

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	1.4	ug/L	0.2	ug/L
<i>Toluene</i>	4.4	ug/L	0.2	ug/L
<i>Ethylbenzene</i>	4.0	ug/L	0.2	ug/L
<i>m,p-Xylene</i>	3.8	ug/L	0.2	ug/L
<i>o-Xylene</i>	0.4	ug/L	0.2	ug/L
TOTAL	14.0	ug/L		

ND - Not Detected at Limit of Quantitation

Method - SW-846 EPA Method 8020A Aromatic Volatile Organics by Gas Chromatography

Approved By: *[Signature]*
Date: *6/30/97*

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ANALYTICAL REPORT

Attn: **Terry Griffin**
Company: **BioTech Remediation**
Address: **710 E 20th Street, Suite 400**
City, State **Farmington, NM 87401**

Date: **30-Jun-97**
COC No.: **6060**
Sample No.: **14994**
Job No.: **2-1000**

Project Name: **Thriftway Refinery 626 CR 5500 Bloomfield, NM**

Project Location: **MW-21**

Sampled by: **KS**

Date: **17-Jun-97** Time: **9:00**

Analyzed by: **DC**

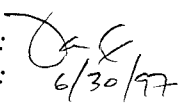
Date: **25-Jun-97**

Sample Matrix: **Liquid**

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	ND	ug/L	0.2	ug/L
<i>Toluene</i>	ND	ug/L	0.2	ug/L
<i>Ethylbenzene</i>	0.2	ug/L	0.2	ug/L
<i>m,p-Xylene</i>	ND	ug/L	0.2	ug/L
<i>o-Xylene</i>	ND	ug/L	0.2	ug/L
TOTAL	0.2	ug/L		

ND - Not Detected at Limit of Quantitation

Method - *SW-846 EPA Method 8020A Aromatic Volatile Organics by Gas Chromatography*

Approved By: 

Date: **6/30/97**

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

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ANALYTICAL REPORT

Attn: **Terry Griffin**
Company: **BioTech Remediation**
Address: **710 E 20th Street, Suite 400**
City, State **Farmington, NM 87401**

Date: **30-Jun-97**
COC No.: **6060**
Sample No.: **14995**
Job No.: **2-1000**

Project Name: **Thriftway Refinery 626 CR 5500 Bloomfield, NM**

Project Location: **MW-22**

Sampled by: **KS** Date: **16-Jun-97** Time: **16:15**

Analyzed by: **DC** Date: **25-Jun-97**

Sample Matrix: **Liquid**

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	ND	ug/L	0.2	ug/L
<i>Toluene</i>	ND	ug/L	0.2	ug/L
<i>Ethylbenzene</i>	ND	ug/L	0.2	ug/L
<i>m,p-Xylene</i>	ND	ug/L	0.2	ug/L
<i>o-Xylene</i>	ND	ug/L	0.2	ug/L
TOTAL	ND	ug/L		

ND - Not Detected at Limit of Quantitation

Method - SW-846 EPA Method 8020A Aromatic Volatile Organics by Gas Chromatography

Approved By: 

Date: **6/30/97**

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

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LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: **Terry Griffin**
Company: **BioTech Remediation**
Address: **710 E 20th Street, Suite 400**
City, State **Farmington, NM 87401**

Date: **30-Jun-97**
COC No.: **6060**
Sample No.: **14996**
Job No.: **2-1000**

Project Name: **Thriftway Refinery 626 CR 5500 Bloomfield, NM**
Project Location: **Travel Blank**
Sampled by: **KS** Date: **16-Jun-97** Time: **NR**
Analyzed by: **DC** Date: **25-Jun-97**
Sample Matrix: **Liquid**

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	ND	ug/L	0.2	ug/L
<i>Toluene</i>	0.3	ug/L	0.2	ug/L
<i>Ethylbenzene</i>	ND	ug/L	0.2	ug/L
<i>m,p-Xylene</i>	0.2	ug/L	0.2	ug/L
<i>o-Xylene</i>	ND	ug/L	0.2	ug/L
TOTAL	0.5	ug/L		

ND - Not Detected at Limit of Quantitation

Method - SW-846 EPA Method 8020A Aromatic Volatile Organics by Gas Chromatography

Approved By: *JAC*
Date: *6/30/97*

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: **Terry Griffin**
Company: **BioTech Remediation**
Address: **710 E 20th Street, Suite 400**
City, State **Farmington, NM 87401**

Date: **30-Jun-97**
COC No.: **6060**
Sample No.: **14997**
Job No.: **2-1000**

Project Name: **Thriftway Refinery 626 CR 5500 Bloomfield, NM**
Project Location: **Travel Blank**
Sampled by: **KS**
Analyzed by: **DC**
Sample Matrix: **Liquid**

Date: **17-Jun-97** Time: **NR**
Date: **25-Jun-97**

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	ND	ug/L	0.2	ug/L
<i>Toluene</i>	0.2	ug/L	0.2	ug/L
<i>Ethylbenzene</i>	ND	ug/L	0.2	ug/L
<i>m,p-Xylene</i>	ND	ug/L	0.2	ug/L
<i>o-Xylene</i>	ND	ug/L	0.2	ug/L
TOTAL	0.2	ug/L		

ND - Not Detected at Limit of Quantitation

Method - SW-846 EPA Method 8020A Aromatic Volatile Organics by Gas Chromatography

Approved By: *[Signature]*
Date: *6/30/97*

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: **Terry Griffin**
Company: **BioTech Remediation**
Address: **710 E 20th Street, Suite 400**
City, State **Farmington, NM 87401**

Date: **30-Jun-97**
COC No.: **6060**
Sample No.: **14998**
Job No.: **2-1000**

Project Name: **Thriftway Refinery 626 CR 5500 Bloomfield, NM**

Project Location: **Travel Blank**

Sampled by: **KS** Date: **18-Jun-97** Time: **NR**

Analyzed by: **DC** Date: **25-Jun-97**

Sample Matrix: **Liquid**

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	ND	ug/L	0.2	ug/L
<i>Toluene</i>	0.2	ug/L	0.2	ug/L
<i>Ethylbenzene</i>	ND	ug/L	0.2	ug/L
<i>m,p-Xylene</i>	ND	ug/L	0.2	ug/L
<i>o-Xylene</i>	ND	ug/L	0.2	ug/L
TOTAL	0.2	ug/L		

ND - Not Detected at Limit of Quantitation

Method - SW-846 EPA Method 8020A Aromatic Volatile Organics by Gas Chromatography

Approved By: 
Date: **6/30/97**

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -



QUALITY ASSURANCE REPORT
for EPA Method 8020

Date Analyzed: 25-Jun-97

Internal QC No.: 0527-STD

Surrogate QC No.: 0528-STD

Reference Standard QC No.: 0529/30-QC

Method Blank

Parameter	Result	Unit of Measure
Average Amount of All Analytes In Blank	<0.2	ppb

Calibration Check

Parameter	Unit of Measure	True Value	Analyzed Value	% Diff	Limit
Benzene	ppb	20.0	19.2	4	15%
Toluene	ppb	20.0	19.7	1	15%
Ethylbenzene	ppb	20.0	19.9	1	15%
m,p-Xylene	ppb	40.0	38.5	4	15%
o-Xylene	ppb	20.0	19.9	0	15%

Matrix Spike

Parameter	1- Percent Recovered	2 - Percent Recovered	Limit	%RSD	Limit
Benzene	92	88	(39-150)	3	20%
Toluene	96	93	(46-148)	2	20%
Ethylbenzene	86	82	(32-160)	3	20%
m,p-Xylene	97	94	(35-145)	3	20%
o-Xylene	96	93	(35-145)	2	20%

Surrogate Recoveries

Laboratory Identification	S1 Percent Recovered	S2 Percent Recovered	Laboratory Identification	S1 Percent Recovered	S2 Percent Recovered
Limit Percent Recovered	(70-130)		Limit Percent Recovered	(70-130)	
14996-6060	95		14986-6059	94	(12)
14997-6060	94		14987-6059	94	6/30/97
14998-6060	94		14988-6059	94	
14983-6059	93		14989-6059	95	7/2
14984-6059	94		14990-6059	95	7/2/97
14985-6059	94		14994-6060	94	

S1: Fluorobenzene

OFF: (505) 325-5667



LAB: (505) 325-1556

QUALITY ASSURANCE REPORT
for EPA Method 8020

Date Analyzed: 25-Jun-97

Internal QC No.: 0527-STD

Surrogate QC No.: 0528-STD

Reference Standard QC No.: 0529/30-QC

Method Blank

Parameter	Result	Unit of Measure
Average Amount of All Analytes In Blank	<0.2	ppb

Calibration Check

Parameter	Unit of Measure	True Value	Analyzed Value	% Diff	Limit
Benzene	ppb	20.0	19.2	4	15%
Toluene	ppb	20.0	19.7	1	15%
Ethylbenzene	ppb	20.0	19.9	1	15%
m,p-Xylene	ppb	40.0	38.5	4	15%
o-Xylene	ppb	20.0	19.9	0	15%

Matrix Spike

Parameter	1- Percent Recovered	2 - Percent Recovered	Limit	%RSD	Limit
Benzene	92	88	(39-150)	3	20%
Toluene	96	93	(46-148)	2	20%
Ethylbenzene	86	82	(32-160)	3	20%
m,p-Xylene	97	94	(35-145)	3	20%
o-Xylene	96	93	(35-145)	2	20%

Surrogate Recoveries

Laboratory Identification	S1 Percent Recovered	S2 Percent Recovered	Laboratory Identification	S1 Percent Recovered	S2 Percent Recovered
Limit Percent Recovered	(70-130)		Limit Percent Recovered	(70-130)	
14995-6060	94				
14991-6059	93				
14992-6059	90				
14982-6059	94				
14993-6059	92				
				7/2/97	6/30/97

S1: Fluorobenzene

0909

6/18/97

Page 3 of 2

TECHNOLOGIES, LTD.

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LAB: (505) 325-5667 • FAX: (505) 325-6256

[illegible]

Distribution:	White -- On Site	Yellow -- LAB	Pink -- Sampler	Goldenrod -- Client
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OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: *Terry Griffin*
Company: *BioTech Remediation*
Address: *710 E 20th Street, Suite 400*
City, State: *Farmington, NM 87401*

Date: *8-Oct-97*
COC No.: *6495*
Sample No.: *16389*
Job No.: *2-1000*

Project Name: *Thriftway Refinery 626 CR 5500 Bloomfield, NM*

Project Location: *MW-10*

Sampled by: *KS*

Date: *25-Sep-97* Time: *11:45*

Analyzed by: *DC*

Date: *5-Oct-97*

Sample Matrix: *Liquid*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	ND	ug/L	0.2	ug/L
<i>Toluene</i>	ND	ug/L	0.2	ug/L
<i>Ethylbenzene</i>	ND	ug/L	0.2	ug/L
<i>m,p-Xylene</i>	ND	ug/L	0.2	ug/L
<i>o-Xylene</i>	ND	ug/L	0.2	ug/L
<i>TOTAL</i>	ND	ug/L		

ND - Not Detected at Limit of Quantitation

Method - *SW-846 EPA Method 8020A Aromatic Volatile Organics by Gas Chromatography*

Approved By: *[Signature]*

Date: *10/16/97*

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: *Terry Griffin*
Company: *BioTech Remediation*
Address: *710 E 20th Street, Suite 400*
City, State: *Farmington, NM 87401*

Date: *8-Oct-97*
COC No.: *6495*
Sample No.: *16390*
Job No.: *2-1000*

Project Name: *Thriftway Refinery 626 CR 5500 Bloomfield, NM*
Project Location: *MW-11*
Sampled by: *KS* Date: *25-Sep-97* Time: *14:32*
Analyzed by: *DC* Date: *5-Oct-97*
Sample Matrix: *Liquid*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	ND	ug/L	0.2	ug/L
<i>Toluene</i>	ND	ug/L	0.2	ug/L
<i>Ethylbenzene</i>	ND	ug/L	0.2	ug/L
<i>m,p-Xylene</i>	ND	ug/L	0.2	ug/L
<i>o-Xylene</i>	ND	ug/L	0.2	ug/L
<i>TOTAL</i>	ND	ug/L		

ND - Not Detected at Limit of Quantitation

Method - *SW-846 EPA Method 8020A Aromatic Volatile Organics by Gas Chromatography*

Approved By: *JG*
Date: *10/16/97*

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: *Terry Griffin*
Company: *BioTech Remediation*
Address: *710 E 20th Street, Suite 400*
City, State: *Farmington, NM 87401*

Date: *8-Oct-97*
COC No.: *6496*
Sample No.: *16391*
Job No.: *2-1000*

Project Name: *Thriftway Refinery 626 CR 5500 Bloomfield, NM*

Project Location: *MW-13*

Sampled by: *KS* Date: *23-Sep-97* Time: *16:40*

Analyzed by: *DC* Date: *5-Oct-97*

Sample Matrix: *Liquid*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	ND	ug/L	0.2	ug/L
<i>Toluene</i>	ND	ug/L	0.2	ug/L
<i>Ethylbenzene</i>	ND	ug/L	0.2	ug/L
<i>m,p-Xylene</i>	ND	ug/L	0.2	ug/L
<i>o-Xylene</i>	ND	ug/L	0.2	ug/L
<i>TOTAL</i>	ND	ug/L		

ND - Not Detected at Limit of Quantitation

Method - *SW-846 EPA Method 8020A Aromatic Volatile Organics by Gas Chromatography*

Approved By: *[Signature]*
Date: *10/16/97*

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: *Terry Griffin*
Company: *BioTech Remediation*
Address: *710 E 20th Street, Suite 400*
City, State: *Farmington, NM 87401*

Date: *8-Oct-97*
COC No.: *6496*
Sample No.: *16392*
Job No.: *2-1000*

Project Name: *Thriftway Refinery 626 CR 5500 Bloomfield, NM*

Project Location: *MW-15*

Sampled by: *KS* Date: *26-Sep-97* Time: *12:00*

Analyzed by: *DC* Date: *5-Oct-97*

Sample Matrix: *Liquid*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	ND	ug/L	0.2	ug/L
<i>Toluene</i>	ND	ug/L	0.2	ug/L
<i>Ethylbenzene</i>	ND	ug/L	0.2	ug/L
<i>m,p-Xylene</i>	ND	ug/L	0.2	ug/L
<i>o-Xylene</i>	ND	ug/L	0.2	ug/L
<i>TOTAL</i>	ND	ug/L		

ND - Not Detected at Limit of Quantitation

Method - *SW-846 EPA Method 8020A Aromatic Volatile Organics by Gas Chromatography*

Approved By: *[Signature]*
Date: *10/16/97*

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: *Terry Griffin*
Company: *BioTech Remediation*
Address: *710 E 20th Street, Suite 400*
City, State: *Farmington, NM 87401*

Date: *8-Oct-97*
COC No.: *6496*
Sample No.: *16393*
Job No.: *2-1000*

Project Name: *Thriftway Refinery 626 CR 5500 Bloomfield, NM*
Project Location: *MW-18*
Sampled by: *KS* Date: *24-Sep-97* Time: *11:00*
Analyzed by: *DC* Date: *5-Oct-97*
Sample Matrix: *Liquid*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	<i>33.2</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>Toluene</i>	<i>2.3</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>Ethylbenzene</i>	<i>3.4</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>m,p-Xylene</i>	<i>1.1</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>o-Xylene</i>	<i>0.3</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>TOTAL</i>	<i>40.3</i>	<i>ug/L</i>		

ND - Not Detected at Limit of Quantitation

Method - *SW-846 EPA Method 8020A Aromatic Volatile Organics by Gas Chromatography*

Approved By: *JCG*

Date: *10/16/97*

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: *Terry Griffin*
Company: *BioTech Remediation*
Address: *710 E 20th Street, Suite 400*
City, State: *Farmington, NM 87401*

Date: *8-Oct-97*
COC No.: *6496*
Sample No.: *16394*
Job No.: *2-1000*

Project Name: *Thriftway Refinery 626 CR 5500 Bloomfield, NM*
Project Location: *MW-19*
Sampled by: *KS* Date: *26-Sep-97* Time: *14:00*
Analyzed by: *DC* Date: *5-Oct-97*
Sample Matrix: *Liquid*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	0.8	ug/L	0.2	ug/L
<i>Toluene</i>	1.8	ug/L	0.2	ug/L
<i>Ethylbenzene</i>	11.7	ug/L	0.2	ug/L
<i>m,p-Xylene</i>	11.0	ug/L	0.2	ug/L
<i>o-Xylene</i>	ND	ug/L	0.2	ug/L
<i>TOTAL</i>	25.3	ug/L		

ND - Not Detected at Limit of Quantitation

Method - *SW-846 EPA Method 8020A Aromatic Volatile Organics by Gas Chromatography*

Approved By: *[Signature]*
Date: *10/16/97*

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: *Terry Griffin*
Company: *BioTech Remediation*
Address: *710 E 20th Street, Suite 400*
City, State: *Farmington, NM 87401*

Date: *8-Oct-97*
COC No.: *6496*
Sample No.: *16395*
Job No.: *2-1000*

Project Name: *Thriftway Refinery 626 CR 5500 Bloomfield, NM*
Project Location: *MW-20*
Sampled by: *KS* Date: *24-Sep-97* Time: *17:05*
Analyzed by: *DC* Date: *5-Oct-97*
Sample Matrix: *Liquid*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	<i>1.7</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>Toluene</i>	<i>4.5</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>Ethylbenzene</i>	<i>3.8</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>m,p-Xylene</i>	<i>2.1</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>o-Xylene</i>	<i>0.3</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>TOTAL</i>	<i>12.4</i>	<i>ug/L</i>		

ND - Not Detected at Limit of Quantitation

Method - *SW-846 EPA Method 8020A Aromatic Volatile Organics by Gas Chromatography*

Approved By: *[Signature]*

Date: *10/16/97*

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: *Terry Griffin*
Company: *BioTech Remediation*
Address: *710 E 20th Street, Suite 400*
City, State: *Farmington, NM 87401*

Date: *9-Oct-97*
COC No.: *6496*
Sample No.: *16396*
Job No.: *2-1000*

Project Name: *Thriftway Refinery 626 CR 5500 Bloomfield, NM*
Project Location: *MW-21*
Sampled by: *KS* Date: *25-Sep-97* Time: *17:00*
Analyzed by: *DC* Date: *5-Oct-97*
Sample Matrix: *Liquid*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	ND	ug/L	0.2	ug/L
<i>Toluene</i>	0.4	ug/L	0.2	ug/L
<i>Ethylbenzene</i>	0.9	ug/L	0.2	ug/L
<i>m,p-Xylene</i>	0.4	ug/L	0.2	ug/L
<i>o-Xylene</i>	ND	ug/L	0.2	ug/L
<i>TOTAL</i>	1.7	ug/L		

ND - Not Detected at Limit of Quantitation

Method - *SW-846 EPA Method 8020A Aromatic Volatile Organics by Gas Chromatography*

Approved By: *[Signature]*
Date: *10/16/97*

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: *Terry Griffin*
Company: *BioTech Remediation*
Address: *710 E 20th Street, Suite 400*
City, State: *Farmington, NM 87401*

Date: *9-Oct-97*
COC No.: *6496*
Sample No.: *16397*
Job No.: *2-1000*

Project Name: *Thriftway Refinery 626 CR 5500 Bloomfield, NM*
Project Location: *MW-22*
Sampled by: *KS* Date: *26-Sep-97* Time: *10:45*
Analyzed by: *DC* Date: *5-Oct-97*
Sample Matrix: *Liquid*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	ND	ug/L	0.2	ug/L
<i>Toluene</i>	ND	ug/L	0.2	ug/L
<i>Ethylbenzene</i>	ND	ug/L	0.2	ug/L
<i>m,p-Xylene</i>	ND	ug/L	0.2	ug/L
<i>o-Xylene</i>	ND	ug/L	0.2	ug/L
<i>TOTAL</i>	ND	ug/L		

ND - Not Detected at Limit of Quantitation

Method - *SW-846 EPA Method 8020A Aromatic Volatile Organics by Gas Chromatography*

Approved By: *[Signature]*
Date: *10/16/97*

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: *Terry Griffin*
Company: *BioTech Remediation*
Address: *710 E 20th Street, Suite 400*
City, State: *Farmington, NM 87401*

Date: *9-Oct-97*
COC No.: *6496*
Sample No.: *16398*
Job No.: *2-1000*

Project Name: *Thriftway Refinery 626 CR 5500 Bloomfield, NM*

Project Location: *Air Stripper Influent*

Sampled by: *KS* Date: *23-Sep-97* Time: *14:55*

Analyzed by: *DC* Date: *5-Oct-97*

Sample Matrix: *Liquid*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	<i>1600</i>	<i>ug/L</i>	<i>4</i>	<i>ug/L</i>
<i>Toluene</i>	<i>923</i>	<i>ug/L</i>	<i>4</i>	<i>ug/L</i>
<i>Ethylbenzene</i>	<i>660</i>	<i>ug/L</i>	<i>4</i>	<i>ug/L</i>
<i>m,p-Xylene</i>	<i>1196</i>	<i>ug/L</i>	<i>4</i>	<i>ug/L</i>
<i>o-Xylene</i>	<i>333</i>	<i>ug/L</i>	<i>4</i>	<i>ug/L</i>
<i>TOTAL</i>	<i>4711</i>	<i>ug/L</i>		

ND - Not Detected at Limit of Quantitation

Method - *SW-846 EPA Method 8020A Aromatic Volatile Organics by Gas Chromatography*

Approved By: *[Signature]*

Date: *10/16/97*

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: *Terry Griffin*
 Company: *BioTech Remediation*
 Address: *710 E 20th Street, Suite 400*
 City, State: *Farmington, NM 87401*

Date: *14-Oct-97*
 COC No.: *6496*
 Sample ID.: *16398*
 Job No.: *2-1000*

Project Name: ***Thriftway Refinery 626 CR 5500 Bloomfield, NM***Project Location: ***Air Stripper Influent***Sampled by: **KS**Date: **23-Sep-97** Time: **14:55**Analyzed by: **HR**Date: **10-Oct-97****Laboratory Analysis**

Parameter	Results as Received	Unit of Measure	Results as Received	Unit of Measure
<i>Cations</i>				
Sodium <i>Na</i>	768	mg/L	33.41	me/L
Calcium <i>Ca</i>	297	mg/L	14.82	me/L
Magnesium <i>Mg</i>	38.4	mg/L	3.16	me/L
Potassium <i>K</i>	10.9	mg/L	0.28	me/L
<i>Anions</i>				
Chloride <i>Cl</i>	1068	mg/L	30.12	me/L
Sulfate <i>SO4</i>	1662	mg/L	34.60	me/L
Carbonate <i>CO3 as CaCO3</i>	< 1	mg/L	< 0.01	me/L
Bicarbonate <i>HCO3 as CaCO3</i>	< 1	mg/L	< 0.01	me/L
Hydroxide <i>OH as CaCO3</i>	< 1	mg/L	< 0.01	me/L
<i>Total Dissolved Solids</i>				
Calculated, Sum of Cation/Anion	3844	mg/L	<i>Cation-Anion Balance</i> 13.06 Difference Cation-Anion, me/L 116.39 Total Cation-Anion, me/L 11.2 % Difference Cation-Anion Comments	
Total Dissolved Solids				
Dried @ 180 C	3746	mg/L		
pH	2.49			
Conductivity @ 25 C	6670	uS/cm		
Total Hardness as CaCO3	900	mg/L		

Approved by: *[Signature]*Date: *10/16/97*

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: *Terry Griffin*
Company: *BioTech Remediation*
Address: *710 E 20th Street, Suite 400*
City, State: *Farmington, NM 87401*

Date: *9-Oct-97*
COC No.: *6496*
Sample No.: *16399*
Job No.: *2-1000*

Project Name: *Thriftway Refinery 626 CR 5500 Bloomfield, NM*
Project Location: *Air Stripper Effluent*
Sampled by: *KS* Date: *23-Sep-97* Time: *14:59*
Analyzed by: *DC* Date: *5-Oct-97*
Sample Matrix: *Liquid*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	51.1	ug/L	0.2	ug/L
<i>Toluene</i>	30.3	ug/L	0.2	ug/L
<i>Ethylbenzene</i>	22.1	ug/L	0.2	ug/L
<i>m,p-Xylene</i>	40.9	ug/L	0.2	ug/L
<i>o-Xylene</i>	13.3	ug/L	0.2	ug/L
<i>TOTAL</i>	157.8	ug/L		

ND - Not Detected at Limit of Quantitation

Method - *SW-846 EPA Method 8020A Aromatic Volatile Organics by Gas Chromatography*

Approved By: *[Signature]*
Date: *10/16/97*

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: *Terry Griffin*
 Company: *BioTech Remediation*
 Address: *710 E 20th Street, Suite 400*
 City, State: *Farmington, NM 87401*

Date: *14-Oct-97*
 COC No.: *6496*
 Sample ID.: *16399*
 Job No.: *2-1000*

Project Name: ***Thriftway Refinery 626 CR 5500 Bloomfield, NM***Project Location: ***Air Stripper Effluent***Sampled by: ***KS***Date: *23-Sep-97* Time: *14:59*Analyzed by: ***HR***Date: *10-Oct-97***Laboratory Analysis**

Parameter	Results as Received	Unit of Measure	Results as Received	Unit of Measure
<i>Cations</i>				
<i>Sodium Na</i>	760	mg/L	33.06	me/L
<i>Calcium Ca</i>	284	mg/L	14.17	me/L
<i>Magnesium Mg</i>	38.4	mg/L	3.16	me/L
<i>Potassium K</i>	11.0	mg/L	0.28	me/L
<i>Anions</i>				
<i>Chloride Cl</i>	711	mg/L	20.05	me/L
<i>Sulfate SO4</i>	1682	mg/L	35.02	me/L
<i>Carbonate CO3 as CaCO3</i>	< 1	mg/L	< 0.01	me/L
<i>Bicarbonate HCO3 as CaCO3</i>	158	mg/L	2.59	me/L
<i>Hydroxide OH as CaCO3</i>	< 1	mg/L	< 0.01	me/L
<i>Total Dissolved Solids Calculated, Sum of Cation/Anion</i>	3644	mg/L	<i>Cation-Anion Balance</i> 6.99 Difference Cation-Anion, me/L 108.33 Total Cation-Anion, me/L 6.5 % Difference Cation-Anion <i>Comments</i>	
<i>Total Dissolved Solids Dried @ 180 C</i>	3736	mg/L		
<i>pH</i>	7.22			
<i>Conductivity @ 25 C</i>	5030	uS/cm		
<i>Total Hardness as CaCO3</i>	867	mg/L		

Approved by: *[Signature]*
 Date: *10/16/97*

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

**QUALITY ASSURANCE REPORT***for EPA Method 8020*

Date Analyzed: 5-Oct-97

Internal QC No.: 0527-STD

Surrogate QC No.: 0528-STD

Reference Standard QC No.: 0529/30-QC

Method Blank

Parameter	Result	Unit of Measure
Average Amount of All Analytes In Blank	<0.2	ppb

Calibration Check

Parameter	Unit of Measure	True Value	Analyzed Value	RPD	Limit
Benzene	ppb	20.0	18.7	7	15%
Toluene	ppb	20.0	19.4	3	15%
Ethylbenzene	ppb	20.0	19.4	3	15%
m,p-Xylene	ppb	40.0	37.5	6	15%
o-Xylene	ppb	20.0	19.6	2	15%

Matrix Spike

Parameter	1 - Percent Recovered	2 - Percent Recovered	Limit	RPD	Limit
Benzene	87	82	(39-150)	2	20%
Toluene	92	89	(46-148)	1	20%
Ethylbenzene	90	87	(32-160)	1	20%
m,p-Xylene	89	87	(35-145)	2	20%
o-Xylene	93	91	(35-145)	1	20%

Surrogate Recoveries

Laboratory Identification	S1 Percent Recovered	S2 Percent Recovered	Laboratory Identification	S1 Percent Recovered	S2 Percent Recovered
Limit Percent Recovered	(70-130)		Limit Percent Recovered	(70-130)	
16379-6495	97		16385-6495	97	
16380-6495	98		16386-6495	97	
16381-6495	97		16387-6495	97	
16382-6495	93		16388-6495	97	10/16/97
16383-6495	97		16389-6495	97	SR
16384-6495	95		16390-6495	96	10/15/97

S1: Fluorobenzene

**QUALITY ASSURANCE REPORT***for EPA Method 8020*

Date Analyzed: 5-Oct-97

Internal QC No.: 0527-STD

Surrogate QC No.: 0528-STD

Reference Standard QC No.: 0529/30-QC

Method Blank

Parameter	Result	Unit of Measure
Average Amount of All Analytes In Blank	< 0.2	ppb

Calibration Check

Parameter	Unit of Measure	True Value	Analyzed Value	RPD	Limit
Benzene	ppb	20.0	18.7	7	15%
Toluene	ppb	20.0	19.4	3	15%
Ethylbenzene	ppb	20.0	19.4	3	15%
m,p-Xylene	ppb	40.0	37.5	6	15%
o-Xylene	ppb	20.0	19.6	2	15%

Matrix Spike

Parameter	1 - Percent Recovered	2 - Percent Recovered	Limit	RPD	Limit
Benzene	87	82	(39-150)	2	20%
Toluene	92	89	(46-148)	1	20%
Ethylbenzene	90	87	(32-160)	1	20%
m,p-Xylene	89	87	(35-145)	2	20%
o-Xylene	93	91	(35-145)	1	20%

Surrogate Recoveries

Laboratory Identification	S1 Percent Recovered	S2 Percent Recovered	Laboratory Identification	S1 Percent Recovered	S2 Percent Recovered
Limit Percent Recovered	(70-130)		Limit Percent Recovered	(70-130)	
16391-6496	97		16397-6496	96	
16392-6496	97		16398-6496	96	
16393-6496	96		16399-6496	94	
16394-6496	95				
16395-6496	93				
16396-6496	97				

S1: Fluorobenzene

OFF: (505) 325-5667



LAB: (505) 325-1556

QUALITY ASSURANCE REPORT*Cation/Anion Balance*

Date: 10-Oct-97

Quality Control Sample

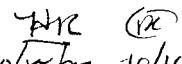
<i>Parameter</i>	<i>Laboratory Identification</i>	<i>True Value</i>	<i>Analyzed Value</i>	<i>Unit of Measure</i>	<i>% Diff</i>	<i>Limit % Diff</i>
Sodium, Na	0541-QC	2.32	2.24	mg/L	-3	10
Calcium, Ca	0465-QC	2.18	2.07	mg/L	-5	10
Magnesium, Mg	0465-QC	1.14	1.22	mg/L	7	10
Potassium, K	0541-QC	1.33	1.36	mg/L	2	10
Chloride, Cl	0437-QC	200	207	mg/L	4	10
Sulfate, SO ₄	0560-QC	96	96	mg/L	-1	10
Alkalinity	0560-QC	163	175	mg/L	7	10
pH	0560-qc	9.14	9.28		1	10
Conductivity	0560-qc	900	885	uS/cm	-2	15
Total Dissolved Solids, 180C	0560-QC	732	732	uS/cm	0	15

Matrix Spike

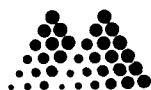
<i>Parameter</i>	<i>Laboratory Identification</i>	<i>Analyzed Value</i>	<i>Matrix Spike</i>	<i>Spike Value</i>	<i>Unit of Measure</i>	<i>Spike Recovery</i>
Sodium, Na	16304-6500	1.31	0.50	1.82	mg/L	101%
Calcium, Ca	16308-6500	0.68	0.50	1.26	mg/L	107%
Magnesium, Mg	16399-6496	0.96	0.50	1.43	mg/L	98%
Potassium, K	16306-6500	1.20	0.50	1.95	mg/L	115%

Method Blank

<i>Parameter</i>	<i>Laboratory Identification</i>	<i>Analyzed Value</i>	<i>Unit of Measure</i>
Sodium, Na	LF-Blank	< 0.2	mg/L
Calcium, Ca	LF-Blank	< 0.05	mg/L
Magnesium, Mg	LF-Blank	< 0.05	mg/L
Potassium, K	LF-Blank	< 0.05	mg/L
Chloride, Cl	LF-Blank	< 3 X DL	mg/L
Sulfate, SO ₄	LF-Blank	< 1	mg/L
Conductivity	LF-Blank	< 2	uS/cm


 10/15/97 10/16/97

RECEIVED OCT 29 1997 ^(DC)



Mountain States Analytical, Inc.

The Quality Solution

On Site Technologies, Ltd.
612 E Murray Drive
Farmington, NM 87401

Attn: Mr. David Cox
Project: Thirftway Refinery

Sample ID: 16398-6496 *AIR STRIPPER INFLUENT*
Matrix: Waste Water

MSAI Sample: 69116
MSAI Group: 18096
Date Reported: 10/21/97
Discard Date: 11/20/97
Date Submitted: 10/01/97
Date Sampled: 09/23/97
Collected by: DC
Purchase Order: 6496
Project No.:

Test Analysis	Results as Received	Units	Limit of Quantitation
-----	-----	-----	-----
0392I Flame/ICP Prep, w/ww, 3005A Method: SW-846 3005A	W 0		
7251 Chromium by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.050
7255 Lead by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.20
0504 Fluoride, Ion Chromatography Method: EPA 300.0	ND	mg/l	(1) 2.5
0505 Bromide, Ion Chromatography Method: EPA 300.0	ND	mg/l	(2) 2.5

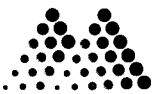
- (1) Sample had to be diluted due to high concentration of non-target analytes.
(2) Sample had to be diluted due to high concentration of non-target analytes.

ND - Not detected at the limit of quantitation

This report consists of the following items: A cover letter, a signed analytical report for each sample specified on the cover letter, and if applicable, an inorganic quality control summary. Organic sample reports contain footnotes which describe any quality control anomalies which may have occurred.

Respectfully Submitted,
Reviewed and Approved by:


Rolf E. Larsen
Project Manager



Mountain States Analytical, Inc.

RECEIVED OCT 29 1997

October 21, 1997

Mr. David Cox
On Site Technologies, Ltd.
612 E Murray Drive
Farmington, NM 87401

Reference:

Project: Thirftway Refinery
MSAI Group: 18096

Dear Mr. Cox:

Enclosed are the analytical results for your project referenced above. The following samples are included in the report.

16398-6496

16399-6496

All holding times were met for the tests performed on these samples.

If the report is acceptable, please approve the enclosed invoice and forward it for payment.

Thank you for selecting Mountain States Analytical, Inc. to serve as your analytical laboratory on this project. If you have any questions concerning these results, please feel free to contact me at any time.

We look forward to working with you on future projects.

With Regards,

Rolf E. Larsen
Project Manager

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: *Terry Griffin*
Company: *BioTech Remediation*
Address: *710 E 20th Street, Suite 400*
City, State: *Farmington, NM 87401*

Date: *8-Oct-97*
COC No.: *6495*
Sample No.: *16379*
Job No.: *2-1000*

Project Name: *Thriftway Refinery 626 CR 5500 Bloomfield, NM*
Project Location: *MW-1*
Sampled by: *KS* Date: *24-Sep-97* Time: *15:50*
Analyzed by: *DC* Date: *5-Oct-97*
Sample Matrix: *Liquid*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	<i>134.9</i>	<i>ug/L</i>	<i>1.0</i>	<i>ug/L</i>
<i>Toluene</i>	<i>5.9</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>Ethylbenzene</i>	<i>15.8</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>m,p-Xylene</i>	<i>87.5</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>o-Xylene</i>	<i>7.2</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>TOTAL</i>	<i>251.4</i>	<i>ug/L</i>		

ND - Not Detected at Limit of Quantitation

Method - *SW-846 EPA Method 8020A Aromatic Volatile Organics by Gas Chromatography*

Approved By: *[Signature]*
Date: *10/16/97*

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: *Terry Griffin*
Company: *BioTech Remediation*
Address: *710 E 20th Street, Suite 400*
City, State: *Farmington, NM 87401*

Date: *8-Oct-97*
COC No.: *6495*
Sample No.: *16380*
Job No.: *2-1000*

Project Name: *Thriftway Refinery 626 CR 5500 Bloomfield, NM*
Project Location: *MW-4*
Sampled by: *KS* Date: *24-Sep-97* Time: *13:50*
Analyzed by: *DC* Date: *5-Oct-97*
Sample Matrix: *Liquid*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	3.7	ug/L	0.2	ug/L
<i>Toluene</i>	3.0	ug/L	0.2	ug/L
<i>Ethylbenzene</i>	5.1	ug/L	0.2	ug/L
<i>m,p-Xylene</i>	1.5	ug/L	0.2	ug/L
<i>o-Xylene</i>	0.5	ug/L	0.2	ug/L
<i>TOTAL</i>	13.7	ug/L		

ND - Not Detected at Limit of Quantitation

Method - *SW-846 EPA Method 8020A Aromatic Volatile Organics by Gas Chromatography*

Approved By: *DC*
Date: *10/16/97*

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: *Terry Griffin*
Company: *BioTech Remediation*
Address: *710 E 20th Street, Suite 400*
City, State: *Farmington, NM 87401*

Date: *8-Oct-97*
COC No.: *6495*
Sample No.: *16381*
Job No.: *2-1000*

Project Name: *Thriftway Refinery 626 CR 5500 Bloomfield, NM*
Project Location: *Travel Blank*
Sampled by: *KS* Date: *23-Sep-97* Time: *13:36*
Analyzed by: *DC* Date: *5-Oct-97*
Sample Matrix: *Liquid*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	ND	ug/L	0.2	ug/L
<i>Toluene</i>	ND	ug/L	0.2	ug/L
<i>Ethylbenzene</i>	ND	ug/L	0.2	ug/L
<i>m,p-Xylene</i>	ND	ug/L	0.2	ug/L
<i>o-Xylene</i>	ND	ug/L	0.2	ug/L
<i>TOTAL</i>	ND	ug/L		

ND - Not Detected at Limit of Quantitation

Method - SW-846 EPA Method 8020A Aromatic Volatile Organics by Gas Chromatography

Approved By: *[Signature]*
Date: *10/16/97*

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: *Terry Griffin*
Company: *BioTech Remediation*
Address: *710 E 20th Street, Suite 400*
City, State: *Farmington, NM 87401*

Date: *8-Oct-97*
COC No.: *6495*
Sample No.: *16382*
Job No.: *2-1000*

Project Name: *Thriftway Refinery 626 CR 5500 Bloomfield, NM*

Project Location: *MW-5*

Sampled by: *KS* Date: *24-Sep-97* Time: *12:00*

Analyzed by: *DC* Date: *5-Oct-97*

Sample Matrix: *Liquid*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	<i>9.6</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>Toluene</i>	<i>0.7</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>Ethylbenzene</i>	<i>0.5</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>m,p-Xylene</i>	<i>0.3</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>o-Xylene</i>	<i>0.4</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>TOTAL</i>	<i>11.4</i>	<i>ug/L</i>		

ND - Not Detected at Limit of Quantitation

Method - *SW-846 EPA Method 8020A Aromatic Volatile Organics by Gas Chromatography*

Approved By: *[Signature]*

Date: *10/16/97*

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: *Terry Griffin*
Company: *BioTech Remediation*
Address: *710 E 20th Street, Suite 400*
City, State: *Farmington, NM 87401*

Date: *8-Oct-97*
COC No.: *6495*
Sample No.: *16383*
Job No.: *2-1000*

Project Name: *Thriftway Refinery 626 CR 5500 Bloomfield, NM*
Project Location: *Travel Blank*
Sampled by: *KS* Date: *24-Sep-97* Time: *8:00*
Analyzed by: *DC* Date: *5-Oct-97*
Sample Matrix: *Liquid*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	ND	ug/L	0.2	ug/L
<i>Toluene</i>	ND	ug/L	0.2	ug/L
<i>Ethylbenzene</i>	ND	ug/L	0.2	ug/L
<i>m,p-Xylene</i>	ND	ug/L	0.2	ug/L
<i>o-Xylene</i>	ND	ug/L	0.2	ug/L
<i>TOTAL</i>	ND	ug/L		

ND - Not Detected at Limit of Quantitation

Method - *SW-846 EPA Method 8020A Aromatic Volatile Organics by Gas Chromatography*

Approved By: *[Signature]*
Date: *10/16/97*

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: *Terry Griffin*
Company: *BioTech Remediation*
Address: *710 E 20th Street, Suite 400*
City, State: *Farmington, NM 87401*

Date: *8-Oct-97*
COC No.: *6495*
Sample No.: *16384*
Job No.: *2-1000*

Project Name: *Thriftway Refinery 626 CR 5500 Bloomfield, NM*
Project Location: *MW-6*
Sampled by: *KS* Date: *24-Sep-97* Time: *14:55*
Analyzed by: *DC* Date: *5-Oct-97*
Sample Matrix: *Liquid*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	20.3	ug/L	0.2	ug/L
<i>Toluene</i>	6.2	ug/L	0.2	ug/L
<i>Ethylbenzene</i>	4.5	ug/L	0.2	ug/L
<i>m,p-Xylene</i>	1.6	ug/L	0.2	ug/L
<i>o-Xylene</i>	0.3	ug/L	0.2	ug/L
<i>TOTAL</i>	32.9	ug/L		

ND - Not Detected at Limit of Quantitation

Method - SW-846 EPA Method 8020A Aromatic Volatile Organics by Gas Chromatography

Approved By: *[Signature]*
Date: *10/16/97*

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: *Terry Griffin*
Company: *BioTech Remediation*
Address: *710 E 20th Street, Suite 400*
City, State: *Farmington, NM 87401*

Date: *8-Oct-97*
COC No.: *6495*
Sample No.: *16385*
Job No.: *2-1000*

Project Name: *Thriftway Refinery 626 CR 5500 Bloomfield, NM*
Project Location: *Travel Blank*
Sampled by: *KS* Date: *25-Sep-97* Time: *8:30*
Analyzed by: *DC* Date: *5-Oct-97*
Sample Matrix: *Liquid*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	ND	ug/L	0.2	ug/L
<i>Toluene</i>	ND	ug/L	0.2	ug/L
<i>Ethylbenzene</i>	ND	ug/L	0.2	ug/L
<i>m,p-Xylene</i>	ND	ug/L	0.2	ug/L
<i>o-Xylene</i>	ND	ug/L	0.2	ug/L
<i>TOTAL</i>	ND	ug/L		

ND - Not Detected at Limit of Quantitation

Method - *SW-846 EPA Method 8020A Aromatic Volatile Organics by Gas Chromatography*

Approved By: *[Signature]*
Date: *10/16/97*

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: *Terry Griffin*
Company: *BioTech Remediation*
Address: *710 E 20th Street, Suite 400*
City, State: *Farmington, NM 87401*

Date: *8-Oct-97*
COC No.: *6495*
Sample No.: *16386*
Job No.: *2-1000*

Project Name: *Thriftway Refinery 626 CR 5500 Bloomfield, NM*

Project Location: *MW-8*

Sampled by: *KS* Date: *25-Sep-97* Time: *15:20*

Analyzed by: *DC* Date: *5-Oct-97*

Sample Matrix: *Liquid*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	ND	ug/L	0.2	ug/L
<i>Toluene</i>	ND	ug/L	0.2	ug/L
<i>Ethylbenzene</i>	ND	ug/L	0.2	ug/L
<i>m,p-Xylene</i>	ND	ug/L	0.2	ug/L
<i>o-Xylene</i>	ND	ug/L	0.2	ug/L
<i>TOTAL</i>	ND	ug/L		

ND - Not Detected at Limit of Quantitation

Method - *SW-846 EPA Method 8020A Aromatic Volatile Organics by Gas Chromatography*

Approved By: *[Signature]*

Date: *10/16/97*

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: *Terry Griffin*
Company: *BioTech Remediation*
Address: *710 E 20th Street, Suite 400*
City, State: *Farmington, NM 87401*

Date: *8-Oct-97*
COC No.: *6495*
Sample No.: *16387*
Job No.: *2-1000*

Project Name: *Thriftway Refinery 626 CR 5500 Bloomfield, NM*

Project Location: *MW-9*

Sampled by: *KS* Date: *25-Sep-97* Time: *10:50*

Analyzed by: *DC* Date: *5-Oct-97*

Sample Matrix: *Liquid*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	ND	ug/L	0.2	ug/L
<i>Toluene</i>	ND	ug/L	0.2	ug/L
<i>Ethylbenzene</i>	ND	ug/L	0.2	ug/L
<i>m,p-Xylene</i>	ND	ug/L	0.2	ug/L
<i>o-Xylene</i>	ND	ug/L	0.2	ug/L
<i>TOTAL</i>	ND	ug/L		

ND - Not Detected at Limit of Quantitation

Method - *SW-846 EPA Method 8020A Aromatic Volatile Organics by Gas Chromatography*

Approved By: *[Signature]*
Date: *10/16/97*

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: *Terry Griffin*
Company: *BioTech Remediation*
Address: *710 E 20th Street, Suite 400*
City, State: *Farmington, NM 87401*

Date: *8-Oct-97*
COC No.: *6495*
Sample No.: *16388*
Job No.: *2-1000*

Project Name: *Thriftway Refinery 626 CR 5500 Bloomfield, NM*

Project Location: *Travel Blank*

Sampled by: *KS* Date: *26-Sep-97* Time: *9:00*

Analyzed by: *DC* Date: *5-Oct-97*

Sample Matrix: *Liquid*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	ND	ug/L	0.2	ug/L
<i>Toluene</i>	ND	ug/L	0.2	ug/L
<i>Ethylbenzene</i>	ND	ug/L	0.2	ug/L
<i>m,p-Xylene</i>	ND	ug/L	0.2	ug/L
<i>o-Xylene</i>	ND	ug/L	0.2	ug/L
<i>TOTAL</i>	ND	ug/L		

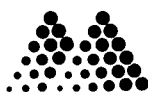
ND - Not Detected at Limit of Quantitation

Method - *SW-846 EPA Method 8020A Aromatic Volatile Organics by Gas Chromatography*

Approved By: *[Signature]*
Date: *10/16/97*

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -



Mountain States Analytical, Inc.

The Quality Solution

On Site Technologies, Ltd.
612 E Murray Drive
Farmington, NM 87401

Attn: Mr. David Cox
Project: Thirftway Refinery

Sample ID: 16399-6496 **AIR STRIPPED EFFLUENT**
Matrix: Waste Water

RECEIVED OCT 29 1997

MSAI Sample: 69117
MSAI Group: 18096
Date Reported: 10/21/97
Discard Date: 11/20/97
Date Submitted: 10/01/97
Date Sampled: 09/23/97
Collected by: DC
Purchase Order: 6496
Project No.:

Test	Analysis	Results as Received	Units	Limit of Quantitation
0392I	Flame/ICP Prep, w/ww, 3005A Method: SW-846 3005A	W 0		
7251	Chromium by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.050
7255	Lead by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.20
0504	Fluoride, Ion Chromatography Method: EPA 300.0	ND	mg/l	(1) 2.5
0505	Bromide, Ion Chromatography Method: EPA 300.0	ND	mg/l	(2) 2.5

- (1) Sample had to be diluted due to high concentration of non-target analytes.
(2) Sample had to be diluted due to high concentration of non-target analytes.

ND - Not detected at the limit of quantitation

This report consists of the following items: A cover letter, a signed analytical report for each sample specified on the cover letter, and if applicable, an inorganic quality control summary. Organic sample reports contain footnotes which describe any quality control anomalies which may have occurred.

Respectfully Submitted,
Reviewed and Approved by:

Rolf E. Larsen
Project Manager

Analysis Batch Number: ICPWA-10/16/97-001 -1

Test Identification : ICPWA-*Metals by ICP

Sequence : DATD289

Number of Samples : 8

Batch Data-Date/Time : 10/17/97 / 08:50:57

BLANK#	ANALYTE	CONC FOUND #	CONC LIMIT
PBW1-710	Silver	0.0011	0.0060
	Arsenic	0.0038	0.0300
	Barium	0.0009	0.0030
	Cadmium	ND	0.0040
	Chromium	ND	0.0100
	Lead	0.0105	0.0400

						QC LIMITS	
SAMPLE#	ANALYTE	CONC ADDED	CONC SAMPLE	CONC SPIKE	% REC #	LOWER	UPPER
18125-69210	Silver	0.0500	0.0009	0.0504	99.0	80.0	120.0
	Arsenic	2.0000	0.0105	2.0141	100.2	80.0	120.0
	Barium	2.0000	0.0015	1.9802	98.9	80.0	120.0
	Cadmium	0.0500	-0.0018	0.0502	104.0	80.0	120.0
	Chromium	0.2000	0.0012	0.2014	100.1	80.0	120.0
	Lead	0.5000	0.0077	0.4711	92.7	80.0	120.0

						QC LIMITS			
SAMPLE#	ANALYTE	CONC ADDED	CONC SAMPLE	RESULT 2	%REC2 #	LOWER	UPPER	RPD #	LIMIT
18125-69210	Silver	0.0500	0.0009	0.0517	101.6	80.0	120.0	2.5	20.0
	Arsenic	2.0000	0.0105	1.9937	99.2	80.0	120.0	1.0	20.0
	Barium	2.0000	0.0015	1.9691	98.4	80.0	120.0	0.6	20.0
	Cadmium	0.0500	-0.0018	0.0470	97.6	80.0	120.0	6.6	20.0
	Chromium	0.2000	0.0012	0.1985	98.6	80.0	120.0	1.5	20.0
	Lead	0.5000	0.0077	0.4836	95.2	80.0	120.0	2.6	20.0

DUPLICATE						
SAMPLE#	ANALYTE	RESULT 1	RESULT 2	RPD #	LIMIT	DILUTION
18125-69210	Silver	0.0009	0.0023	87.5(11)	20.0	1.00
	Arsenic	0.0105	0.0005	181.8(11)	20.0	1.00
	Barium	0.0015	0.0016	6.5	20.0	1.00
	Cadmium	-0.0018	0.0002	250.0(11)	20.0	1.00
	Chromium	0.0012	0.0000	200.0(11)	20.0	1.00
	Lead	0.0077	0.0137	56.1(11)	20.0	1.00

CONTROL					QC LIMITS	
SAMPLE#	ANALYTE	CONC FOUND	CONC KNOWN	% REC #	LOWER	UPPER
LCSW-710	Silver	0.0503	0.0500	100.6	80.0	120.0
	Arsenic	2.0405	2.0000	102.0	80.0	120.0
	Barium	2.0228	2.0000	101.1	80.0	120.0
	Cadmium	0.0503	0.0500	100.6	80.0	120.0
	Chromium	0.1997	0.2000	99.9	80.0	120.0
	Lead	0.4703	0.5000	94.1	80.0	120.0

				QC LIMITS		
CCV #	ANALYTE	TRUE VALUE	BATCH READ	% REC #	LOWER	UPPER
ICV-	Silver	0.4000	0.3916	97.9	90.0	110.0
	Arsenic	1.6000	1.6075	100.5	90.0	110.0
	Barium	4.0000	3.8155	95.4	90.0	110.0
	Cadmium	4.0000	3.8549	96.4	90.0	110.0
	Chromium	4.0000	3.9172	97.9	90.0	110.0

Analysis Batch Number: ICPWA-10/16/97-001 -1

Test Identification : ICPWA-*Metals by ICP

Sequence : DATD289

Number of Samples : 8

Batch Data-Date/Time : 10/17/97 / 08:50:57

CCV #	ANALYTE	TRUE VALUE	BATCH READ	% REC #	QC LIMITS	
					LOWER	UPPER
ICV-	Lead	20.0000	18.5296	92.6	90.0	110.0
CCV1--2	Silver	0.4000	0.3851	96.3	90.0	110.0
	Arsenic	1.6000	1.5619	97.6	90.0	110.0
	Barium	4.0000	3.7500	93.8	90.0	110.0
	Cadmium	4.0000	3.7950	94.9	90.0	110.0
	Chromium	4.0000	3.8509	96.3	90.0	110.0
CCV2--3	Lead	20.0000	18.2428	91.2	90.0	110.0
	Silver	0.4000	0.3888	97.2	90.0	110.0
	Arsenic	1.6000	1.5764	98.5	90.0	110.0
	Barium	4.0000	3.8371	95.9	90.0	110.0
	Cadmium	4.0000	3.7907	94.8	90.0	110.0
CCV3--4	Chromium	4.0000	3.8726	96.8	90.0	110.0
	Lead	20.0000	18.2789	91.4	90.0	110.0
	Silver	0.4000	0.3917	97.9	90.0	110.0
	Arsenic	1.6000	1.5823	98.9	90.0	110.0
	Barium	4.0000	3.8432	96.1	90.0	110.0
	Cadmium	4.0000	3.7990	95.0	90.0	110.0
	Chromium	4.0000	3.8886	97.2	90.0	110.0
	Lead	20.0000	18.3103	91.6	90.0	110.0

CCB#	ANALYTE	CONC FOUND #	CONC LIMIT
ICB-	Silver	0.0012	0.0060
	Arsenic	0.0043	0.0300
	Barium	0.0016	0.0030
	Cadmium	ND	0.0040
	Chromium	0.0001	0.0100
	Lead	0.0161	0.0400
CCB1-	Silver	ND	0.0060
	Arsenic	0.0096	0.0300
	Barium	0.0012	0.0030
	Cadmium	ND	0.0040
	Chromium	ND	0.0100
CCB2-	Lead	0.0093	0.0400
	Silver	0.0009	0.0060
	Arsenic	0.0075	0.0300
	Barium	0.0018	0.0030
	Cadmium	ND	0.0040
CCB2-	Chromium	ND	0.0100
	Lead	0.0089	0.0400
	Silver	0.0005	0.0060
	Arsenic	0.0023	0.0300
	Barium	0.0013	0.0030
CCB3-	Cadmium	0.0003	0.0040
	Chromium	ND	0.0100
	Lead	0.0021	0.0400
	Silver	0.0007	0.0060
	Arsenic	ND	0.0300
	Barium	0.0012	0.0030
	Cadmium	ND	0.0040

Mountain States Analytical, Inc.
Daily QC Batching Data
Data Released for Reporting

10/21/97
15:49:07
Group: 18096

Analysis Batch Number: ICPWA-10/16/97-001 -1

Test Identification : ICPWA-*Metals by ICP

Sequence : DATD289

Number of Samples : 8

Batch Data-Date/Time : 10/17/97 / 08:50:57

CCB#	ANALYTE	CONC FOUND #	CONC LIMIT
CCB3-	Chromium	ND	0.0100
	Lead	0.0038	0.0400

----- Result Footnotes -----

(11) - Both Duplicate results are less than the MDL.

Groups & Samples

18085-69052 18085-69053 18095-69113 18095-69114 18095-69115 18096-69116 18096-69117 18125-69210

Blank

```
=====
Data File   : C:\PEAKNET\DATA\00971009.D03   Report Date: 10/9/97 11:17:13 AM |
Sample Name: LRB                               Collected  : 10/9/97 11:17:04 AM |
Inject #    : 3                               Vial #       :                |
Method File : c:\peaknet\method\as14low.met   Calibrated   : 9/16/97 1:32:21 PM |
System Name : IC                             Detector    : CD20              |
Column Type : AS14+AG14 (Both 4mm)           Operator    : TG                |
Data Points : 2562                           Rate        : 5.00   Hz          |
Module Name : DETECTOR                       Moduleware   : 1.17             |
=====
```

```
-----
Calibration Volume Dilution Start Stop Area Reject Pk. Width Threshold
-----
External          1          1    0.00   8.54          750        10.00        0.50
-----
```

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration mg/l	Area	Peak Start	Peak End	% Delta
0	0.00	Fluoride	0.000	0	0.00	0.00	0.00
2	3.22	Chloride	0.124	6694	2.98	3.38	-1.03
0	0.00	Nitrite	0.000	0	0.00	0.00	0.00
0	0.00	Bromide	0.000	0	0.00	0.00	0.00
0	0.00	Nitrate	0.000	0	0.00	0.00	0.00
0	0.00	O-Phosphate-P	0.000	0	0.00	0.00	0.00
0	0.00	Sulfate	0.000	0	0.00	0.00	0.00
Totals			0.124	6694			

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration mg/l	Area	Peak Start	Peak End	% Delta
1	2.65		0.000	9367	2.13	2.75	
Totals			0.000	9367			

LCS

3A

WATER ANION SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name MOUNTAIN STATES ANALYTICAL Contract: _____

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix Spike - MSAI Sample No.: LFB Date Analyzed: 10/09/97

COMPOUND	SPIKE ADDED (mg/l)	SAMPLE CONCENTRATION (mg/l)	LFB CONCENTRATION (mg/l)	LFB % REC #	QC. LIMITS REC.
FLUORIDE	100.0	0.0	102.2	102.2	90-110
CHLORIDE	200.0	0.0	205.2	102.6	90-110
BROMIDE	400.0	0.0	433.8	108.5	90-110
NITRATE	90.8	0.0	95.8	105.5	90-110
SULFATE	400.0	0.0	408.2	102.1	90-110

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of in-house QC limits

Spike Recovery: 0 out of 5 outside of in-house QC limits

Comments: _____

3A
WATER ANION SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name MOUNTAIN STATES ANALYTICAL Contract: _____

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix Spike - MSAI Sample No.: 68992 Date Analyzed: 10/09/97

COMPOUND	SPIKE ADDED (mg/l)	SAMPLE CONCENTRATION (mg/l)	MS CONCENTRATION (mg/l)	MS % REC #	QC LIMITS REC.
FLUORIDE	20.0	0.0	20.0	100.0	80-120
CHLORIDE	40.0	7.5	41.8	85.6	80-120
BROMIDE	80.0	0.0	82.1	102.7	80-120
NITRATE	18.2	0.4	18.2	98.0	80-120
SULFATE	80.0	118.2	200.1	102.4	80-120

COMPOUND	SPIKE ADDED (mg/l)	MSD CONCENTRATION (mg/l)	MSD % REC #	% RPD #	QC LIMITS RPD REC.
FLUORIDE	20.0	20.3	101.3	1.3	20.0 80-120
CHLORIDE	40.0	43.3	89.6	3.7	20.0 80-120
BROMIDE	80.0	84.3	105.4	2.6	20.0 80-120
NITRATE	18.2	18.8	101	3.2	20.0 80-120
SULFATE	80.0	202.8	106	1.4	20.0 80-120

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of in-house QC limits

RPD: 0 out of 5 outside of in-house QC limits

Spike Recovery: 0 out of 10 outside of in-house QC limits

Comments: _____

657 W. Maple • P. O. Box 2606 • Farmington NM 87499
LAB: (505) 325-5667 • FAX: (505) 325-6256

Telefax No. 505-325-1400

1

Authorized by: [Signature]
(Client Signature Must Accompany Request)

Distribution:	White - On Site	Yellow - LAB	Pink - Sampler	Goldenrod - Client
---------------	-----------------	--------------	----------------	--------------------

Distribution: White – On Site Yellow – LAB Pink – Sampler Goldenrod – Client

CHAIN OF CUSTODY RECORD

ON SITE

TECHNOLOGIES, LTD.

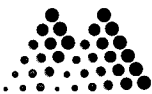
657 W. Maple • P. O. Box 2606 • Farmington NM 87499
LAB: (505) 325-5667 • FAX: (505) 325-6256

Date: 9/26/97

Page 2 of 2

Purchase Order No.: 097-503		Job No.		Name Terry Geffin		Title	
Name Same		Dept.		Company BioTech Remediation, Inc			
Address				Mailing Address 710 E. 20th St., Suite 400			
City, State, Zip				City, State, Zip Farmington, NM 87401			
				Telephone No. 505-327-4965		Telefax No.	
SEND INVOICE TO				RESULTS TO			
Sampling Location: Thriftway Refinery 626 Rd 5500 Bloomfield NM				ANALYSIS REQUESTED			
Sampler: Ken Sixts				ANALYSIS REQUESTED			
SAMPLE IDENTIFICATION				LAB ID			
MW-13				MW-13-1640 H2O Y			
MW-15				MW-15-1200			
MW-18				MW-18-1100			
MW-19				MW-19-1400			
MW-20				MW-20-1705			
MW-21				MW-21-1700			
MW-22				MW-22-1045			
Air Stripped Influent				Air Stripped Influent			
Air Stripped Effluent				Air Stripped Effluent			
Relinquished by: Ken Sixts				Relinquished by: [Signature]			
Relinquished by:				Relinquished by:			
Relinquished by:				Relinquished by:			
Method of Shipment:				Method of Shipment:			
Authorized by:				Authorized by:			
(Client Signature Must Accompany Request)				(Client Signature Must Accompany Request)			
Date				Date			
Date/Time 9/26/97 1525				Date/Time 9/26/97 1525			
Date/Time				Date/Time			
Date/Time				Date/Time			
Rush				Rush			
24-48 Hours				10 Working Days			
Special Instructions:				Special Instructions:			

RECEIVED OCT 24 1997



Mountain States Analytical, Inc.

October 20, 1997

Mr. David Cox
On Site Technologies, Ltd.
612 E Murray Drive
Farmington, NM 87401

Reference:

Project: Thriftway Refinery
MSAI Group: 18187

Dear Mr. Cox:

Enclosed are the analytical results for your project referenced above. The following samples are included in the report.

16524-6077

16525-6077

All holding times were met for the tests performed on these samples.

If the report is acceptable, please approve the enclosed invoice and forward it for payment.

Thank you for selecting Mountain States Analytical, Inc. to serve as your analytical laboratory on this project. If you have any questions concerning these results, please feel free to contact me at any time.

We look forward to working with you on future projects.

With Regards,

Rolf E. Larsen
Project Manager

RECEIVED OCT 24 1997



Mountain States Analytical, Inc.

The Quality Solution

On Site Technologies, Ltd.
612 E Murray Drive
Farmington, NM 87401

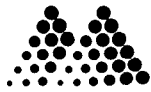
Attn: Mr. David Cox
Project: Thriftway Refinery

MSAI Sample: 69458
MSAI Group: 18187
Date Reported: 10/20/97
Discard Date: 11/19/97
Date Submitted: 10/10/97
Date Sampled: 10/06/97
Collected by: KS
Purchase Order: 6077
Project No.:

Sample ID: 16524-6077 **AIR STRIPPER INFLUENT**
Matrix: Waste Water

Test	Analysis	Results as Received	Units	Limit of Quantitation
6719	Polycyclic Aro/Hydrocarb, 8270A ww Method: SW-846 8270A			
	Acenaphthene	ND	ug/l	(1) 50
	Acenaphthylene	ND	ug/l	50
	Anthracene	ND	ug/l	50
	Benz(a)anthracene	ND	ug/l	50
	Benzo(b)fluoranthene	ND	ug/l	50
	Benzo(k)fluoranthene	ND	ug/l	50
	Benzo(ghi)perylene	ND	ug/l	50
	Benzo(a)pyrene	ND	ug/l	120
	Chrysene	ND	ug/l	50
	Dibenz(a,h)anthracene	ND	ug/l	50
	Fluoranthene	ND	ug/l	50
	Fluorene	ND	ug/l	50
	Naphthalene	176	ug/l	50
	Phenanthrene	ND	ug/l	50
	Pyrene	ND	ug/l	50
	Indeno(1,2,3-cd)pyrene	ND	ug/l	50
	2-Methylnaphthalene	133	ug/l	50
3000	SVOA Extraction, Water Method: SW-846 3510B	Complete		

(1) This sample required dilution due to high levels of non-target interferences.



Mountain States Analytical, Inc.

Page 2

On Site Technologies, Ltd.

The Quality Solution

MSAI Sample: 69458

MSAI Group: 18187

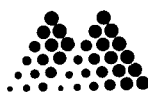
Sample ID: 16524-6077

ND - Not detected at the limit of quantitation

This report consists of the following items: A cover letter, a signed analytical report for each sample specified on the cover letter, and if applicable, an inorganic quality control summary. Organic sample reports contain footnotes which describe any quality control anomalies which may have occurred.

Respectfully Submitted,
Reviewed and Approved by:

Rolf E. Larsen
Project Manager



Mountain States Analytical, Inc.

The Quality Solution

On Site Technologies, Ltd.
612 E Murray Drive
Farmington, NM 87401

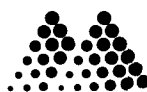
Attn: Mr. David Cox
Project: Thriftway Refinery

Sample ID: 16525-6077 **AIR STRIPPER EFFLUENT** (2)
Matrix: Waste Water

MSAI Sample: 69459
MSAI Group: 18187
Date Reported: 10/20/97
Discard Date: 11/19/97
Date Submitted: 10/10/97
Date Sampled: 10/06/97
Collected by: KS
Purchase Order: 6077
Project No.:

Test	Analysis	Results as Received	Units	Limit of Quantitation
6719	Polycyclic Aro/Hydrocarb, 8270A ww Method: SW-846 8270A			
	Acenaphthene	ND	ug/l	(1) 50
	Acenaphthylene	ND	ug/l	50
	Anthracene	ND	ug/l	50
	Benz(a)anthracene	ND	ug/l	50
	Benzo(b)fluoranthene	ND	ug/l	50
	Benzo(k)fluoranthene	ND	ug/l	50
	Benzo(ghi)perylene	ND	ug/l	50
	Benzo(a)pyrene	ND	ug/l	120
	Chrysene	ND	ug/l	50
	Dibenz(a,h)anthracene	ND	ug/l	50
	Fluoranthene	ND	ug/l	50
	Fluorene	ND	ug/l	50
	Naphthalene	ND	ug/l	50
	Phenanthrene	ND	ug/l	50
	Pyrene	ND	ug/l	50
	Indeno(1,2,3-cd)pyrene	ND	ug/l	50
	2-Methylnaphthalene	ND	ug/l	50
3000	SVOA Extraction, Water Method: SW-846 3510B	Complete		

(1) This sample required dilution due to high levels of non-target interferences.



Mountain States Analytical, Inc.

The Quality Solution

On Site Technologies, Ltd.

Sample ID: 16525-6077

Page 2

MSAI Sample: 69459

MSAI Group: 18187

ND - Not detected at the limit of quantitation

This report consists of the following items: A cover letter, a signed analytical report for each sample specified on the cover letter, and if applicable, an inorganic quality control summary. Organic sample reports contain footnotes which describe any quality control anomalies which may have occurred.

Respectfully Submitted,
Reviewed and Approved by:

Rolf E. Larsen
Project Manager

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BLK01

Lab Name: MOUNTAIN STATES

Contract:

Lab Code: MSAI

Case No.:

SAS No.:

SDG No.: 971015C

Matrix: (soil/water) WATER

Lab Sample ID: 971014WB

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: X1920

Level: (low/med) LOW

Date Received: _____

% Moisture: _____ decanted: (Y/N) _____

Date Extracted:

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 10/15/97

Injection Volume: 1.0(uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
---------	----------	--	---

108-95-2-----	Phenol	25.0	U
111-44-4-----	bis(2-Chloroethyl) ether	10.0	U
95-57-8-----	2-Chlorophenol	25.0	U
541-73-1-----	1,3-Dichlorobenzene	10.0	U
106-46-7-----	1,4-Dichlorobenzene	10.0	U
100-51-6-----	Benzyl alcohol	10.0	U
95-50-1-----	1,2-Dichlorobenzene	10.0	U
95-48-7-----	2-Methylphenol (o-Cresol)	25.0	U
108-60-1-----	bis(2-Chloroisopropyl) ether	10.0	U
N0019500-----	3 and 4-Methylphenol	25.0	U
621-64-7-----	N-Nitrosodi-N-propylamine	10.0	U
67-72-1-----	Hexachloroethane	10.0	U
98-95-3-----	Nitrobenzene	10.0	U
78-59-1-----	Isophorone	10.0	U
105-67-9-----	2,4-Dimethylphenol	25.0	U
88-75-5-----	2-Nitrophenol	25.0	U
65-85-0-----	Benzoic acid	25.0	U
111-91-1-----	bis(2-Chloroethoxy) methane	10.0	U
120-83-2-----	2,4-Dichlorophenol	25.0	U
120-82-1-----	1,2,4-Trichlorobenzene	10.0	U
91-20-3-----	Naphthalene	10.0	U
106-47-8-----	4-Chloroaniline	10.0	U
87-68-3-----	Hexachlorobutadiene	10.0	U
59-50-7-----	4-Chloro-3-methylphenol	25.0	U
91-57-6-----	2-Methylnaphthalene	10.0	U
77-47-4-----	Hexachlorocyclopentadiene	20.0	U
88-06-2-----	2,4,6-Trichlorophenol	25.0	U
95-95-4-----	2,4,5-Trichlorophenol	25.0	U
91-58-7-----	2-Chloronaphthalene	10.0	U
88-74-4-----	2-Nitroaniline	10.0	U
130-15-4-----	1,4-Naphthoquinone	10.0	U
131-11-3-----	Dimethyl phthalate	10.0	U
606-20-2-----	2,6-Dinitrotoluene	10.0	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BLK01

Lab Name: MOUNTAIN STATES

Contract:

Lab Code: MSAI

Case No.:

SAS No.:

SDG No.: 971015C

Matrix: (soil/water) WATER

Lab Sample ID: 971014WB

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: X1920

Level: (low/med) LOW

Date Received: _____

% Moisture: _____ decanted: (Y/N) _____

Date Extracted:

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 10/15/97

Injection Volume: 1.0(uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
---------	----------	--	---

208-96-8-----	Acenaphthylene	10.0	U
99-09-2-----	3-Nitroaniline	10.0	U
51-28-5-----	2,4-Dinitrophenol	25.0	U
83-32-9-----	Acenaphthene	10.0	U
100-02-7-----	4-Nitrophenol	25.0	U
121-14-2-----	2,4-Dinitrotoluene	10.0	U
132-64-9-----	Dibenzofuran	10.0	U
84-66-2-----	Diethyl phthalate	10.0	U
7005-72-3-----	4-Chlorophenyl-phenyl ether	10.0	U
86-73-7-----	Fluorene	10.0	U
100-01-6-----	4-Nitroaniline	10.0	U
534-52-1-----	4,6-Dinitro-2-methylphenol	25.0	U
86-30-6-----	N-Nitrosodiphenylamine(1)	10.0	U
101-55-3-----	4-Bromophenyl-phenyl ether	10.0	U
118-74-1-----	Hexachlorobenzene	10.0	U
87-86-5-----	Pentachlorophenol	25.0	U
85-01-8-----	Phenanthrene	10.0	U
120-12-7-----	Anthracene	10.0	U
86-74-8-----	Carbazole	10.0	U
84-74-2-----	Di-N-butylphthalate	10.0	U
206-44-0-----	Fluoranthene	10.0	U
129-00-0-----	Pyrene	10.0	U
52-85-7-----	Famphur	10.0	U
85-68-7-----	Butylbenzyl phthalate	10.0	U
117-81-7-----	bis(2-Ethylhexyl)phthalate	10.0	U
91-94-1-----	3,3'-Dichlorobenzidine	10.0	U
56-55-3-----	Benz(a)anthracene	10.0	U
218-01-9-----	Chrysene	10.0	U
117-84-0-----	Di-N-octyl phthalate	10.0	U
205-99-2-----	Benzo(b)fluoranthene	10.0	U
207-08-9-----	Benzo(k)fluoranthene	10.0	U
50-32-8-----	Benzo(a)pyrene	10.0	U
193-39-5-----	Indeno(1,2,3-cd)pyrene	10.0	U

(1) - Cannot be separated from Diphenylamine
FORM I SV-2

OLM03.0

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BLK01

Lab Name: MOUNTAIN STATES

Contract:

Lab Code: MSAI

Case No.:

SAS No.:

SDG No.: 971015C

Matrix: (soil/water) WATER

Lab Sample ID: 971014WB

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: X1920

Level: (low/med) LOW

Date Received: _____

% Moisture: _____ decanted: (Y/N) _____

Date Extracted: _____

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 10/15/97

Injection Volume: 1.0(uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
---------	----------	--	---

53-70-3-----	Dibenz(a,h)anthracene	10.0	U
191-24-2-----	Benzo(ghi)perylene	10.0	U
79-10-7-----	Acrylic Acid	20.0	U
110-86-1-----	Pyridine	10.0	U
62-75-9-----	N-Nitrosodimethylamine	10.0	U
564-00-1-----	2,2'-Bioxirane	10.0	U
542-76-7-----	3-Chloropropionitrile	10.0	U
109-06-8-----	2-Picoline	10.0	U
51-79-6-----	Ethyl Carbamate	10.0	U
66-27-3-----	Methyl methanesulfonate	10.0	U
55-18-5-----	N-Nitrosodiethylamine	10.0	U
62-50-0-----	Ethyl methanesulfonate	10.0	U
62-53-3-----	Aniline	10.0	U
95-13-6-----	Indene	10.0	U
76-01-7-----	Pentachloroethane	10.0	U
930-55-2-----	N-Nitrosopyrrolidine	10.0	U
98-86-2-----	Acetophenone	10.0	U
59-89-2-----	N-Nitrosomorpholine	10.0	U
95-53-4-----	o-Toluidine	10.0	U
98-87-3-----	Benzal Chloride	10.0	U
100-75-4-----	N-Nitrosopiperidine	10.0	U
126-68-1-----	o,o,o-Triethylphosphorothioa	10.0	U
87-65-0-----	2,6-Dichlorophenol	10.0	U
1888-71-7-----	Hexachloropropene	10.0	U
122-09-8-----	a,a-Dimethylphenethylamine	20.0	U
106-50-3-----	1,4-Phenylenediamine	100	U
91-22-5-----	Quinoline	10.0	U
924-16-3-----	N-Nitrosodi-N-butylamine	10.0	U
108-46-3-----	Resorcinol	10.0	U
90-12-0-----	1-Methylnaphthalene	10.0	U
85-44-9-----	Phthalic Anhydride	50.0	U
95-94-3-----	1,2,4,5-Tetrachlorobenzene	10.0	U
120-58-1-----	Isosafrole	10.0	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BLK01

Lab Name: MOUNTAIN STATES

Contract:

Lab Code: MSAI

Case No.:

SAS No.:

SDG No.: 971015C

Matrix: (soil/water) WATER

Lab Sample ID: 971014WB

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: X1920

Level: (low/med) LOW

Date Received: _____

% Moisture: _____ decanted: (Y/N) _____

Date Extracted: _____

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 10/15/97

Injection Volume: 1.0(uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
---------	----------	--	---

94-59-7-----	Safrole	10.0	U
99-65-0-----	1,3-Dinitrobenzene	10.0	U
608-93-5-----	Pentachlorobenzene	10.0	U
134-32-7-----	1-Naphthylamine	10.0	U
935-95-5-----	2,3,5,6-Tetrachlorophenol	10.0	U
58-90-2-----	2,3,4,5 or 2,3,4,6-TCPHENOL	20.0	U
91-59-8-----	2-Naphthylamine	10.0	U
96-45-7-----	Ethylene Thiourea	10.0	U
122-66-7-----	1,2-Diphenylhydrazine	10.0	U
297-97-2-----	Thionazin	10.0	U
99-55-8-----	5-Nitro-o-toluidine	10.0	U
3689-24-5-----	Tetraethyldithiopyrophosphat	10.0	U
99-35-4-----	1,3,5-Trinitrobenzene	50.0	U
2303-16-4-----	Diallate (cis)	10.0	U
2303-16-4-----	Diallate (trans)	10.0	U
60-51-5-----	Dimethoate	100	U
62-44-2-----	Phenacetin	10.0	U
92-67-1-----	4-Aminobiphenyl	10.0	U
82-63-8-----	Pentachloronitrobenzene	10.0	U
23950-58-5-----	Pronamide	10.0	U
88-85-7-----	Dinoseb	40.0	U
298-00-0-----	Parathion, Methyl	20.0	U
56-38-2-----	Parathion, Ethyl	20.0	U
56-57-5-----	4-Nitroquinoline-1-oxide	100	U
91-80-5-----	Methapyrilene	20.0	U
465-73-6-----	Isodrin	10.0	U
92-87-5-----	Benzidine	100	U
140-57-8-----	Aramite	10.0	U
143-50-0-----	Kepone	50.0	U
60-11-7-----	p-(Dimethylamino)azobenzene	10.0	U
510-15-6-----	Chlorobenzilate	10.0	U
119-93-7-----	3,3'-Dimethylbenzidine	10.0	U
53-96-3-----	2-Acetylaminofluorene	10.0	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BLK01

Lab Name: MOUNTAIN STATES

Contract:

Lab Code: MSAI

Case No.:

SAS No.:

SDG No.: 971015C

Matrix: (soil/water) WATER

Lab Sample ID: 971014WB

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: X1920

Level: (low/med) LOW

Date Received: _____

% Moisture: _____ decanted: (Y/N) _____

Date Extracted: _____

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 10/15/97

Injection Volume: 1.0(uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
---------	----------	--	---

101-14-4-----	4,4'-Methylenebis(2-chloroan	10.0	U
126-72-7-----	Tris(2,3-DBP)phosphate	500	U
57-97-6-----	7,12-Dimethylbenz[a]anthrace	10.0	U
56-49-5-----	3-Methylcholanthrene	10.0	U
10595-95-6-----	N-Nitrosomethylethylamine	10.0	U
79-46-9-----	2-Nitropropane	10.0	U
100-80-5-----	2-Ethoxyethanol (Cellosolve)	10.0	U
92-52-4-----	Biphenyl	10.0	U
198-55-0-----	Perylene	10.0	U
298-04-4-----	Disulfoton	20.0	U
298-02-2-----	Phorate	20.0	U
108-98-5-----	Benzenethiol	10.0	U
226-36-8-----	Dibenz(a,h)acridine	10.0	U
72-54-8-----	4,4'-DDD	20.0	U
72-55-9-----	4,4'-DDE	20.0	U
319-85-7-----	beta-BHC	10.0	U
-----	6-Methylchrysene	10.0	U

2C
WATER SEMIVOLATILE SURROGATE RECOVERY

Lab Name: MOUNTAIN STATES

Contract:

Lab Code: MSAI

Case No.:

SAS No.:

SDG No.: 971015C

	EPA SAMPLE NO.	S1 (2FP) #	S2 (PHL) #	S3 (NBZ) #	S4 (FBP) #	S5 (TBP) #	S6 (TPH) #	S7 #	S8 #	TOT OUT
01	BLK01	36	30	41	49	63	63			0
02	BLK01LCS	42	34	49	53	67	63			0
03	2071	15*	15	45	50	45	60			1
04	2071MS	26	25	47	52	16	64			0
05										
06										
07										
08										
09										
10										
11										
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29										
30										

QC LIMITS

S1 (2FP) = 2-Fluorophenol (21-110)
 S2 (PHL) = Phenol-d6 (10-110)
 S3 (NBZ) = Nitrobenzene-d5 (35-114)
 S4 (FBP) = 2-Fluorobiphenyl (43-116)
 S5 (TBP) = 2,4,6-Tribromophenol (10-123)
 S6 (TPH) = Terphenyl-d14 (33-141)

Column to be used to flag recovery values
 * Values outside of contract required QC limits
 D Surrogate diluted out

2C
WATER SEMIVOLATILE SURROGATE RECOVERY

Lab Name: MOUNTAIN STATES

Contract:

Lab Code: MSAI

Case No.:

SAS No.:

SDG No.: 971016C

	EPA SAMPLE NO.	S1 (2FP) #	S2 (PHL) #	S3 (NBZ) #	S4 (FBP) #	S5 (TBP) #	S6 (TPH) #	S7 #	S8 #	TOT OUT
01	2071MSD	18*	19	46	52	61	65			1
02	22403	26	21	39	48	84	62			0
03	22601	26	21	39	47	82	65			0
04	22801	10*	8*	39	50	29	62			2
05	22802	24	18	39	51	66	72			0
06	22803	15*	12	39	48	49	55			1
07	22804	22	17	42	54	46	62			0
08	AWO5RE	30	25	47	58	100	70			0
09	7275	19*	15	39	49	68	70			1
10	977-3	5*	12	900*	11*	66	64			3
11	SGN5	34	33	41	55	88	64			0
12	TCLP BLK	27	21	38	48	88	71			0
13	TCLP BLK	25	20	38	47	79	70			0
14	TCLP BLK	42	37	47	54	90	70			0
15										
16										
17										
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26										
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29										
30										

QC LIMITS

S1 (2FP) = 2-Fluorophenol (21-110)
 S2 (PHL) = Phenol-d6 (10-110)
 S3 (NBZ) = Nitrobenzene-d5 (35-114)
 S4 (FBP) = 2-Fluorobiphenyl (43-116)
 S5 (TBP) = 2,4,6-Tribromophenol (10-123)
 S6 (TPH) = Terphenyl-d14 (33-141)

Column to be used to flag recovery values
 * Values outside of contract required QC limits
 D Surrogate diluted out

2C
WATER SEMIVOLATILE SURROGATE RECOVERY

Lab Name: MOUNTAIN STATES

Contract:

Lab Code: MSAI

Case No.:

SAS No.:

SDG No.: 971017C

	EPA SAMPLE NO.	S1 (2FP) #	S2 (PHL) #	S3 (NBZ) #	S4 (FBP) #	S5 (TBP) #	S6 (TPH) #	S7 #	S8 #	TOT OUT
01	BLK1	35	28	40	45	73	71			0
02	BLK1LCS	39	32	48	58	86	75			0
03	16652	25	31	0*	52	59	69			1
04	16652MS	22	30	0*	54	52	66			1
05	16652MSD	26	33	0*	55	63	60			1
06	165646519	34	28	41	53	80	89			0
07	TBLK1014	35	27	40	46	80	74			0
08	TBLK1015	35	30	47	50	86	72			0
09	977-3D	13*	14	66	12*	66	60			2
10	16525D	53	40	66	87	83	99			0
11	16524D>	32	35	38	88	96	95			0
12										
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30										

QC LIMITS

S1 (2FP) = 2-Fluorophenol (21-110)
 S2 (PHL) = Phenol-d6 (10-110)
 S3 (NBZ) = Nitrobenzene-d5 (35-114)
 S4 (FBP) = 2-Fluorobiphenyl (43-116)
 S5 (TBP) = 2,4,6-Tribromophenol (10-123)
 S6 (TPH) = Terphenyl-d14 (33-141)

Column to be used to flag recovery values
 * Values outside of contract required QC limits
 D Surrogate diluted out

WATER SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: MOUNTAIN STATES

Contract:

Lab Code: MSAI

Case No.:

SAS No.:

SDG No.: 971016C

Matrix Spike - EPA Sample No.: 2071

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC. LIMITS REC.
Phenol	400	0.00	111	28	5-112
2-Chlorophenol	400	0.00	232	58	23-134
1,4-Dichlorobenzene	400	0.00	208	52	20-124
N-Nitrosodi-N-propylami	400	0.00	304	76	1-230
1,2,4-Trichlorobenzene	400	0.00	213	53	44-142
4-Chloro-3-methylphenol	400	0.00	264	66	22-147
Acenaphthene	400	0.00	278	70	47-145
4-Nitrophenol	400	0.00	0.00	0*	1-132
2,4-Dinitrotoluene	400	0.00	331	83	39-139
Pentachlorophenol	400	0.00	237	59	14-176
Pyrene	400	0.00	389	97	52-115

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	REC.
Phenol	400	80.6	20	33	42	5-112
2-Chlorophenol	400	184	46	23	40	23-134
1,4-Dichlorobenzene	400	184	46	12	28	20-124
N-Nitrosodi-N-propylami	400	298	74	3	38	1-230
1,2,4-Trichlorobenzene	400	198	50	6	28	44-142
4-Chloro-3-methylphenol	400	205	51	26	42	22-147
Acenaphthene	400	268	67	4	31	47-145
4-Nitrophenol	400	0.00	0*		50	1-132
2,4-Dinitrotoluene	400	336	84	1	38	39-139
Pentachlorophenol	400	307	77	26	50	14-176
Pyrene	400	327	82	17	31	52-115

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 11 outside limits

Spike Recovery: 2 out of 22 outside limits

COMMENTS:

FORM 3
WATER SEMIVOLATILE LAB CONTROL SAMPLE

Lab Name: MOUNTAIN STATES

Contract:

Lab Code: MSAI

Case No.:

SAS No.:

SDG No.: 971015C

Matrix Spike - Sample No.: BLK01LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Phenol	100		37.2	37	5-112
2-Chlorophenol	100		73.6	74	23-134
1,4-Dichlorobenzene	100		49.4	49	20-124
N-Nitrosodi-N-propylami	100		78.8	79	1-230
1,2,4-Trichlorobenzene	100		51.6	52	44-142
4-Chloro-3-methylphenol	100		79.4	79	22-147
Acenaphthene	100		66.7	67	47-145
4-Nitrophenol	100		34.7	35	1-132
2,4-Dinitrotoluene	100		85.2	85	39-139
Pentachlorophenol	100		78.1	78	14-176
Pyrene	100		90.5	90	52-115

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

RPD: 0 out of 0 outside limits

Spike Recovery: 0 out of 11 outside limits

COMMENTS:

CHAIN OF CUSTODY RECORD

6511

Page 1 of 1

Date: 10/7/97

ON SITE

TECHNOLOGIES, LTD. 657 W. Maple • P. O. Box 2606 • Farmington NM 87499
LAB: (505) 325-5667 • FAX: (505) 325-6256

Purchase Order No.: 6077		Job No.	
Name: ACCOUNTS REC.		Title:	
Company: ON SITE	Dept.:	Company: ON SITE TECH	
Address:		Mailing Address:	
City, State, Zip:		City, State, Zip:	
Telephone No.: 505-325-2432		Telefax No.: 325-6256	
Sampling Location: THRIFTWAY REFINERY		ANALYSIS REQUESTED	
Sampler: KS		Number of Containers	
SEND INVOICE TO		REPORT TO	
SAMPLE IDENTIFICATION		LAB ID	
DATE	TIME	MATRIX	PRES.
10/6/97	1715	WAX	Cool
10/6/97	1716	✓	✓
STRIPPER INFLUENT		16524-6077	
STRIPPER EFFLUENT		16525-1	
Relinquished by: [Signature]		Received by: [Signature]	
Date/Time: 10/7/97 1600		Date/Time: 10/10/97 1500	
Relinquished by:		Received by:	
Date/Time:		Date/Time:	
Relinquished by:		Received by:	
Date/Time:		Date/Time:	
Method of Shipment:		Rush	
Authorized by: [Signature]		24-48 Hours	
(Client Signature Must Accompany Request)		10 Working Days	
		Special Instructions:	

TECHNOLOGIES, LTD.

657.W. Maple • P. O. Box 2606 • Farmington NM 87499.
LAB: (505) 325-5667 • FAX: (505) 325-6256

Purchase Order No.:

SEND
INVOICE
TO

Name _____

Company

Address

City, State, Zip:

Sampling Location:

Theftway Refinery
626 Rd 5500
Bloomfield N.M. 8700

Sampler:

Ken Sinks

Henrich

SAMPLE IDENTIFICATION

SAMPLE		MATRIX	PRES.
DATE	TIME		

[illegible]

STRIPPED INFLUENT

STREPPA EFFLUENT

9/10	7/10	174	Cost
------	------	-----	------

Relinquished by:

John S. S. S.

Date/Time 10/17/95 0945 Received by:

五

Relinquished by:

Date/Time

Received by:

757

Relinquished by:

Date/Time

Received by:

Method of Shipment:

24-48 Hours

10 Working Days

Special Instructions:

Authorized by: _____

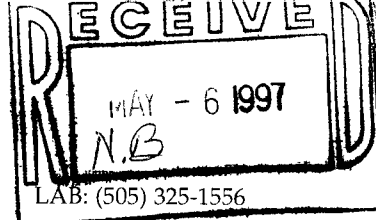
11/15/1912

Date _____

(Client Signature Must Accompany Request)

Distribution:	White – On Site	Yellow – LAB	Pink – Sampler	Goldenrod – Client
---------------	-----------------	--------------	----------------	--------------------

OFF: (505) 325-5667



ANALYTICAL REPORT

Attn: **Terry Griffin**
 Company: **BioTech Remediation**
 Address: **710 E 20th Street, Suite 400**
 City, State: **Farmington, NM 87401**

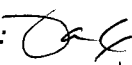
Date: **20-Mar-97**
 COC No.: **6023**
 Sample ID: **13940**
 Job No.: **2-1000**

Project Name: **Thriftway Refinery 626 CR 5500 Bloomfield, NM**
 Project Location: **MW-09**

Sampled by: **KS** Date: **18-Mar-97** Time: **14:30**
 Analyzed by: **HR** Date: **20-Mar-97**

Laboratory Analysis

Parameter	Result	Unit of Measure	Result	Unit of Measure
Cations				
Sodium Na	1528	mg/L	66.46	me/L
Calcium Ca	395	mg/L	19.71	me/L
Magnesium Mg	42.4	mg/L	3.49	me/L
Potassium K	9.4	mg/L	0.24	me/L
Anions				
Chloride Cl	89.5	mg/L	2.52	me/L
Sulfate SO4	3761	mg/L	78.30	me/L
Carbonate CO3 as CaCO3	< 1	mg/L	< 0.01	me/L
Bicarbonate HCO3 as CaCO3	330	mg/L	5.41	me/L
Hydroxide OH as CaCO3	< 1	mg/L	< 0.01	me/L
Total Dissolved Solids				
Calculated, Sum of Cation/Anion	6155	mg/L	Cation-Anion Balance 3.67 Difference Cation-Anion, me/L 176.14 Total Cation-Anion, me/L 2.1 % Difference Cation-Anion Comments	
Total Dissolved Solids				
Dried @ 180 C	6164	mg/L		
pH	7.62			
Conductivity @ 25 C	7020	uS/cm		
Total Hardness as CaCO3	1161	mg/L		

Approved by: 
 Date: **3/21/97**

OFF: (505) 325-5667



LAB: (505) 325-1556

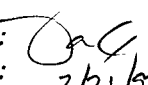
ANALYTICAL REPORT

Attn: **Terry Griffin**
 Company: **BioTech Remediation**
 Address: **710 E 20th Street, Suite 400**
 City, State: **Farmington, NM 87401**

Date: **20-Mar-97**
 COC No.: **6023**
 Sample ID: **13941**
 Job No.: **2-1000**

Project Name: **Thriftway Refinery 626 CR 5500 Bloomfield, NM**Project Location: **MW-10**Sampled by: **KS**Date: **18-Mar-97** Time: **13:55**Analyzed by: **HR**Date: **20-Mar-97****Laboratory Analysis**

Parameter	Result	Unit of Measure	Result	Unit of Measure
Cations				
Sodium Na	1522	mg/L	66.20	me/L
Calcium Ca	365	mg/L	18.21	me/L
Magnesium Mg	36.6	mg/L	3.01	me/L
Potassium K	10.6	mg/L	0.27	me/L
Anions				
Chloride Cl	52.4	mg/L	1.48	me/L
Sulfate SO ₄	3868	mg/L	80.53	me/L
Carbonate CO ₃ as CaCO ₃	< 1	mg/L	< 0.01	me/L
Bicarbonate HCO ₃ as CaCO ₃	313	mg/L	5.13	me/L
Hydroxide OH as CaCO ₃	< 1	mg/L	< 0.01	me/L
Total Dissolved Solids				
Calculated, Sum of Cation/Anion	6168	mg/L	Cation-Anion Balance 0.56 Difference Cation-Anion, me/L 174.84 Total Cation-Anion, me/L 0.3 % Difference Cation-Anion Comments	
Total Dissolved Solids				
Dried @ 180 C	6062	mg/L		
pH	7.40			
Conductivity @ 25 C	7190	uS/cm		
Total Hardness as CaCO ₃	1062	mg/L		

Approved by: Date: **3/21/97**

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: **Terry Griffin**
 Company: **BioTech Remediation**
 Address: **710 E 20th Street, Suite 400**
 City, State: **Farmington, NM 87401**

Date: **20-Mar-97**
 COC No.: **6023**
 Sample ID: **13942**
 Job No.: **2-1000**

Project Name: **Thriftway Refinery 626 CR 5500 Bloomfield, NM**Project Location: **MW-11**Sampled by: **KS**Date: **18-Mar-97** Time: **11:59**Analyzed by: **HR**Date: **20-Mar-97****Laboratory Analysis**

Parameter	Result	Unit of Measure	Result	Unit of Measure
Cations				
Sodium Na	1315	mg/L	57.20	me/L
Calcium Ca	421	mg/L	21.01	me/L
Magnesium Mg	36.4	mg/L	3.00	me/L
Potassium K	15.0	mg/L	0.38	me/L
Anions				
Chloride Cl	29.4	mg/L	0.83	me/L
Sulfate SO ₄	3875	mg/L	80.68	me/L
Carbonate CO ₃ as CaCO ₃	< 1	mg/L	< 0.01	me/L
Bicarbonate HCO ₃ as CaCO ₃	244	mg/L	4.00	me/L
Hydroxide OH as CaCO ₃	< 1	mg/L	< 0.01	me/L
Total Dissolved Solids				
Calculated, Sum of Cation/Anion	5936	mg/L	Cation-Anion Balance 3.92 Difference Cation-Anion, me/L 167.09 Total Cation-Anion, me/L 2.3 % Difference Cation-Anion Comments	
Total Dissolved Solids				
Dried @ 180 C	5900	mg/L		
pH	7.41			
Conductivity @ 25 C	6670	uS/cm		
Total Hardness as CaCO ₃	1201	mg/L		

Approved by: Date: **3/21/97**

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: **Terry Griffin**
 Company: **BioTech Remediation**
 Address: **710 E 20th Street, Suite 400**
 City, State: **Farmington, NM 87401**

Date: **20-Mar-97**
 COC No.: **6023**
 Sample ID: **13943**
 Job No.: **2-1000**

Project Name: **Thriftway Refinery 626 CR 5500 Bloomfield, NM**
 Project Location: **MW-13**

Sampled by: **KS** Date: **18-Mar-97** Time: **10:55**
 Analyzed by: **HR** Date: **20-Mar-97**

Laboratory Analysis

Parameter	Result	Unit of Measure		Result	Unit of Measure	
Cations						
Sodium Na	1126	mg/L		48.98	me/L	
Calcium Ca	432	mg/L		21.56	me/L	
Magnesium Mg	41.8	mg/L		3.44	me/L	
Potassium K	11.4	mg/L		0.29	me/L	
Anions						
Chloride Cl	119	mg/L		3.36	me/L	
Sulfate SO ₄	3378	mg/L		70.33	me/L	
Carbonate CO ₃ as CaCO ₃	< 1	mg/L		< 0.01	me/L	
Bicarbonate HCO ₃ as CaCO ₃	288	mg/L		4.72	me/L	
Hydroxide OH as CaCO ₃	< 1	mg/L		< 0.01	me/L	
Total Dissolved Solids			Cation-Anion Balance 4.14 Difference Cation-Anion, me/L 152.67 Total Cation-Anion, me/L 2.7 % Difference Cation-Anion Comments			
Calculated, Sum of Cation/Anion	5396	mg/L				
Total Dissolved Solids						
Dried @ 180 C	5488	mg/L				
pH	7.28					
Conductivity @ 25 C	6210	uS/cm				
Total Hardness as CaCO ₃	1251	mg/L				

Approved by: 
 Date: **3/21/97**

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: **Terry Griffin**
 Company: **BioTech Remediation**
 Address: **710 E 20th Street, Suite 400**
 City, State: **Farmington, NM 87401**

Date: **20-Mar-97**
 COC No.: **6023**
 Sample ID: **13944**
 Job No.: **2-1000**

Project Name: **Thriftway Refinery 626 CR 5500 Bloomfield, NM**
 Project Location: **MW-15**

Sampled by: **KS** Date: **18-Mar-97** Time: **10:00**
 Analyzed by: **HR** Date: **20-Mar-97**

Laboratory Analysis

Parameter	Result	Unit of Measure		Result	Unit of Measure	
Cations						
Sodium Na	776	mg/L		33.75	me/L	
Calcium Ca	381	mg/L		19.01	me/L	
Magnesium Mg	36.8	mg/L		3.03	me/L	
Potassium K	8.8	mg/L		0.23	me/L	
Anions						
Chloride Cl	48.1	mg/L		1.36	me/L	
Sulfate SO4	2568	mg/L		53.46	me/L	
Carbonate CO3 as CaCO3	<1	mg/L		<0.01	me/L	
Bicarbonate HCO3 as CaCO3	200	mg/L		3.28	me/L	
Hydroxide OH as CaCO3	<1	mg/L		<0.01	me/L	
Total Dissolved Solids			Cation-Anion Balance 2.08 Difference Cation-Anion, me/L 114.12 Total Cation-Anion, me/L ✓ 1.8 % Difference Cation-Anion Comments			
Calculated, Sum of Cation/Anion	4019	mg/L				
Total Dissolved Solids						
Dried @ 180 C	4066	mg/L				
pH	7.60					
Conductivity @ 25 C	4610	uS/cm				
Total Hardness as CaCO3	1103	mg/L				

Approved by: 
 Date: **3/21/97**

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: **Terry Griffin**
 Company: **BioTech Remediation**
 Address: **710 E 20th Street, Suite 400**
 City, State: **Farmington, NM 87401**

Date: **20-Mar-97**
 COC No.: **6023**
 Sample ID: **13945**
 Job No.: **2-1000**

Project Name: **Thriftway Refinery 626 CR 5500 Bloomfield, NM**Project Location: **MW-20**Sampled by: **KS**Date: **18-Mar-97** Time: **15:30**Analyzed by: **HR**Date: **20-Mar-97****Laboratory Analysis**

Parameter	Result	Unit of Measure	Result	Unit of Measure
Cations				
Sodium Na	969	mg/L	42.15	me/L
Calcium Ca	464	mg/L	23.15	me/L
Magnesium Mg	52.4	mg/L	4.31	me/L
Potassium K	8.1	mg/L	0.21	me/L
Anions				
Chloride Cl	115	mg/L	3.24	me/L
Sulfate SO ₄	2649	mg/L	55.15	me/L
Carbonate CO ₃ as CaCO ₃	< 1	mg/L	< 0.01	me/L
Bicarbonate HCO ₃ as CaCO ₃	836	mg/L	13.70	me/L
Hydroxide OH as CaCO ₃	< 1	mg/L	< 0.01	me/L
Total Dissolved Solids				
Calculated, Sum of Cation/Anion	5094	mg/L	Cation-Anion Balance 2.27 Difference Cation-Anion, me/L 141.92 Total Cation-Anion, me/L ✓ 1.6 % Difference Cation-Anion Comments	
Total Dissolved Solids				
Dried @ 180 C	4892	mg/L		
pH	7.00			
Conductivity @ 25 C	5590	uS/cm		
Total Hardness as CaCO ₃	1374	mg/L		

Approved by: *[Signature]*
 Date: **3/21/97**

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: **Terry Griffin**
 Company: **BioTech Remediation**
 Address: **710 E 20th Street, Suite 400**
 City, State: **Farmington, NM 87401**

Date: **20-Mar-97**
 COC No.: **6023**
 Sample ID: **13946**
 Job No.: **2-1000**

Project Name: **Thriftway Refinery 626 CR 5500 Bloomfield, NM**
 Project Location: **MW-21**

Sampled by: **KS** Date: **18-Mar-97** Time: **16:20**
 Analyzed by: **HR** Date: **20-Mar-97**

Laboratory Analysis

Parameter	Result	Unit of Measure	Result	Unit of Measure
Cations				
Sodium Na	1315	mg/L	57.20	me/L
Calcium Ca	338	mg/L	16.87	me/L
Magnesium Mg	39.8	mg/L	3.28	me/L
Potassium K	11.4	mg/L	0.29	me/L
Anions				
Chloride Cl	78.5	mg/L	2.21	me/L
Sulfate SO ₄	2800	mg/L	58.29	me/L
Carbonate CO ₃ as CaCO ₃	< 1	mg/L	< 0.01	me/L
Bicarbonate HCO ₃ as CaCO ₃	682	mg/L	11.18	me/L
Hydroxide OH as CaCO ₃	< 1	mg/L	< 0.01	me/L
Total Dissolved Solids				
Calculated, Sum of Cation/Anion	5265	mg/L	Cation-Anion Balance 5.95 Difference Cation-Anion, me/L 149.32 Total Cation-Anion, me/L √4.0 % Difference Cation-Anion Comments	
Total Dissolved Solids				
Dried @ 180 C	5050	mg/L		
pH	7.08			
Conductivity @ 25 C	5890	uS/cm		
Total Hardness as CaCO ₃	1008	mg/L		

Approved by: *[Signature]*
 Date: **3/21/97**

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: **Terry Griffin**
 Company: **BioTech Remediation**
 Address: **710 E 20th Street, Suite 400**
 City, State: **Farmington, NM 87401**

Date: **20-Mar-97**
 COC No.: **6023**
 Sample ID: **13947**
 Job No.: **2-1000**

Project Name: **Thriftway Refinery 626 CR 5500 Bloomfield, NM**
 Project Location: **MW-22**

Sampled by: **KS** Date: **18-Mar-97** Time: **17:00**
 Analyzed by: **HR** Date: **20-Mar-97**

Laboratory Analysis

Parameter	Result	Unit of Measure		Result	Unit of Measure	
Cations						
Sodium <i>Na</i>	1229	mg/L		53.46	me/L	
Calcium <i>Ca</i>	379	mg/L		18.91	me/L	
Magnesium <i>Mg</i>	37.0	mg/L		3.04	me/L	
Potassium <i>K</i>	10.3	mg/L		0.26	me/L	
Anions						
Chloride <i>Cl</i>	30.6	mg/L		0.86	me/L	
Sulfate <i>SO4</i>	3422	mg/L		71.24	me/L	
Carbonate <i>CO3 as CaCO3</i>	< 1	mg/L		< 0.01	me/L	
Bicarbonate <i>HCO3 as CaCO3</i>	388	mg/L		6.36	me/L	
Hydroxide <i>OH as CaCO3</i>	< 1	mg/L		< 0.01	me/L	
Total Dissolved Solids Calculated, Sum of Cation/Anion	5496	mg/L	Cation-Anion Balance 2.79 Difference Cation-Anion, me/L 154.14 Total Cation-Anion, me/L 1.8 % Difference Cation-Anion Comments			
Total Dissolved Solids Dried @ 180 C	5518	mg/L				
pH	7.11					
Conductivity @ 25 C	6250	uS/cm				
Total Hardness as CaCO3	1099	mg/L				

Approved by: *DAG*
 Date: *3/21/97*

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

QUALITY ASSURANCE REPORT*Cation/Anion Balance***Date:** 20-Mar-97**Quality Control Sample**

<i>Parameter</i>	<i>Laboratory Identification</i>	<i>True Value</i>	<i>Analyzed Value</i>	<i>Unit of Measure</i>	<i>% Diff</i>	<i>Limit % Diff</i>
<i>Sodium, Na</i>	0524-QC	3.16	3.26	mg/L	3	10
<i>Calcium, Ca</i>	0462-QC	2.18	2.17	mg/L	0	10
<i>Magnesium, Mg</i>	0462-QC	1.14	1.22	mg/L	7	10*
<i>Potassium, K</i>	0524-QC	2.92	2.83	mg/L	-3	10
<i>Chloride, Cl</i>	0539-QC	66	69	mg/L	4	10
<i>Sulfate, SO₄</i>	0539-QC	78	71	mg/L	-9	10
<i>Alkalinity</i>	0539-QC	159	169	mg/L	6	10
<i>pH</i>	0539-QC	9.13	9.32		2	10
<i>Conductivity</i>	0539-QC	740	745	uS/cm	1	15
<i>Total Dissolved Solids, 180C</i>	0539-QC	642	638	uS/cm	-1	15

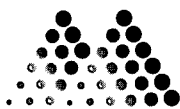
Matrix Spike

<i>Parameter</i>	<i>Laboratory Identification</i>	<i>Analyzed Value</i>	<i>Matrix Spike</i>	<i>Spike Value</i>	<i>Unit of Measure</i>	<i>Spike Recovery</i>
<i>Sodium, Na</i>	13995-6030	1.32	0.50	1.86	mg/L	102%
<i>Calcium, Ca</i>	13995-6030	0.79	0.50	1.33	mg/L	103%
<i>Magnesium, Mg</i>	13996-6030	1.14	0.50	1.69	mg/L	103%
<i>Potassium, K</i>	13995-6030	0.90	1.00	1.81	mg/L	95%

Method Blank

<i>Parameter</i>	<i>Laboratory Identification</i>	<i>Analyzed Value</i>	<i>Unit of Measure</i>
<i>Sodium, Na</i>	LF-Blank	<0.2	mg/L
<i>Calcium, Ca</i>	LF-Blank	<0.05	mg/L
<i>Magnesium, Mg</i>	LF-Blank	<0.05	mg/L
<i>Potassium, K</i>	LF-Blank	<0.05	mg/L
<i>Chloride, Cl</i>	LF-Blank	<3 X DL	mg/L
<i>Sulfate, SO₄</i>	LF-Blank	<1	mg/L
<i>Conductivity</i>	LF-Blank	<2	uS/cm

12
3/21/97



Mountain States Analytical

The Quality Solution

April 2, 1997

Mr. David Cox
On Site Technologies, Ltd.
612 E Murray Drive
Farmington, NM 87401

Reference:

Project: Thriftway Refinery
Project No.: 21000/B101001
MSAI Group: 15639

Dear Mr. Cox:

Enclosed are the analytical results for your project referenced above. The following samples are included in the report.

13940-6023	13941-6023
13942-6023	13943-6023
13944-6023	13945-6023
13946-6023	13947-6023

All holding times were met for the tests performed on these samples.

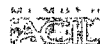
If the report is acceptable, please approve the enclosed invoice and forward it for payment.

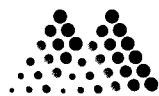
Thank you for selecting Mountain States Analytical, Inc. to serve as your analytical laboratory on this project. If you have any questions concerning these results, please feel free to contact me at any time.

We look forward to working with you on future projects.

With Regards,

Rolf E. Larsen
Project Manager





Mountain States Analytical

The Quality Solution

On Site Technologies, Ltd.
612 E Murray Drive
Farmington, NM 87401

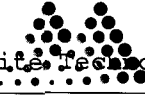
Attn: Mr. David Cox
Project: Thriftway Refinery

MSAI Group: 15639
Date Reported: 04/02/97
Date Received: 03/21/97

Purchase Order: 6023
Project No.: 21000/B101001

Test Analysis	Results as Received	Units	Limit of Quantitation
Sample: 60215 - 13940-6023 MW-09 (PC)			
0504 Fluoride, Ion Chromatography	ND	mg/l	2.0
0505 Bromide, Ion Chromatography	0.2	mg/l	0.1
Sample: 60216 - 13941-6023 MW-10 (PC)			
0504 Fluoride, Ion Chromatography	ND	mg/l	2.0
0505 Bromide, Ion Chromatography	0.3	mg/l	0.1
Sample: 60217 - 13942-6023 MW-11 (PC)			
0504 Fluoride, Ion Chromatography	ND	mg/l	2.0
0505 Bromide, Ion Chromatography	ND	mg/l	0.1
Sample: 60218 - 13943-6023 MW-13 (PC)			
0504 Fluoride, Ion Chromatography	ND	mg/l	2.0
0505 Bromide, Ion Chromatography	0.4	mg/l	0.1
Sample: 60219 - 13944-6023 MW-15 (PC)			
0504 Fluoride, Ion Chromatography	ND	mg/l	2.0
0505 Bromide, Ion Chromatography	0.3	mg/l	0.1
Sample: 60220 - 13945-6023 MW-20 (PC)			
0504 Fluoride, Ion Chromatography	ND	mg/l	2.0
0505 Bromide, Ion Chromatography	0.6	mg/l	0.1
Sample: 60221 - 13946-6023 MW-21 (PC)			
0504 Fluoride, Ion Chromatography	ND	mg/l	2.0
0505 Bromide, Ion Chromatography	0.4	mg/l	0.1
Sample: 60222 - 13947-6023 MW-22 (PC)			
0504 Fluoride, Ion Chromatography	ND	mg/l	2.0
0505 Bromide, Ion Chromatography	0.4	mg/l	0.1

On Site Technology, Inc.



Mountain States Analytical

The Quality Solution

MSAI Group: 15639

Test Method Summary:

0504 - EPA 300.0

0505 - EPA 300.0

ND - Not detected at the limit of quantitation

Respectfully Submitted,
Reviewed and Approved by:

Rolf E. Larsen
Project Manager

MOUNTAIN STATES ANALYTICAL

Blank

=====
Data File : C:\PEAKNET\DATA\data0166.D02 Report Date: 3/27/97 9:02:50 AM
Sample Name: LRB Collected : 3/27/97 8:52:13 AM
Inject # : 2 Vial # :
Method File: c:\peaknet\method\as14low.met Calibrated : 3/21/97 3:46:40 PM
System Name: IC Detector : CD20
Column Type: AS14+AG14 (Both 4mm) Operator : JO
Data Points: 3120 Rate : 5.00 Hz
Module Name: DETECTOR Moduleware : 1.17
=====

=====
Calibration Volume Dilution Start Stop Area Reject Pk. Width Threshold

External 1 1 0.00 10.40 750 10.00 0.50
=====

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration mg/l	Area	Peak Start	Peak End	% Delta
0	0.00	Fluoride	0.000	0	0.00	0.00	0.00
3	3.45	Chloride	0.013	8368	3.00	3.58	0.88
0	0.00	Nitrite	0.000	0	0.00	0.00	0.00
0	0.00	Bromide	0.000	0	0.00	0.00	0.00
0	0.00	Nitrate	0.000	0	0.00	0.00	0.00
0	0.00	O-Phosphate-P	0.000	0	0.00	0.00	0.00
0	0.00	Sulfate	0.000	0	0.00	0.00	0.00
Totals			0.013	8368			

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration mg/l	Area	Peak Start	Peak End	% Delta
1	2.60		0.000	10440	2.13	2.77	
2	2.88		0.000	1326	2.78	2.98	
Totals			0.000	11766			

UCS

3A

WATER ANION SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name MOUNTAIN STATES ANALYTICAL Contract: _____

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix Spike - MSAI Sample No.: LFB Date Analyzed: 03/27/97

COMPOUND	SPIKE ADDED (mg/l)	SAMPLE CONCENTRATION (mg/l)	LFB CONCENTRATION (mg/l)	LFB % REC #	QC. LIMITS REC.
FLUORIDE	100.0	0.0	109.3	109.3	90 110
BROMIDE	400.0	0.0	377.2	94.3	90 110

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of in-house QC limits

Spike Recovery: 0 out of 2 outside of in-house QC limits

Comments: _____

FORM III ANION-1

3A

WATER ANION SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name MOUNTAIN STATES ANALYTICAL Contract: _____

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix Spike - MSAI Sample No.: 60226 Date Analyzed: 03/27/97

COMPOUND	SPIKE ADDED (mg/l)	SAMPLE CONCENTRATION (mg/l)	MS CONCENTRATION (mg/l)	MS % REC #	QC. LIMITS REC.
FLUORIDE	100.0	0.8	107.6	106.9	80 120
BROMIDE	400.0	0.6	367.0	91.6	80 120

COMPOUND	SPIKE ADDED (mg/l)	MSD CONCENTRATION (mg/l)	MSD % REC #	% RPD #	QC LIMITS RPD REC.
FLUORIDE	100.0	104.6	103.8	2.9	20.0 80 120
BROMIDE	400.0	367.8	91.8	0.2	20.0 80 120

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of in-house QC limits

RPD: 0 out of 1 outside of in-house QC limitsSpike Recovery: 0 out of 2 outside of in-house QC limitsComments: _____

MOUNTAIN STATES ANALYTICAL

Blank

```

=====
Data File   : C:\PEAKNET\DATA\data0165.D11   Report Date: 3/25/97 2:00:34 PM
Sample Name: LRB                               Collected  : 3/25/97 1:50:00 PM
Inject #    : 11                               Vial #       :
Method File : c:\peaknet\method\as14low.met   Calibrated   : 3/21/97 3:46:40 PM
System Name : IC                               Detector     : CD20
Column Type : AS14+AG14 (Both 4mm)           Operator    : TG J.O.
Data Points : 3120                             Rate        : 5.00 Hz
Module Name : DETECTOR                         Moduleware   : 1.17
=====

```

```

=====
Calibration Volume Dilution Start Stop Area Reject Pk. Width Threshold
-----
External          1          1    0.00 10.40          750      10.00      0.50
=====

```

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration mg/l	Area	Peak Start	Peak End	% Delta
0	0.00	Fluoride	0.000	0	0.00	0.00	0.00
0	0.00	Chloride	0.000	0	0.00	0.00	0.00
0	0.00	Nitrite	0.000	0	0.00	0.00	0.00
0	0.00	Bromide	0.000	0	0.00	0.00	0.00
0	0.00	Nitrate	0.000	0	0.00	0.00	0.00
0	0.00	O-Phosphate-P	0.000	0	0.00	0.00	0.00
0	0.00	Sulfate	0.000	0	0.00	0.00	0.00
Totals			0.000	0			

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration mg/l	Area	Peak Start	Peak End	% Delta
1	2.60		0.000	8751	2.13	2.77	
2	3.15		0.000	4272	2.97	3.33	
Totals			0.000	13023			

LCS

3A

WATER ANION SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name MOUNTAIN STATES ANALYTICAL Contract: _____

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix Spike - MSAI Sample No.: LFB Date Analyzed: 03/25/97

COMPOUND	SPIKE ADDED (mg/l)	SAMPLE CONCENTRATION (mg/l)	LFB CONCENTRATION (mg/l)	LFB % REC #	QC. LIMITS REC.
FLUORIDE	100.0	0.0	105.2	105.2	90 110
CHLORIDE	200.0	0.0	193.4	96.7	90 110
BROMIDE	400.0	0.0	367.2	91.8	90 110
NITRATE	90.8	0.0	88.6	97.6	90 110
O-PHOS	194.4	0.0	189.6	97.6	90 110
SULFATE	400.0	0.0	410.5	102.6	90 110

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of in-house QC limits

Spike Recovery: 0 out of 6 outside of in-house QC limits

Comments: _____

3A

WATER ANION SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name MOUNTAIN STATES ANALYTICAL Contract: _____

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix Spike - MSAI Sample No.: 60218 Date Analyzed: 03/25/97

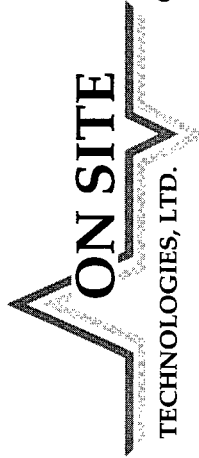
COMPOUND	SPIKE ADDED (mg/l)	SAMPLE CONCENTRATION (mg/l)	MS CONCENTRATION (mg/l)	MS % REC #	QC. LIMITS REC.
FLUORIDE	100.0	1.1	107.8	106.7	80 120
BROMIDE	400.0	0.4	375.1	93.7	80 120

COMPOUND	SPIKE ADDED (mg/l)	MSD CONCENTRATION (mg/l)	MSD % REC #	% RPD #	QC LIMITS RPD REC.
FLUORIDE	100.0	105.8	104.7	1.9	20.0 80 120
BROMIDE	400.0	365.6	91.3	2.6	20.0 80 120

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of in-house QC limits

RPD: 0 out of 2 outside of in-house QC limitsSpike Recovery: 0 out of 4 outside of in-house QC limitsComments: _____



657 W. Maple • P. O. Box 2606 • Farmington NM 87499
LAB: (505) 325-5667 • FAX: (505) 325-6256

[illegible]

Distribution:	White – On Site	Yellow – LAB	Pink – Sampler	Goldenrod – Client
---------------	-----------------	--------------	----------------	--------------------

657 W. Maple • P. O. Box 2606 • Farmington NM 87499
LAB: (505) 325-5667 • FAX: (505) 325-6256

Purchase Order No.: B97-229

Purchase Order No.:	B97-229	Job No.:
---------------------	---------	----------

**SEND
INVOICE
TO**

Name Same

	Dept.
--	-------

Address

City, State, Zip

Sampling Location:

g Location: Thriftway Refinery
626 R.D. 5500 Bloomfield, N.M. 87413

Sampler:-

Ten Sinks

SAMPLE IDENTIFICATION

[illegible]

MW-09

mw-10

11-113

mw-13

51-15

NW-20

ms - 21

Relinquished by:

Date/Time 3/1

Belinavished by:

Date/Time

Relinquished by:

Date/Time

Method of Shipment:

Rush

24-48 Hours

10 Working Days

Special Instructions:

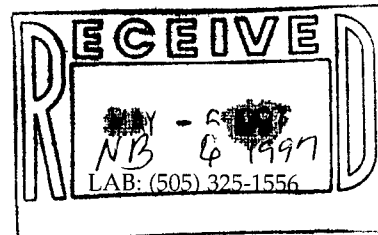
Authorized by: _____

(Client Signature Must Accompany Request)

Date: _____

Distribution:	White – On Site	Yellow – LAB	Pink – Sampler	Goldenrod – Client
---------------	-----------------	--------------	----------------	--------------------

OFF: (505) 325-5667



ANALYTICAL REPORT

Attn: **Terry Griffin**
 Company: **BioTech Remediation**
 Address: **710 E 20th Street, Suite 400**
 City, State: **Farmington, NM 87401**

Date: **20-Mar-97**
 COC No.: **6030**
 Sample ID: **13991**
 Job No.: **2-1000**

Project Name: **Thriftway Refinery 626 CR 5500 Bloomfield, NM**
 Project Location: **MW-01**

Sampled by: **KS** Date: **19-Mar-97** Time: **15:00**
 Analyzed by: **HR** Date: **20-Mar-97**

Laboratory Analysis

Parameter	Result	Unit of Measure	Result	Unit of Measure
Cations				
Sodium Na	646	mg/L	28.10	me/L
Calcium Ca	482	mg/L	24.05	me/L
Magnesium Mg	44.0	mg/L	3.62	me/L
Potassium K	5.5	mg/L	0.14	me/L
Anions				
Chloride Cl	47.6	mg/L	1.34	me/L
Sulfate SO4	2518	mg/L	52.42	me/L
Carbonate CO3 as CaCO3	< 1	mg/L	< 0.01	me/L
Bicarbonate HCO3 as CaCO3	336	mg/L	5.51	me/L
Hydroxide OH as CaCO3	< 1	mg/L	< 0.01	me/L
Total Dissolved Solids			Cation-Anion Balance 3.36 Difference Cation-Anion, me/L 115.19 Total Cation-Anion, me/L ✓ 2.9 % Difference Cation-Anion Comments	
Calculated, Sum of Cation/Anion	4079	mg/L		
Total Dissolved Solids				
Dried @ 180 C	4166	mg/L		
pH	7.05			
Conductivity @ 25 C	4470	uS/cm		
Total Hardness as CaCO3	1385	mg/L		

Approved by: *DaG*
 Date: *3/21/97*

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: **Terry Griffin**
 Company: **BioTech Remediation**
 Address: **710 E 20th Street, Suite 400**
 City, State: **Farmington, NM 87401**

Date: **20-Mar-97**
 COC No.: **6030**
 Sample ID: **13992**
 Job No.: **2-1000**

Project Name: **Thriftway Refinery 626 CR 5500 Bloomfield, NM**

Project Location: **MW-04**

Sampled by: **KS**

Date: **19-Mar-97** Time: **10:30**

Analyzed by: **HR**

Date: **20-Mar-97**

Laboratory Analysis

Parameter	Result	Unit of Measure		Result	Unit of Measure	
Cations						
Sodium Na	866	mg/L		37.67	me/L	
Calcium Ca	199	mg/L		9.93	me/L	
Magnesium Mg	19.6	mg/L		1.61	me/L	
Potassium K	8.6	mg/L		0.22	me/L	
Anions						
Chloride Cl	196	mg/L		5.53	me/L	
Sulfate SO ₄	1332	mg/L		27.73	me/L	
Carbonate CO ₃ as CaCO ₃	< 1	mg/L		< 0.01	me/L	
Bicarbonate HCO ₃ as CaCO ₃	863	mg/L		14.14	me/L	
Hydroxide OH as CaCO ₃	< 1	mg/L		< 0.01	me/L	
Total Dissolved Solids			Cation-Anion Balance 2.03 Difference Cation-Anion, me/L 96.83 Total Cation-Anion, me/L ✓ 2.1 % Difference Cation-Anion Comments			
Calculated, Sum of Cation/Anion	3484	mg/L				
Total Dissolved Solids						
Dried @ 180 C	3276	mg/L				
pH	7.31					
Conductivity @ 25 C	4250	uS/cm				
Total Hardness as CaCO ₃	578	mg/L				

Approved by: *[Signature]*

Date: *3/21/97*

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: **Terry Griffin**
 Company: **BioTech Remediation**
 Address: **710 E 20th Street, Suite 400**
 City, State: **Farmington, NM 87401**

Date: **20-Mar-97**
 COC No.: **6030**
 Sample ID: **13993**
 Job No.: **2-1000**

Project Name: **Thriftway Refinery 626 CR 5500 Bloomfield, NM**
 Project Location: **MW-05**

Sampled by: **KS** Date: **19-Mar-97** Time: **11:05**
 Analyzed by: **HR** Date: **20-Mar-97**

Laboratory Analysis

Parameter	Result	Unit of Measure	Result	Unit of Measure
Cations				
Sodium Na	1282	mg/L	55.76	me/L
Calcium Ca	44	mg/L	2.19	me/L
Magnesium Mg	10.6	mg/L	0.87	me/L
Potassium K	7.5	mg/L	0.19	me/L
Anions				
Chloride Cl	478	mg/L	13.48	me/L
Sulfate SO ₄	1518	mg/L	31.60	me/L
Carbonate CO ₃ as CaCO ₃	2.66	mg/L	0.04	me/L
Bicarbonate HCO ₃ as CaCO ₃	861.34	mg/L	14.12	me/L
Hydroxide OH as CaCO ₃	<1	mg/L	<0.01	me/L
Total Dissolved Solids				
Calculated, Sum of Cation/Anion	4204	mg/L	Cation-Anion Balance 0.23 Difference Cation-Anion, me/L 118.26 Total Cation-Anion, me/L 0.2 % Difference Cation-Anion Comments	
Total Dissolved Solids Dried @ 180 C	4022	mg/L		
pH	8.33			
Conductivity @ 25 C	5610	uS/cm		
Total Hardness as CaCO ₃	153	mg/L		

Approved by: *[Signature]*
 Date: **3/21/97**

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

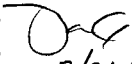
ANALYTICAL REPORT

Attn: **Terry Griffin**
 Company: **BioTech Remediation**
 Address: **710 E 20th Street, Suite 400**
 City, State: **Farmington, NM 87401**

Date: **20-Mar-97**
 COC No.: **6030**
 Sample ID: **13994**
 Job No.: **2-1000**

Project Name: **Thriftway Refinery 626 CR 5500 Bloomfield, NM**Project Location: **MW-06**Sampled by: **KS**Date: **19-Mar-97** Time: **9:27**Analyzed by: **HR**Date: **20-Mar-97****Laboratory Analysis**

Parameter	Result	Unit of Measure	Result	Unit of Measure
Cations				
Sodium Na	793	mg/L	34.49	me/L
Calcium Ca	192	mg/L	9.58	me/L
Magnesium Mg	25.0	mg/L	2.06	me/L
Potassium K	9.2	mg/L	0.23	me/L
Anions				
Chloride Cl	100.5	mg/L	2.83	me/L
Sulfate SO ₄	1495	mg/L	31.13	me/L
Carbonate CO ₃ as CaCO ₃	<1	mg/L	<0.01	me/L
Bicarbonate HCO ₃ as CaCO ₃	691	mg/L	11.32	me/L
Hydroxide OH as CaCO ₃	<1	mg/L	<0.01	me/L
Total Dissolved Solids				
Calculated, Sum of Cation/Anion	3306	mg/L	Cation-Anion Balance 1.08 Difference Cation-Anion, me/L 91.65 Total Cation-Anion, me/L ✓1.2 % Difference Cation-Anion Comments	
Total Dissolved Solids				
Dried @ 180 C	3142	mg/L		
pH	7.79			
Conductivity @ 25 C	4010	uS/cm		
Total Hardness as CaCO ₃	582	mg/L		

Approved by: Date: **3/21/97**

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: **Terry Griffin**
 Company: **BioTech Remediation**
 Address: **710 E 20th Street, Suite 400**
 City, State: **Farmington, NM 87401**

Date: **20-Mar-97**
 COC No.: **6030**
 Sample ID: **13995**
 Job No.: **2-1000**

Project Name: **Thriftway Refinery 626 CR 5500 Bloomfield, NM**
 Project Location: **MW-18**

Sampled by: **KS** Date: **19-Mar-97** Time: **14:15**
 Analyzed by: **HR** Date: **20-Mar-97**

Laboratory Analysis

Parameter	Result	Unit of Measure		Result	Unit of Measure	
Cations						
Sodium Na	882	mg/L		38.36	me/L	
Calcium Ca	198	mg/L		9.88	me/L	
Magnesium Mg	25.8	mg/L		2.12	me/L	
Potassium K	9.1	mg/L		0.23	me/L	
Anions						
Chloride Cl	91.3	mg/L		2.58	me/L	
Sulfate SO ₄	1720	mg/L		35.81	me/L	
Carbonate CO ₃ as CaCO ₃	< 1	mg/L		< 0.01	me/L	
Bicarbonate HCO ₃ as CaCO ₃	757	mg/L		12.41	me/L	
Hydroxide OH as CaCO ₃	< 1	mg/L		< 0.01	me/L	
Total Dissolved Solids			Cation-Anion Balance 0.19 Difference Cation-Anion, me/L 101.39 Total Cation-Anion, me/L ✓0.2 % Difference Cation-Anion Comments			
Calculated, Sum of Cation/Anion	3683	mg/L				
Total Dissolved Solids						
Dried @ 180 C	3532	mg/L				
pH	7.28					
Conductivity @ 25 C	4470	uS/cm				
Total Hardness as CaCO ₃	601	mg/L				

Approved by: *[Signature]*
 Date: **3/21/97**

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: **Terry Griffin**
 Company: **BioTech Remediation**
 Address: **710 E 20th Street, Suite 400**
 City, State: **Farmington, NM 87401**

Date: **20-Mar-97**
 COC No.: **6030**
 Sample ID: **13996**
 Job No.: **2-1000**

Project Name: **Thriftway Refinery 626 CR 5500 Bloomfield, NM**Project Location: **MW-19**Sampled by: **KS**Date: **19-Mar-97** Time: **11:45**Analyzed by: **HR**Date: **20-Mar-97****Laboratory Analysis**

Parameter	Result	Unit of Measure	Result	Unit of Measure
Cations				
Sodium Na	1335	mg/L	58.07	me/L
Calcium Ca	196	mg/L	9.78	me/L
Magnesium Mg	45.8	mg/L	3.77	me/L
Potassium K	6.0	mg/L	0.15	me/L
Anions				
Chloride Cl	273	mg/L	7.70	me/L
Sulfate SO4	2390	mg/L	49.76	me/L
Carbonate CO3 as CaCO3	< 1	mg/L	< 0.01	me/L
Bicarbonate HCO3 as CaCO3	995	mg/L	16.31	me/L
Hydroxide OH as CaCO3	< 1	mg/L	< 0.01	me/L
Total Dissolved Solids				
Calculated, Sum of Cation/Anion	5241	mg/L	Cation-Anion Balance 1.99 Difference Cation-Anion, me/L 145.54 Total Cation-Anion, me/L 1.4 % Difference Cation-Anion	
Total Dissolved Solids				
Dried @ 180 C	4850	mg/L		
pH	7.63			
Conductivity @ 25 C	6060	uS/cm	Comments	
Total Hardness as CaCO3	678	mg/L		

Approved by: Date: **3/21/97**

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

QUALITY ASSURANCE REPORT

Cation/Anion Balance

Date: 20-Mar-97

Quality Control Sample

Parameter	Laboratory Identification	True Value	Analyzed Value	Unit of Measure	% Diff	Limit % Diff
Sodium, Na	0524-QC	3.18	3.26	mg/L	3	10
Calcium, Ca	0462-QC	2.18	2.17	mg/L	0	10
Magnesium, Mg	0462-QC	1.14	1.22	mg/L	7	10*
Potassium, K	0524-QC	2.92	2.83	mg/L	-3	10
Chloride, Cl	0539-QC	66	69	mg/L	4	10
Sulfate, SO ₄	0539-QC	78	71	mg/L	-9	10
Alkalinity	0539-QC	159	169	mg/L	6	10
pH	0539-QC	9.13	9.32		2	10
Conductivity	0539-QC	740	745	uS/cm	1	15
Total Dissolved Solids, 180C	0539-QC	642	638	uS/cm	-1	15

Matrix Spike

Parameter	Laboratory Identification	Analyzed Value	Matrix Spike	Spike Value	Unit of Measure	Spike Recovery
Sodium, Na	13995-6030	1.32	0.50	1.86	mg/L	102%
Calcium, Ca	13995-6030	0.79	0.50	1.33	mg/L	103%
Magnesium, Mg	13996-6030	1.14	0.50	1.69	mg/L	103%
Potassium, K	13995-6030	0.90	1.00	1.81	mg/L	95%

Method Blank

Parameter	Laboratory Identification	Analyzed Value	Unit of Measure
Sodium, Na	LF-Blank	<0.2	mg/L
Calcium, Ca	LF-Blank	<0.05	mg/L
Magnesium, Mg	LF-Blank	<0.05	mg/L
Potassium, K	LF-Blank	<0.05	mg/L
Chloride, Cl	LF-Blank	<3 X DL	mg/L
Sulfate, SO ₄	LF-Blank	<1	mg/L
Conductivity	LF-Blank	<2	uS/cm

(pc)
3/21/97



Mountain States Analytical

April 2, 1997

Mr. David Cox
On Site Technologies, Ltd.
612 E Murray Drive
Farmington, NM 87401

Reference:

Project: Thriftway Refinery
Project No.: 21000/B101001
MSAI Group: 15640

Dear Mr. Cox:

Enclosed are the analytical results for your project referenced above. The following samples are included in the report.

13991-6030	13992-6030
13993-6030	13994-6030
13995-6030	13996-6030

All holding times were met for the tests performed on these samples.

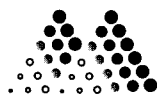
If the report is acceptable, please approve the enclosed invoice and forward it for payment.

Thank you for selecting Mountain States Analytical, Inc. to serve as your analytical laboratory on this project. If you have any questions concerning these results, please feel free to contact me at any time.

We look forward to working with you on future projects.

With Regards,

Rolf E. Larsen
Project Manager



Mountain States Analytical

The Quality Solution

On Site Technologies, Ltd.
612 E Murray Drive
Farmington, NM 87401

Attn: Mr. David Cox
Project: Thriftway Refinery

MSAI Group: 15640
Date Reported: 04/02/97
Date Received: 03/21/97

Purchase Order: 6030
Project No.: 21000/B101001

Test Analysis	Results as Received	Units	Limit of Quantitation
Sample: 60223 - 13991-6030 MW-01 (PL)			
0504 Fluoride, Ion Chromatography	ND	mg/l	2.0
0505 Bromide, Ion Chromatography	0.2	mg/l	0.1
Sample: 60224 - 13992-6030 MW-04 (PL)			
0504 Fluoride, Ion Chromatography	ND	mg/l	2.0
0505 Bromide, Ion Chromatography	0.4	mg/l	0.1
Sample: 60225 - 13993-6030 MW-05 (PL)			
0504 Fluoride, Ion Chromatography	ND	mg/l	2.0
0505 Bromide, Ion Chromatography	0.5	mg/l	0.1
Sample: 60226 - 13994-6030 MW-06 (PL)			
0504 Fluoride, Ion Chromatography	ND	mg/l	2.0
0505 Bromide, Ion Chromatography	0.6	mg/l	0.1
Sample: 60227 - 13995-6030 MW-18 (PL)			
0504 Fluoride, Ion Chromatography	ND	mg/l	2.0
0505 Bromide, Ion Chromatography	0.3	mg/l	0.1
Sample: 60228 - 13996-6030 MW-19 (PL)			
0504 Fluoride, Ion Chromatography	ND	mg/l	2.0
0505 Bromide, Ion Chromatography	0.5	mg/l	0.1

Test Method Summary:

0504 - EPA 300.0 0505 - EPA 300.0

ND - Not detected at the limit of quantitation

Respectfully Submitted,
Reviewed and Approved by:

Rolf E. Larsen
Project Manager

MOUNTAIN STATES ANALYTICAL

B(mk)

```
=====
Data File   : C:\PEAKNET\DATA\data0166.D02   Report Date: 3/27/97 9:02:50 AM |
Sample Name : LRB                           Collected  : 3/27/97 8:52:13 AM |
Inject #    : 2                             Vial #       :                |
Method File : c:\peaknet\method\as14low.met   Calibrated   : 3/21/97 3:46:40 PM |
System Name : IC                             Detector      : CD20              |
Column Type : AS14+AG14 (Both 4mm)           Operator     : JO                |
Data Points : 3120                           Rate         : 5.00   Hz          |
Module Name : DETECTOR                       Moduleware   : 1.17            |
=====
```

```
-----
Calibration Volume Dilution Start Stop Area Reject Pk. Width Threshold
-----
External          1          1    0.00 10.40          750      10.00      0.50
-----
```

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration mg/l	Area	Peak Start	Peak End	% Delta
0	0.00	Fluoride	0.000	0	0.00	0.00	0.00
3	3.45	Chloride	0.013	8368	3.00	3.58	0.88
0	0.00	Nitrite	0.000	0	0.00	0.00	0.00
0	0.00	Bromide	0.000	0	0.00	0.00	0.00
0	0.00	Nitrate	0.000	0	0.00	0.00	0.00
0	0.00	O-Phosphate-P	0.000	0	0.00	0.00	0.00
0	0.00	Sulfate	0.000	0	0.00	0.00	0.00
Totals			0.013	8368			

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration mg/l	Area	Peak Start	Peak End	% Delta
1	2.60		0.000	10440	2.13	2.77	
2	2.88		0.000	1326	2.78	2.98	
Totals			0.000	11766			

LCS

3A

WATER ANION SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name MOUNTAIN STATES ANALYTICAL Contract: _____

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix Spike - MSAI Sample No.: LFB Date Analyzed: 03/27/97

COMPOUND	SPIKE ADDED (mg/l)	SAMPLE CONCENTRATION (mg/l)	LFB CONCENTRATION (mg/l)	LFB % REC #	QC. LIMITS REC.
FLUORIDE	100.0	0.0	109.3	109.3	90 110
BROMIDE	400.0	0.0	377.2	94.3	90 110

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of in-house QC limits

Spike Recovery: 0 out of 2 outside of in-house QC limits

Comments: _____

3A

WATER ANION SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name MOUNTAIN STATES ANALYTICAL Contract: _____

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix Spike - MSAI Sample No.: 60226 Date Analyzed: 03/27/97

COMPOUND	SPIKE ADDED (mg/l)	SAMPLE CONCENTRATION (mg/l)	MS CONCENTRATION (mg/l)	MS % REC #	QC. LIMITS REC.
FLUORIDE	100.0	0.8	107.6	106.9	80 120
BROMIDE	400.0	0.6	367.0	91.6	80 120

COMPOUND	SPIKE ADDED (mg/l)	MSD CONCENTRATION (mg/l)	MSD % REC #	% RPD #	QC LIMITS RPD REC.
FLUORIDE	100.0	104.6	103.8	2.9	20.0 80 120
BROMIDE	400.0	367.8	91.8	0.2	20.0 80 120

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of in-house QC limits

RPD: 0 out of 1 outside of in-house QC limitsSpike Recovery: 0 out of 2 outside of in-house QC limitsComments: _____

CHAIN OF CUSTODY RECORD

ON SITE

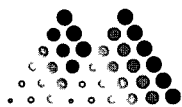
TECHNOLOGIES, LTD.

657 W. Maple • P. O. Box 2606 • Farmington NM 87499
LAB: (505) 325-5667 • FAX: (505) 325-6256

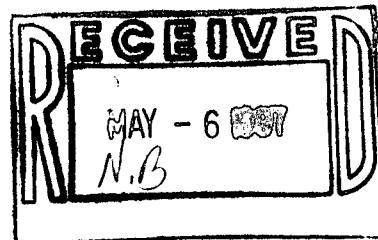
Date: 3/19/97

Page _____ of _____

Purchase Order No.: B97-229		Job No.		Name: Terry Griffin		Title	
Name: Same		Company: BioTech Remediation		Mailing Address: 710 E. 20th St., Suite 400			
Address		City, State, Zip: Farmington, NM 87401		Telephone No.: 632-3365		Telefax No.: 632-4350	
City, State, Zip				ANALYSIS REQUESTED			
Sampling Location: Thriftway Refinery 626 Rd 5500 Bloomfield, NM 87401		REPORT RESULTS TO		Number of Containers			
Sampler: Ken Sinks		SAMPLE IDENTIFICATION		DATE		TIME	
MW-01		H2O none		3/19/97		1500	
MW-02		H2O		1000			
MW-03		H2O		1100			
MW-04		H2O		1200			
MW-05		H2O		1300			
MW-06		H2O		1400			
MW-07		H2O		1500			
MW-08		H2O		1600			
MW-09		H2O		1700			
MW-10		H2O		1800			
MW-11		H2O		1900			
MW-12		H2O		2000			
MW-13		H2O		2100			
MW-14		H2O		2200			
MW-15		H2O		2300			
MW-16		H2O		2400			
MW-17		H2O		2500			
MW-18		H2O		2600			
MW-19		H2O		2700			
MW-20		H2O		2800			
MW-21		H2O		2900			
MW-22		H2O		3000			
MW-23		H2O		3100			
MW-24		H2O		3200			
MW-25		H2O		3300			
MW-26		H2O		3400			
MW-27		H2O		3500			
MW-28		H2O		3600			
MW-29		H2O		3700			
MW-30		H2O		3800			
MW-31		H2O		3900			
MW-32		H2O		4000			
MW-33		H2O		4100			
MW-34		H2O		4200			
MW-35		H2O		4300			
MW-36		H2O		4400			
MW-37		H2O		4500			
MW-38		H2O		4600			
MW-39		H2O		4700			
MW-40		H2O		4800			
MW-41		H2O		4900			
MW-42		H2O		5000			
MW-43		H2O		5100			
MW-44		H2O		5200			
MW-45		H2O		5300			
MW-46		H2O		5400			
MW-47		H2O		5500			
MW-48		H2O		5600			
MW-49		H2O		5700			
MW-50		H2O		5800			
MW-51		H2O		5900			
MW-52		H2O		6000			
MW-53		H2O		6100			
MW-54		H2O		6200			
MW-55		H2O		6300			
MW-56		H2O		6400			
MW-57		H2O		6500			
MW-58		H2O		6600			
MW-59		H2O		6700			
MW-60		H2O		6800			
MW-61		H2O		6900			
MW-62		H2O		7000			
MW-63		H2O		7100			
MW-64		H2O		7200			
MW-65		H2O		7300			
MW-66		H2O		7400			
MW-67		H2O		7500			
MW-68		H2O		7600			
MW-69		H2O		7700			
MW-70		H2O		7800			
MW-71		H2O		7900			
MW-72		H2O		8000			
MW-73		H2O		8100			
MW-74		H2O		8200			
MW-75		H2O		8300			
MW-76		H2O		8400			
MW-77		H2O		8500			
MW-78		H2O		8600			
MW-79		H2O		8700			
MW-80		H2O		8800			
MW-81		H2O		8900			
MW-82		H2O		9000			
MW-83		H2O		9100			
MW-84		H2O		9200			
MW-85		H2O		9300			
MW-86		H2O		9400			
MW-87		H2O		9500			
MW-88		H2O		9600			
MW-89		H2O		9700			
MW-90		H2O		9800			
MW-91		H2O		9900			
MW-92		H2O		10000			
MW-93		H2O		10100			
MW-94		H2O		10200			
MW-95		H2O		10300			
MW-96		H2O		10400			
MW-97		H2O		10500			
MW-98		H2O		10600			
MW-99		H2O		10700			
MW-100		H2O		10800			
MW-101		H2O		10900			
MW-102		H2O		11000			
MW-103		H2O		11100			
MW-104		H2O		11200			
MW-105		H2O		11300			
MW-106		H2O		11400			
MW-107		H2O		11500			
MW-108		H2O		11600			
MW-109		H2O		11700			
MW-110		H2O		11800			
MW-111		H2O		11900			
MW-112		H2O		12000			
MW-113		H2O		12100			
MW-114		H2O		12200			
MW-115		H2O		12300			
MW-116		H2O		12400			
MW-117		H2O		12500			
MW-118		H2O		12600			
MW-119		H2O		12700			
MW-120		H2O		12800			
MW-121		H2O		12900			
MW-122		H2O		13000			
MW-123		H2O		13100			
MW-124		H2O		13200			
MW-125		H2O		13300			
MW-126		H2O		13400			
MW-127		H2O		13500			
MW-128		H2O		13600			
MW-129		H2O		13700			
MW-130		H2O		13800			
MW-131		H2O		13900			
MW-132		H2O		14000			
MW-133		H2O		14100			
MW-134		H2O		14200			
MW-135		H2O		14300			
MW-136		H2O		14400			
MW-137		H2O		14500			
MW-138		H2O		14600			
MW-139		H2O		14700			
MW-140		H2O		14800			
MW-141		H2O		14900			
MW-142		H2O		15000			
MW-143		H2O		15100			
MW-144		H2O		15200			
MW-145		H2O		15300			
MW-146		H2O		15400			
MW-147		H2O		15500			
MW-148		H2O		15600			
MW-149		H2O		15700			
MW-150		H2O		15800			
MW-151		H2O		15900			
MW-152		H2O		16000			
MW-153		H2O		16100			
MW-154		H2O		16200			
MW-155		H2O		16300			
MW-156		H2O		16400			
MW-157		H2O		16500			
MW-158		H2O		16600			
MW-159		H2O		16700			
MW-160		H2O		16800			
MW-161		H2O		16900			
MW-162		H2O		17000			
MW-163		H2O		17100			
MW-164		H2O		17200			
MW-165		H2O		17300			
MW-166		H2O		17400			
MW-167		H2O		17500			
MW-168		H2O		17600			
MW-169		H2O		17700			
MW-170		H2O		17800			
MW-171		H2O		17900			
MW-172		H2O		18000			
MW-173		H2O		18100			
MW-174		H2O		18200			
MW-175		H2O		18300			
MW-176		H2O		18400			
MW-177		H2O		18500			
MW-178		H2O		18600			
MW-179		H2O		18700			
MW-180		H2O		18800			
MW-181		H2O		18900			
MW-182		H2O		19000			
MW-183		H2O		19100			
MW-184		H2O		19200			
MW-185		H2O		19300			
MW-186		H2O		19400			
MW-187		H2O		19500			
MW-188		H2O		19600			
MW-189		H2O		19700			
MW-190		H2O		19800			
MW-191		H2O		19900			
MW-192		H2O		20000			
MW-193		H2O		20100			
MW-194		H2O		20200			
MW-195		H2O		20300			
MW-196		H2O		20400			
MW-197		H2O		20500			
MW-198		H2O		20600			
MW-199		H2O		20700			
MW-200		H2O		20800			
MW-201		H2O		20900			
MW-202		H2O		21000			
MW-203		H2O		21100			
MW-204		H2O		21200			
MW-205		H2O		21300			
MW-206		H2O		21400			
MW-207		H2O		21500			
MW-208		H2O		21600			
MW-209		H2O		21700			
MW-210		H2O		21800			
MW-211		H2O		21900			
MW-212		H2O		22000			
MW-213		H2O		22100			
MW-214		H2O		22200			
MW-215		H2O		22300			



Mountain States Analytical



The Quality Difference

April 2, 1997

Mr. David Cox
On Site Technologies, Ltd.
612 E Murray Drive
Farmington, NM 87401

Reference:

Project: Thriftway Refinery
Project No.: 21000/B101001
MSAI Group: 15637

Dear Mr. Cox:

Enclosed are the analytical results for your project referenced above. The following samples are included in the report.

13964-6026	13965-6026	13966-6026
13967-6026	13968-6026	13969-6026
13970-6026	13971-6026	

All holding times were met for the tests performed on these samples.

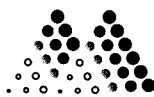
If the report is acceptable, please approve the enclosed invoice and forward it for payment.

Thank you for selecting Mountain States Analytical, Inc. to serve as your analytical laboratory on this project. If you have any questions concerning these results, please feel free to contact me at any time.

We look forward to working with you on future projects.

With Regards,

Rolf E. Larsen
Project Manager

**Mountain States Analytical**

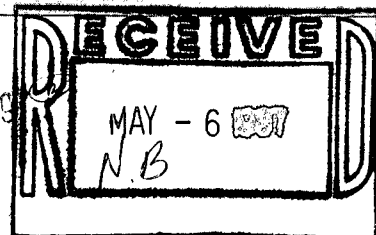
The Quality Solution

On Site Technologies, Ltd.
612 E Murray Drive
Farmington, NM 87401

Attn: Mr. David Cox
Project: Thriftway Refinery

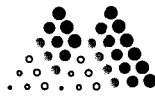
Sample ID: 13964-6026 *new-09* (2)
Matrix: Waste Water

RECEIVED APR 14 1997



MSAI Sample: 60201
MSAI Group: 15637
Date Reported: 04/02/97
Discard Date: 05/02/97
Date Submitted: 03/21/97
Date Sampled: 03/18/97
Collected by: KS
Purchase Order: 6026
Project No.: 21000/B101001

Test Analysis	Results as Received	Units	Limit of Quantitation
0259B Mercury by CVAA, w/ww, 7470 Method: SW-846 7470	ND	mg/l	0.0005
0392I Flame/ICP Prep, w/ww, 3005A Method: SW-846 3005A	Complete		
0392M Mercury Prep CVAA, w/ww, 7470 Method: SW-846 7470	Complete		
7245 Arsenic by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.15
7246 Barium by ICP, w/ww, 6010A Method: SW-846 6010A	0.09	mg/l	0.02
7249 Cadmium by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.020
7251 Chromium by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.050
7255 Lead by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.20
7264 Selenium by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.35
7266 Silver by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.030



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On Site Technologies, Ltd.

Sample ID: 13964-6026

Page 2

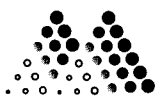
MSAI Sample: 60201

MSAI Group: 15637

ND - Not detected at the limit of quantitation

Respectfully Submitted,
Reviewed and Approved by:

Rolf E. Larsen
Project Manager



Mountain States Analytical

The Quality Solution

On Site Technologies, Ltd.
612 E Murray Drive
Farmington, NM 87401

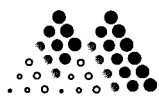
Attn: Mr. David Cox
Project: Thriftway Refinery

Sample ID: 13965-6026 *ANAL-10*
Matrix: Waste Water

RECEIVED APR 14 1997 *MC*

MSAI Sample: 60202
MSAI Group: 15637
Date Reported: 04/02/97
Discard Date: 05/02/97
Date Submitted: 03/21/97
Date Sampled: 03/18/97
Collected by: KS
Purchase Order: 6026
Project No.: 21000/B101001

Test Analysis	Results as Received	Units	Limit of Quantitation
0259B Mercury by CVAA, w/ww, 7470 Method: SW-846 7470	ND	mg/l	0.0005
0392I Flame/ICP Prep, w/ww, 3005A Method: SW-846 3005A	Complete		
0392M Mercury Prep CVAA, w/ww, 7470 Method: SW-846 7470	Complete		
7245 Arsenic by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.15
7246 Barium by ICP, w/ww, 6010A Method: SW-846 6010A	0.32	mg/l	0.02
7249 Cadmium by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.020
7251 Chromium by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.050
7255 Lead by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.20
7264 Selenium by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.35
7266 Silver by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.030



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The Quality Solution

On Site Technologies, Ltd.

Sample ID: 13965-6026

Page 2

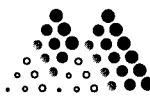
MSAI Sample: 60202

MSAI Group: 15637

ND - Not detected at the limit of quantitation

Respectfully Submitted,
Reviewed and Approved by:

Rolf E. Larsen
Project Manager



Mountain States Analytical

The Quality Solution

On Site Technologies, Ltd.
612 E Murray Drive
Farmington, NM 87401

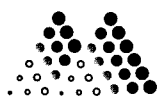
Attn: Mr. David Cox
Project: Thriftway Refinery

Sample ID: 13966-6026 *AAW-11* (R)

Matrix: Waste Water

MSAI Sample: 60203
MSAI Group: 15637
Date Reported: 04/02/97
Discard Date: 05/02/97
Date Submitted: 03/21/97
Date Sampled: 03/18/97
Collected by: KS
Purchase Order: 6026
Project No.: 21000/B101001

Test Analysis	Results as Received	Units	Limit of Quantitation
-----	-----	-----	-----
0259B Mercury by CVAA, w/ww, 7470 Method: SW-846 7470	ND	mg/l	0.0005
0392I Flame/ICP Prep, w/ww, 3005A Method: SW-846 3005A	Complete		
0392M Mercury Prep CVAA, w/ww, 7470 Method: SW-846 7470	Complete		
7245 Arsenic by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.15
7246 Barium by ICP, w/ww, 6010A Method: SW-846 6010A	1.15	mg/l	0.02
7249 Cadmium by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.020
7251 Chromium by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.050
7255 Lead by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.20
7264 Selenium by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.35
7266 Silver by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.030



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On Site Technologies, Ltd.

Sample ID: 13966-6026

Page 2

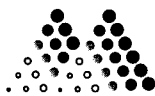
MSAI Sample: 60203

MSAI Group: 15637

ND - Not detected at the limit of quantitation

Respectfully Submitted,
Reviewed and Approved by:

Rolf E. Larsen
Project Manager



Mountain States Analytical

The Quality Solution

On Site Technologies, Ltd.
612 E Murray Drive
Farmington, NM 87401

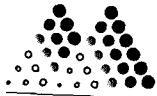
Attn: Mr. David Cox
Project: Thriftway Refinery

Sample ID: 13967-6026 *anal-13*
Matrix: Waste Water

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MSAI Sample: 60204
MSAI Group: 15637
Date Reported: 04/02/97
Discard Date: 05/02/97
Date Submitted: 03/21/97
Date Sampled: 03/18/97
Collected by: KS
Purchase Order: 6026
Project No.: 21000/B101001

Test Analysis	Results as Received	Units	Limit of Quantitation
0259B Mercury by CVAA, w/ww, 7470 Method: SW-846 7470	ND	mg/l	0.0005
0392I Flame/ICP Prep, w/ww, 3005A Method: SW-846 3005A	Complete		
0392M Mercury Prep CVAA, w/ww, 7470 Method: SW-846 7470	Complete		
7245 Arsenic by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.15
7246 Barium by ICP, w/ww, 6010A Method: SW-846 6010A	0.43	mg/l	0.02
7249 Cadmium by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.020
7251 Chromium by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.050
7255 Lead by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.20
7264 Selenium by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.35
7266 Silver by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.030



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On Site Technologies, Ltd.

Sample ID: 13967-6026

Page 2

MSAI Sample: 60204
MSAI Group: 15637

ND - Not detected at the limit of quantitation

Respectfully Submitted,
Reviewed and Approved by:

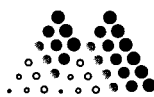


Rolf E. Larsen
Project Manager

1645 West 2200 South, Salt Lake City, Utah 84119-1456 (801) 973-0050 1-800-973-MSAI FAX (801) 972-6278

10
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Service

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Mountain States Analytical

The Quality Solution

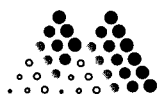
On Site Technologies, Ltd.
612 E Murray Drive
Farmington, NM 87401

Attn: Mr. David Cox
Project: Thriftway Refinery

Sample ID: 13968-6026 MW-15 (PC)
Matrix: Waste Water

MSAI Sample: 60205
MSAI Group: 15637
Date Reported: 04/02/97
Discard Date: 05/02/97
Date Submitted: 03/21/97
Date Sampled: 03/18/97
Collected by: KS
Purchase Order: 6026
Project No.: 21000/B101001

Test Analysis	Results as Received	Units	Limit of Quantitation
0259B Mercury by CVAA, w/ww, 7470 Method: SW-846 7470	ND	mg/l	0.0005
0392I Flame/ICP Prep, w/ww, 3005A Method: SW-846 3005A	Complete		
0392M Mercury Prep CVAA, w/ww, 7470 Method: SW-846 7470	Complete		
7245 Arsenic by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.15
7246 Barium by ICP, w/ww, 6010A Method: SW-846 6010A	0.08	mg/l	0.02
7249 Cadmium by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.020
7251 Chromium by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.050
7255 Lead by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.20
7264 Selenium by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.35
7266 Silver by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.030



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Page 2

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MSAI Sample: 60205

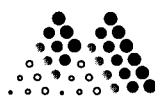
MSAI Group: 15637

Sample ID: 13968-6026

ND - Not detected at the limit of quantitation

Respectfully Submitted,
Reviewed and Approved by:

Rolf E. Larsen
Project Manager



Mountain States Analytical

The Quality Solution

On Site Technologies, Ltd.
612 E Murray Drive
Farmington, NM 87401

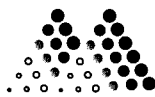
Attn: Mr. David Cox
Project: Thriftway Refinery

Sample ID: 13969-6026 *Anal-20 (ex)*
Matrix: Waste Water

RECEIVED APR 14 1997 *(ex)*

MSAI Sample: 60206
MSAI Group: 15637
Date Reported: 04/02/97
Discard Date: 05/02/97
Date Submitted: 03/21/97
Date Sampled: 03/18/97
Collected by: KS
Purchase Order: 6026
Project No.: 21000/B101001

Test Analysis	Results as Received	Units	Limit of Quantitation
-----	-----	-----	-----
0259B Mercury by CVAA, w/ww, 7470 Method: SW-846 7470	ND	mg/l	0.0005
0392I Flame/ICP Prep, w/ww, 3005A Method: SW-846 3005A	Complete		
0392M Mercury Prep CVAA, w/ww, 7470 Method: SW-846 7470	Complete		
7245 Arsenic by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.15
7246 Barium by ICP, w/ww, 6010A Method: SW-846 6010A	0.35	mg/l	0.02
7249 Cadmium by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.020
7251 Chromium by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.050
7255 Lead by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.20
7264 Selenium by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.35
7266 Silver by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.030



Mountain States Analytical

The Quality Solution

On Site Technologies, Ltd.

Sample ID: 13969-6026

Page 2

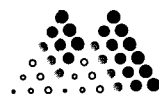
MSAI Sample: 60206

MSAI Group: 15637

ND - Not detected at the limit of quantitation

Respectfully Submitted,
Reviewed and Approved by:

Rolf E. Larsen
Project Manager



Mountain States Analytical

The Quality Solution

On Site Technologies, Ltd.
612 E Murray Drive
Farmington, NM 87401

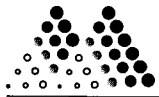
Attn: Mr. David Cox
Project: Thriftway Refinery

Sample ID: 13970-6026 *SW-21* (ce)
Matrix: Waste Water

RECEIVED APR 14 1997 (R)

MSAI Sample: 60207
MSAI Group: 15637
Date Reported: 04/02/97
Discard Date: 05/02/97
Date Submitted: 03/21/97
Date Sampled: 03/18/97
Collected by: KS
Purchase Order: 6026
Project No.: 21000/B101001

Test Analysis	Results as Received	Units	Limit of Quantitation
0259B Mercury by CVAA, w/ww, 7470 Method: SW-846 7470	ND	mg/l	0.0005
0392I Flame/ICP Prep, w/ww, 3005A Method: SW-846 3005A	Complete		
0392M Mercury Prep CVAA, w/ww, 7470 Method: SW-846 7470	Complete		
7245 Arsenic by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.15
7246 Barium by ICP, w/ww, 6010A Method: SW-846 6010A	0.19	mg/l	0.02
7249 Cadmium by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.020
7251 Chromium by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.050
7255 Lead by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.20
7264 Selenium by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.35
7266 Silver by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.030



Mountain States Analytical

On Site Technologies, Ltd.

The Quality Solution

Page 2

Sample ID: 13970-6026

MSAI Sample: 60207

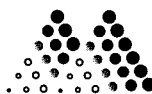
MSAI Group: 15637

ND - Not detected at the limit of quantitation

Respectfully Submitted,
Reviewed and Approved by:

Rolf E. Larsen
Project Manager

RECEIVED APR 14 1997^(ac)



Mountain States Analytical

The Quality Solution

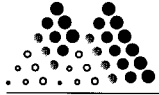
On Site Technologies, Ltd.
612 E Murray Drive
Farmington, NM 87401

Attn: Mr. David Cox
Project: Thriftway Refinery

Sample ID: 13971-6026 *WW-22*^(ac)
Matrix: Waste Water

MSAI Sample: 60208
MSAI Group: 15637
Date Reported: 04/02/97
Discard Date: 05/02/97
Date Submitted: 03/21/97
Date Sampled: 03/18/97
Collected by: KS
Purchase Order: 6026
Project No.: 21000/B101001

Test Analysis	Results as Received	Units	Limit of Quantitation
0259B Mercury by CVAA, w/ww, 7470 Method: SW-846 7470	ND	mg/l	0.0005
0392I Flame/ICP Prep, w/ww, 3005A Method: SW-846 3005A	Complete		
0392M Mercury Prep CVAA, w/ww, 7470 Method: SW-846 7470	Complete		
7245 Arsenic by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.15
7246 Barium by ICP, w/ww, 6010A Method: SW-846 6010A	0.22	mg/l	0.02
7249 Cadmium by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.020
7251 Chromium by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.050
7255 Lead by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.20
7264 Selenium by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.35
7266 Silver by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.030



Mountain States Analytical

On Site Technologies, Ltd.

The Quality Solution

Page 2

MSAI Sample: 60208

MSAI Group: 15637

Sample ID: 13971-6026

ND - Not detected at the limit of quantitation

Respectfully Submitted,
Reviewed and Approved by:

Rolf E. Larsen
Project Manager

Mountain States Analytical, Inc.
Daily QC Batching Data
Data Released for Reporting

04/02/97
09:21:44
Group: 15637

Analysis Batch Number: 0259B-03/31/97-107 -1

Test Identification : 0259B-Mercury by CVAA, w/ww, 7470

Sequence : 0259T-1

Number of Samples : 18

Batch Data-Date/Time : 04/01/97 / 10:14:55

BLANK#	ANALYTE	CONC FOUND #	CONC LIMIT
PBW1-992	Mercury	0.0300	0.1000
PBW2-992-2	Mercury	0.0700	0.1000

						QC LIMITS	
SAMPLE#	ANALYTE	CONC ADDED	CONC SAMPLE	CONC SPIKE	% REC #	LOWER	UPPER
15726-60589	Mercury	1.0000	0.0000	0.3100	31.0(A)	80.0	120.0

						QC LIMITS			
SAMPLE#	ANALYTE	CONC ADDED	CONC SAMPLE	RESULT 2	%REC2 #	LOWER	UPPER	RPD #	LIMIT
15726-60589	Mercury	1.0000	0.0000	0.2700	27.0(A)	80.0	120.0	13.8	20.0

DUPLICATE						
SAMPLE#	ANALYTE	RESULT 1	RESULT 2	RPD #	LIMIT	DILUTION
15726-60589	Mercury	0.0000	-0.0800	200.0(11)	20.0	1.00

					QC LIMITS	
SAMPLE#	ANALYTE	CONC FOUND	CONC KNOWN	% REC #	LOWER	UPPER
LCSW-	Mercury	2.4900	2.5000	99.6	80.0	120.0

						QC LIMITS	
CCV #	ANALYTE	TRUE VALUE	BATCH READ	% REC #	LOWER	UPPER	
ICV-	Mercury	3.0000	3.1400	104.7	90.0	110.0	
CCV--2	Mercury	5.0000	4.9700	99.4	80.0	120.0	
CCV--3	Mercury	5.0000	4.8400	96.8	80.0	120.0	
CCV--4	Mercury	5.0000	4.9600	99.2	80.0	120.0	
CCV--5	Mercury	5.0000	4.9800	99.6	80.0	120.0	

CCB#	ANALYTE	CONC FOUND #	CONC LIMIT
ICB-	Mercury	ND	0.1000
CCB-	Mercury	0.0100	0.1000
CCB-	Mercury	0.0800	0.1000
CCB-	Mercury	0.0800	0.1000
CCB-	Mercury	0.0200	0.1000

----- Result Footnotes -----

(A) - Matrix Interference inherent to the sample

(11) - Both Duplicate results are less than the MDL.

----- Batch Notes -----

Post digestion spike confirms matrix interferences.

Groups & Samples

15637-60201	15637-60202	15637-60203	15637-60204	15637-60205	15637-60206	15637-60207	15637-60208
15638-60209	15638-60210	15638-60211	15638-60212	15638-60213	15638-60214	15726-60589	15726-60590
15726-60591	15734-60641						

Analysis Batch Number: ICPWA-04/01/97-010 -4

Test Identification : ICPWA-Metals by ICP

Sequence : DATG091

Number of Samples : 15

Batch Data-Date/Time : 04/02/97 / 08:36:22

BLANK#	ANALYTE	CONC FOUND #	CONC LIMIT
PBW1-978	Silver	ND	0.0060
	Arsenic	ND	0.0300
	Barium	ND	0.0030
	Cadmium	ND	0.0040
	Chromium	ND	0.0100
	Lead	0.0161	0.0400
	Selenium	0.0050	0.0700
PBW2-978-2	Silver	ND	0.0060
	Arsenic	0.0037	0.0300
	Barium	ND	0.0030
	Cadmium	0.0012	0.0040
	Chromium	ND	0.0100
	Lead	ND	0.0400
	Selenium	ND	0.0700

SPIKE						QC LIMITS	
SAMPLE#	ANALYTE	CONC ADDED	CONC SAMPLE	CONC SPIKE	% REC #	LOWER	UPPER
15598-60064	Silver	0.0500	-0.0059	0.0450	101.8	80.0	120.0
	Arsenic	2.0000	-0.0113	1.9466	97.9	80.0	120.0
	Barium	2.0000	-0.0009	1.9495	97.5	80.0	120.0
	Cadmium	0.0500	-0.0003	0.0460	92.6	80.0	120.0
	Chromium	0.2000	-0.0055	0.1961	100.8	80.0	120.0
	Lead	0.5000	0.0014	0.4892	97.6	80.0	120.0
	Selenium	2.0000	-0.0133	1.9320	97.3	80.0	120.0

MSD						QC LIMITS			
SAMPLE#	ANALYTE	CONC ADDED	CONC SAMPLE	RESULT 2	%REC2 #	LOWER	UPPER	RPD #	LIMIT
15598-60065	Silver	0.0500	-0.0059	0.0454	102.6	80.0	120.0	0.8	20.0
	Arsenic	2.0000	-0.0113	1.9429	97.7	80.0	120.0	0.2	20.0
	Barium	2.0000	-0.0009	1.9697	98.5	80.0	120.0	1.0	20.0
	Cadmium	0.0500	-0.0003	0.0484	97.4	80.0	120.0	5.1	20.0
	Chromium	0.2000	-0.0055	0.1959	100.7	80.0	120.0	0.1	20.0
	Lead	0.5000	0.0014	0.5026	100.2	80.0	120.0	2.6	20.0
	Selenium	2.0000	-0.0133	1.9353	97.4	80.0	120.0	0.1	20.0

DUPLICATE						
SAMPLE#	ANALYTE	RESULT 1	RESULT 2	RPD #	LIMIT	DILUTION
15598-60063	Silver	-0.0059	0.0000	200.0(11)	20.0	1.00
	Arsenic	-0.0113	0.0031	351.2(11)	20.0	1.00
	Barium	-0.0009	0.0000	200.0(11)	20.0	1.00
	Cadmium	-0.0003	0.0006	600.0(11)	20.0	1.00
	Chromium	-0.0055	0.0000	200.0(11)	20.0	1.00
	Lead	0.0014	0.0111	155.2(11)	20.0	1.00
	Selenium	-0.0133	0.0000	200.0(11)	20.0	1.00

CONTROL					QC LIMITS	
SAMPLE#	ANALYTE	CONC FOUND	CONC KNOWN	% REC #	LOWER	UPPER
LCSW-978	Silver	0.0469	0.0500	93.8	80.0	120.0
	Arsenic	1.9753	2.0000	98.8	80.0	120.0
	Barium	1.9731	2.0000	98.7	80.0	120.0

Analysis Batch Number: ICPWA-04/01/97-010 -4

Test Identification : ICPWA-Metals by ICP

Sequence : DATG091

Number of Samples : 15

Batch Data-Date/Time : 04/02/97 / 08:36:22

CONTROL						QC LIMITS	
SAMPLE#	ANALYTE	CONC FOUND	CONC KNOWN	% REC	#	LOWER	UPPER
LCSW-978	Cadmium	0.0478	0.0500	95.6		80.0	120.0
	Chromium	0.1981	0.2000	99.1		80.0	120.0
	Lead	0.5056	0.5000	101.1		80.0	120.0
	Selenium	1.9299	2.0000	96.5		80.0	120.0

						QC LIMITS	
CCV #	ANALYTE	TRUE VALUE	BATCH READ	% REC	#	LOWER	UPPER
ICV-	Silver	0.4000	0.3905	97.6		90.0	110.0
	Arsenic	1.6000	1.5602	97.5		90.0	110.0
	Barium	4.0000	3.8098	95.2		90.0	110.0
	Cadmium	4.0000	3.8279	95.7		90.0	110.0
	Chromium	4.0000	3.9303	98.3		90.0	110.0
	Lead	20.0000	19.1408	95.7		90.0	110.0
	Selenium	1.6000	1.5084	94.3		90.0	110.0
CCV1--2	Silver	0.4000	0.3881	97.0		90.0	110.0
	Arsenic	1.6000	1.5562	97.3		90.0	110.0
	Barium	4.0000	3.8251	95.6		90.0	110.0
	Cadmium	4.0000	3.7988	95.0		90.0	110.0
	Chromium	4.0000	3.9456	98.6		90.0	110.0
	Lead	20.0000	19.1193	95.6		90.0	110.0
	Selenium	1.6000	1.5401	96.3		90.0	110.0
CCV2--3	Silver	0.4000	0.3758	94.0		90.0	110.0
	Arsenic	1.6000	1.5167	94.8		90.0	110.0
	Barium	4.0000	3.7876	94.7		90.0	110.0
	Cadmium	4.0000	3.7385	93.5		90.0	110.0
	Chromium	4.0000	3.9263	98.2		90.0	110.0
	Lead	20.0000	19.0059	95.0		90.0	110.0
	Selenium	1.6000	1.5484	96.8		90.0	110.0
CCV4--4	Silver	0.4000	0.3948	98.7		90.0	110.0
	Arsenic	1.6000	1.5878	99.2		90.0	110.0
	Barium	4.0000	3.8122	95.3		90.0	110.0
	Cadmium	4.0000	3.8513	96.3		90.0	110.0
	Chromium	4.0000	3.9266	98.2		90.0	110.0
	Lead	20.0000	19.1362	95.7		90.0	110.0
	Selenium	1.6000	1.5941	99.6		90.0	110.0
CCV5--5	Silver	0.4000	0.3902	97.6		90.0	110.0
	Arsenic	1.6000	1.5697	98.1		90.0	110.0
	Barium	4.0000	3.8065	95.2		90.0	110.0
	Cadmium	4.0000	3.8405	96.0		90.0	110.0
	Chromium	4.0000	3.8939	97.3		90.0	110.0
	Lead	20.0000	18.8176	94.1		90.0	110.0
	Selenium	1.6000	1.4991	93.7		90.0	110.0
CCV6--6	Silver	0.4000	0.3993	99.8		90.0	110.0
	Arsenic	1.6000	1.5670	97.9		90.0	110.0
	Barium	4.0000	3.8900	97.3		90.0	110.0
	Cadmium	4.0000	3.8540	96.4		90.0	110.0
	Chromium	4.0000	3.8859	97.1		90.0	110.0
	Lead	20.0000	18.6704	93.4		90.0	110.0
	Selenium	1.6000	1.5780	98.6		90.0	110.0

Analysis Batch Number: ICPWA-04/01/97-010 -4

Test Identification : ICPWA-Metals by ICP

Sequence : DATG091

Number of Samples : 15

Batch Data-Date/Time : 04/02/97 / 08:36:22

CCB#	ANALYTE	CONC FOUND #	CONC LIMIT
ICB-	Silver	0.0001	0.0060
	Arsenic	0.0033	0.0300
	Barium	ND	0.0030
	Cadmium	0.0011	0.0040
	Chromium	0.0008	0.0100
	Lead	0.0026	0.0400
	Selenium	0.0223	0.0700
CCB1-	Silver	ND	0.0060
	Arsenic	ND	0.0300
	Barium	ND	0.0030
	Cadmium	0.0002	0.0040
	Chromium	ND	0.0100
	Lead	ND	0.0400
	Selenium	ND	0.0700
CCB2-	Silver	ND	0.0060
	Arsenic	0.0046	0.0300
	Barium	0.0002	0.0030
	Cadmium	0.0020	0.0040
	Chromium	ND	0.0100
	Lead	0.0257	0.0400
	Selenium	0.0024	0.0700
CCB4-	Silver	0.0022	0.0060
	Arsenic	ND	0.0300
	Barium	0.0008	0.0030
	Cadmium	0.0008	0.0040
	Chromium	ND	0.0100
	Lead	ND	0.0400
	Selenium	ND	0.0700
CCB5-	Silver	ND	0.0060
	Arsenic	0.0044	0.0300
	Barium	0.0007	0.0030
	Cadmium	0.0009	0.0040
	Chromium	ND	0.0100
	Lead	ND	0.0400
	Selenium	ND	0.0700
CCB6-	Silver	0.0004	0.0060
	Arsenic	0.0103	0.0300
	Barium	ND	0.0030
	Cadmium	ND	0.0040
	Chromium	0.0028	0.0100
	Lead	ND	0.0400
	Selenium	ND	0.0700

----- Result Footnotes -----

(11) - Both Duplicate results are less than the MDL.

Analysis Batch Number: ICPWA-04/01/97-010 -4

Test Identification : ICPWA-Metals by ICP

Sequence : DATG091

Number of Samples : 15

Batch Data-Date/Time : 04/02/97 / 08:36:22

Groups & Samples

15598-60063	15598-60064	15598-60065	15637-60201	15637-60202	15637-60203	15637-60204	15637-60205
15637-60206	15637-60207	15637-60208	15638-60209	15638-60210	15638-60211	15638-60212	15638-60213
15638-60214							

Analysis Batch Number: ICPWA-04/02/97-010 -1

Test Identification : ICPWA-Metals by ICP

Sequence : DATA092

Number of Samples : 2

Batch Data-Date/Time : 04/02/97 / 08:42:05

		QC LIMITS			
CCV #	ANALYTE	TRUE VALUE	BATCH READ	% REC #	LOWER UPPER
ICV-	Silver	0.4000	0.3970	99.3	90.0 110.0
	Cadmium	4.0000	3.9096	97.7	90.0 110.0
CCV1--2	Silver	0.4000	0.3858	96.4	90.0 110.0
	Cadmium	4.0000	3.8113	95.3	90.0 110.0
CCV2--3	Silver	0.4000	0.3868	96.7	90.0 110.0
	Cadmium	4.0000	3.8699	96.7	90.0 110.0

CCB#	ANALYTE	CONC FOUND #	CONC LIMIT
ICB-	Silver	ND	0.0060
	Cadmium	ND	0.0040
CCB1-	Silver	ND	0.0060
	Cadmium	0.0022	0.0040
CCB2-	Silver	0.0007	0.0060
	Cadmium	0.0020	0.0040

Groups & Samples

15637-60203 15637-60206

CHAIN OF CUSTODY RECORD

6026

ON SITE

TECHNOLOGIES, LTD.
657 W. Maple • P. O. Box 2606 • Farmington NM 87499
LAB: (505) 325-5667 • FAX: (505) 325-6256

Date: 3/19/97

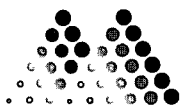
Page _____ of _____

Purchase Order No.: 0397-229		Job No.	
Name: Same		Title	
Company: Same		Company: BioTech Remediation	
Address		Mailing Address: 710 E 20th St Suite 400	
City, State, Zip		City, State, Zip: Farmington, NM 87401	
Telephone No.		Telefax No.	

SEND INVOICE TO		REPORT TO	
Name: Terry Griffin		Name: Terry Griffin	
Company: BioTech Remediation		Company: BioTech Remediation	
Address: 710 E 20th St Suite 400		Address: 710 E 20th St Suite 400	
City, State, Zip: Farmington, NM 87401		City, State, Zip: Farmington, NM 87401	
Telephone No.		Telefax No.	

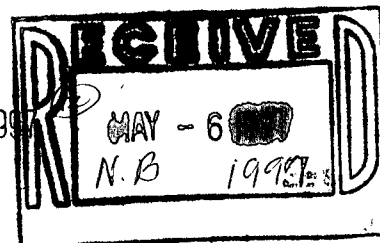
Sampling Location: Thattway Brewery 626 Rd 5500 Blountfield, NM 87413		ANALYSIS REQUESTED	
Sampler: Ken Smith		Metals	
SAMPLE IDENTIFICATION		LAB ID	
MW-09	DATE: 3/18	MATRIX: H ₂ O	PRES: HNO ₃
MW-10			
MW-11			
MW-13			
MW-15			
MW-20			
MW-21			
MW-22			

Relinquished by: Ken Smith	Date/Time: 3/19/97 0800	Received by: Heidi Rees	Date/Time: 3/19/97 0800
Relinquished by:	Date/Time:	Received by:	Date/Time:
Relinquished by:	Date/Time:	Received by:	Date/Time:
Method of Shipment:		Rush	
Authorized by:		24-48 Hours	
		10 Working Days	
		Special Instructions:	



Mountain States Analytical

RECEIVED APR 28 1997



The Quality of Service

April 2, 1997

Mr. David Cox
On Site Technologies, Ltd.
612 E Murray Drive
Farmington, NM 87401

Reference:

Project: Thriftway Refinery
Project No.: 21000/B101001
MSAI Group: 15638

Dear Mr. Cox:

Enclosed are the analytical results for your project referenced above. The following samples are included in the report.

13972-6027	13973-6027	13974-6027
13975-6027	13976-6027	13977-6027

All holding times were met for the tests performed on these samples.

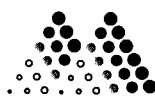
If the report is acceptable, please approve the enclosed invoice and forward it for payment.

Thank you for selecting Mountain States Analytical, Inc. to serve as your analytical laboratory on this project. If you have any questions concerning these results, please feel free to contact me at any time.

We look forward to working with you on future projects.

With Regards,

Rolf E. Larsen
Project Manager

**Mountain States Analytical**

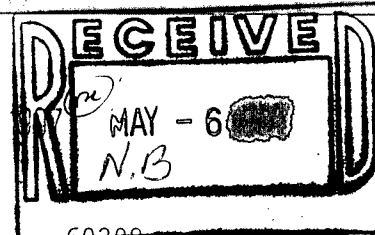
The Quality Solution

On Site Technologies, Ltd.
612 E Murray Drive
Farmington, NM 87401

Attn: Mr. David Cox
Project: Thriftway Refinery

Sample ID: 13972-6027 *MXI-01* (12)
Matrix: Waste Water

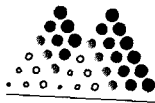
RECEIVED APR 28



MSAI Sample: 60209
MSAI Group: 15638
Date Reported: 04/02/97
Discard Date: 05/02/97
Date Submitted: 03/21/97
Date Sampled: 03/19/97
Collected by: KS
Purchase Order: 6027
Project No.: 21000/B101001

Test Analysis	Results as Received	Units	Limit of Quantitation
0259B Mercury by CVAA, w/ww, 7470 Method: SW-846 7470	ND	mg/l	0.0005
0392I Flame/ICP Prep, w/ww, 3005A Method: SW-846 3005A	Complete		
0392M Mercury Prep CVAA, w/ww, 7470 Method: SW-846 7470	Complete		
7245 Arsenic by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.15
7246 Barium by ICP, w/ww, 6010A Method: SW-846 6010A	0.09	mg/l	0.02
7249 Cadmium by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.020
7251 Chromium by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.050
7255 Lead by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.20
7264 Selenium by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.35
7266 Silver by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.030

Analytical Report



Mountain States Analytical

On Site Technologies, Ltd.

The Quality Solution

Sample ID: 13972-6027

Page 2

MSAI Sample: 60209
MSAI Group: 15638

ND - Not detected at the limit of quantitation

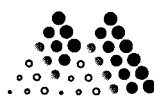
Respectfully Submitted,
Reviewed and Approved by:

Rolf E. Larsen
Project Manager

1645 West 2200 South, Salt Lake City, Utah 84119-1456 (801) 973-0050 1-800-973-MSAI FAX (801) 972-6278

10
Years of
Quality
Service

MEMBER
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Mountain States Analytical

The Quality Solution

On Site Technologies, Ltd.
612 E Murray Drive
Farmington, NM 87401

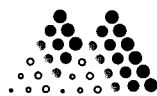
Attn: Mr. David Cox
Project: Thriftway Refinery

Sample ID: 13973-6027 *MM-04*
Matrix: Waste Water

RECEIVED APR 28 1997 *(m)*

MSAI Sample: 60210
MSAI Group: 15638
Date Reported: 04/02/97
Discard Date: 05/02/97
Date Submitted: 03/21/97
Date Sampled: 03/19/97
Collected by: KS
Purchase Order: 6027
Project No.: 21000/B101001

Test Analysis	Results as Received	Units	Limit of Quantitation
0259B Mercury by CVAA, w/ww, 7470 Method: SW-846 7470	ND	mg/l	0.0005
0392I Flame/ICP Prep, w/ww, 3005A Method: SW-846 3005A	Complete		
0392M Mercury Prep CVAA, w/ww, 7470 Method: SW-846 7470	Complete		
7245 Arsenic by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.15
7246 Barium by ICP, w/ww, 6010A Method: SW-846 6010A	0.49	mg/l	0.02
7249 Cadmium by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.020
7251 Chromium by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.050
7255 Lead by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.20
7264 Selenium by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.35
7266 Silver by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.030



Mountain States Analytical

The Quality Solution

On Site Technologies, Ltd.

Sample ID: 13973-6027

Page 2

MSAI Sample: 60210

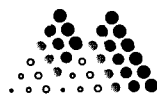
MSAI Group: 15638

ND - Not detected at the limit of quantitation

Respectfully Submitted,
Reviewed and Approved by:

Rolf E. Larsen
Project Manager

RECEIVED APR 28 1997 ^(or)



Mountain States Analytical

The Quality Solution

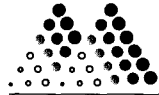
On Site Technologies, Ltd.
612 E Murray Drive
Farmington, NM 87401

Attn: Mr. David Cox
Project: Thriftway Refinery

Sample ID: 13974-6027 MW-05 ^(or)
Matrix: Waste Water

MSAI Sample: 60211
MSAI Group: 15638
Date Reported: 04/02/97
Discard Date: 05/02/97
Date Submitted: 03/21/97
Date Sampled: 03/19/97
Collected by: KS
Purchase Order: 6027
Project No.: 21000/B101001

Test Analysis	Results as Received	Units	Limit of Quantitation
0259B Mercury by CVAA, w/ww, 7470 Method: SW-846 7470	ND	mg/l	0.0005
0392I Flame/ICP Prep, w/ww, 3005A Method: SW-846 3005A	Complete		
0392M Mercury Prep CVAA, w/ww, 7470 Method: SW-846 7470	Complete		
7245 Arsenic by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.15
7246 Barium by ICP, w/ww, 6010A Method: SW-846 6010A	0.20	mg/l	0.02
7249 Cadmium by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.020
7251 Chromium by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.050
7255 Lead by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.20
7264 Selenium by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.35
7266 Silver by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.030



Mountain States Analytical

The Quality Solution

Page 2

On Site Technologies, Ltd.

MSAI Sample: 60211

MSAI Group: 15638

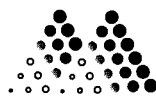
Sample ID: 13974-6027

ND - Not detected at the limit of quantitation

Respectfully Submitted,
Reviewed and Approved by:

Rolf E. Larsen
Project Manager

RECEIVED APR 28 1997 ^(m)



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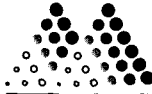
On Site Technologies, Ltd.
612 E Murray Drive
Farmington, NM 87401

Attn: Mr. David Cox
Project: Thriftway Refinery

Sample ID: 13975-6027 *mw-06* ^(m)
Matrix: Waste Water

MSAI Sample: 60212
MSAI Group: 15638
Date Reported: 04/02/97
Discard Date: 05/02/97
Date Submitted: 03/21/97
Date Sampled: 03/19/97
Collected by: KS
Purchase Order: 6027
Project No.: 21000/B101001

Test Analysis	Results as Received	Units	Limit of Quantitation
0259B Mercury by CVAA, w/ww, 7470 Method: SW-846 7470	ND	mg/l	0.0005
0392I Flame/ICP Prep, w/ww, 3005A Method: SW-846 3005A	Complete		
0392M Mercury Prep CVAA, w/ww, 7470 Method: SW-846 7470	Complete		
7245 Arsenic by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.15
7246 Barium by ICP, w/ww, 6010A Method: SW-846 6010A	0.05	mg/l	0.02
7249 Cadmium by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.020
7251 Chromium by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.050
7255 Lead by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.20
7264 Selenium by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.35
7266 Silver by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.030



Mountain States Analytical

The Quality Solution

Page 2

On Site Technologies, Ltd.

MSAI Sample: 60212

MSAI Group: 15638

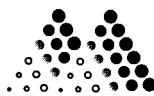
Sample ID: 13975-6027

ND - Not detected at the limit of quantitation

Respectfully Submitted,
Reviewed and Approved by:

Rolf E. Larsen
Project Manager

RECEIVED APR 28 1997 (re)



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The Quality Solution

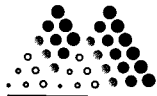
On Site Technologies, Ltd.
612 E Murray Drive
Farmington, NM 87401

Attn: Mr. David Cox
Project: Thriftway Refinery

Sample ID: 13976-6027 *13976-18* (pc)
Matrix: Waste Water

MSAI Sample: 60213
MSAI Group: 15638
Date Reported: 04/02/97
Discard Date: 05/02/97
Date Submitted: 03/21/97
Date Sampled: 03/19/97
Collected by: KS
Purchase Order: 6027
Project No.: 21000/B101001

Test Analysis	Results as Received	Units	Limit of Quantitation
0259B Mercury by CVAA, w/ww, 7470 Method: SW-846 7470	0.0029	mg/l	0.0005
0392I Flame/ICP Prep, w/ww, 3005A Method: SW-846 3005A	Complete		
0392M Mercury Prep CVAA, w/ww, 7470 Method: SW-846 7470	Complete		
7245 Arsenic by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.15
7246 Barium by ICP, w/ww, 6010A Method: SW-846 6010A	0.14	mg/l	0.02
7249 Cadmium by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.020
7251 Chromium by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.050
7255 Lead by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.20
7264 Selenium by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.35
7266 Silver by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.030



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The Quality Solution

On Site Technologies, Ltd.

Sample ID: 13976-6027

Page 2

MSAI Sample: 60213

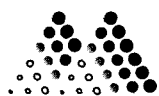
MSAI Group: 15638

ND - Not detected at the limit of quantitation

Respectfully Submitted,
Reviewed and Approved by:

Rolf E. Larsen
Project Manager

RECEIVED APR 28 1997 ^(pc)



Mountain States Analytical

The Quality Solution

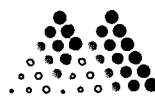
On Site Technologies, Ltd.
612 E Murray Drive
Farmington, NM 87401

Attn: Mr. David Cox
Project: Thriftway Refinery

Sample ID: 13977-6027 *mw-19* ^(pc)
Matrix: Waste Water

MSAI Sample: 60214
MSAI Group: 15638
Date Reported: 04/02/97
Discard Date: 05/02/97
Date Submitted: 03/21/97
Date Sampled: 03/19/97
Collected by: KS
Purchase Order: 6027
Project No.: 21000/B101001

Test Analysis	Results as Received	Units	Limit of Quantitation
0259B Mercury by CVAA, w/ww, 7470 Method: SW-846 7470	ND	mg/l	0.0005
0392I Flame/ICP Prep, w/ww, 3005A Method: SW-846 3005A	Complete		
0392M Mercury Prep CVAA, w/ww, 7470 Method: SW-846 7470	Complete		
7245 Arsenic by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.15
7246 Barium by ICP, w/ww, 6010A Method: SW-846 6010A	0.31	mg/l	0.02
7249 Cadmium by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.020
7251 Chromium by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.050
7255 Lead by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.20
7264 Selenium by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.35
7266 Silver by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.030



Mountain States Analytical

The Quality Solution

Page 2

On Site Technologies, Ltd.

Sample ID: 13977-6027

MSAI Sample: 60214

MSAI Group: 15638

ND - Not detected at the limit of quantitation

Respectfully Submitted,
Reviewed and Approved by:

Rolf E. Larsen
Project Manager

Analysis Batch Number: 0259B-03/31/97-107 -1

Test Identification : 0259B-Mercury by CVAA, w/ww, 7470

Sequence : 0259T-1

Number of Samples : 18

Batch Data-Date/Time : 04/01/97 / 10:14:55

BLANK#	ANALYTE	CONC FOUND #	CONC LIMIT
PBW1-992	Mercury	0.0300	0.1000
PBW2-992-2	Mercury	0.0700	0.1000

						QC LIMITS	
SAMPLE#	ANALYTE	CONC ADDED	CONC SAMPLE	CONC SPIKE	% REC #	LOWER	UPPER
15726-60589	Mercury	1.0000	0.0000	0.3100	31.0(A)	80.0	120.0

						QC LIMITS			
SAMPLE#	ANALYTE	CONC ADDED	CONC SAMPLE	RESULT 2	%REC2 #	LOWER	UPPER	RPD #	LIMIT
15726-60589	Mercury	1.0000	0.0000	0.2700	27.0(A)	80.0	120.0	13.8	20.0

DUPLICATE						
SAMPLE#	ANALYTE	RESULT 1	RESULT 2	RPD #	LIMIT	DILUTION
15726-60589	Mercury	0.0000	-0.0800	200.0(11)	20.0	1.00

						QC LIMITS	
SAMPLE#	ANALYTE	CONC FOUND	CONC KNOWN	% REC #	LOWER	UPPER	
LCSW-	Mercury	2.4900	2.5000	99.6	80.0	120.0	

						QC LIMITS	
CCV #	ANALYTE	TRUE VALUE	BATCH READ	% REC #	LOWER	UPPER	
ICV-	Mercury	3.0000	3.1400	104.7	90.0	110.0	
CCV--2	Mercury	5.0000	4.9700	99.4	80.0	120.0	
CCV--3	Mercury	5.0000	4.8400	96.8	80.0	120.0	
CCV--4	Mercury	5.0000	4.9600	99.2	80.0	120.0	
CCV--5	Mercury	5.0000	4.9800	99.6	80.0	120.0	

CCB#	ANALYTE	CONC FOUND #	CONC LIMIT
ICB-	Mercury	ND	0.1000
CCB-	Mercury	0.0100	0.1000
CCB-	Mercury	0.0800	0.1000
CCB-	Mercury	0.0800	0.1000
CCB-	Mercury	0.0200	0.1000

----- Result Footnotes -----

(A) - Matrix Interference inherent to the sample

(11) - Both Duplicate results are less than the MDL.

----- Batch Notes -----

Post digestion spike confirms matrix interferences.

Groups & Samples

15637-60201	15637-60202	15637-60203	15637-60204	15637-60205	15637-60206	15637-60207	15637-60208
15638-60209	15638-60210	15638-60211	15638-60212	15638-60213	15638-60214	15726-60589	15726-60590
15726-60591	15734-60641						

Analysis Batch Number: ICPWA-04/01/97-010 -4

Test Identification : ICPWA-Metals by ICP

Sequence : DATG091

Number of Samples : 15

Batch Data-Date/Time : 04/02/97 / 08:36:22

BLANK#	ANALYTE	CONC FOUND #	CONC LIMIT
PBW1-978	Silver	ND	0.0060
	Arsenic	ND	0.0300
	Barium	ND	0.0030
	Cadmium	ND	0.0040
	Chromium	ND	0.0100
	Lead	0.0161	0.0400
	Selenium	0.0050	0.0700
PBW2-978-2	Silver	ND	0.0060
	Arsenic	0.0037	0.0300
	Barium	ND	0.0030
	Cadmium	0.0012	0.0040
	Chromium	ND	0.0100
	Lead	ND	0.0400
	Selenium	ND	0.0700

SPIKE						QC LIMITS	
SAMPLE#	ANALYTE	CONC ADDED	CONC SAMPLE	CONC SPIKE	% REC #	LOWER	UPPER
15598-60064	Silver	0.0500	-0.0059	0.0450	101.8	80.0	120.0
	Arsenic	2.0000	-0.0113	1.9466	97.9	80.0	120.0
	Barium	2.0000	-0.0009	1.9495	97.5	80.0	120.0
	Cadmium	0.0500	-0.0003	0.0460	92.6	80.0	120.0
	Chromium	0.2000	-0.0055	0.1961	100.8	80.0	120.0
	Lead	0.5000	0.0014	0.4892	97.6	80.0	120.0
	Selenium	2.0000	-0.0133	1.9320	97.3	80.0	120.0

MSD						QC LIMITS			
SAMPLE#	ANALYTE	CONC ADDED	CONC SAMPLE	RESULT 2	%REC2 #	LOWER	UPPER	RPD #	LIMIT
15598-60065	Silver	0.0500	-0.0059	0.0454	102.6	80.0	120.0	0.8	20.0
	Arsenic	2.0000	-0.0113	1.9429	97.7	80.0	120.0	0.2	20.0
	Barium	2.0000	-0.0009	1.9697	98.5	80.0	120.0	1.0	20.0
	Cadmium	0.0500	-0.0003	0.0484	97.4	80.0	120.0	5.1	20.0
	Chromium	0.2000	-0.0055	0.1959	100.7	80.0	120.0	0.1	20.0
	Lead	0.5000	0.0014	0.5026	100.2	80.0	120.0	2.6	20.0
	Selenium	2.0000	-0.0133	1.9353	97.4	80.0	120.0	0.1	20.0

DUPLICATE						
SAMPLE#	ANALYTE	RESULT 1	RESULT 2	RPD #	LIMIT	DILUTION
15598-60063	Silver	-0.0059	0.0000	200.0(11)	20.0	1.00
	Arsenic	-0.0113	0.0031	351.2(11)	20.0	1.00
	Barium	-0.0009	0.0000	200.0(11)	20.0	1.00
	Cadmium	-0.0003	0.0006	600.0(11)	20.0	1.00
	Chromium	-0.0055	0.0000	200.0(11)	20.0	1.00
	Lead	0.0014	0.0111	155.2(11)	20.0	1.00
	Selenium	-0.0133	0.0000	200.0(11)	20.0	1.00

CONTROL					QC LIMITS	
SAMPLE#	ANALYTE	CONC FOUND	CONC KNOWN	% REC #	LOWER	UPPER
LCSW-978	Silver	0.0469	0.0500	93.8	80.0	120.0
	Arsenic	1.9753	2.0000	98.8	80.0	120.0
	Barium	1.9731	2.0000	98.7	80.0	120.0

Analysis Batch Number: ICPWA-04/01/97-010 -4

Test Identification : ICPWA-Metals by ICP

Sequence : DATG091

Number of Samples : 15

Batch Data-Date/Time : 04/02/97 / 08:36:22

CONTROL		QC LIMITS			
SAMPLE#	ANALYTE	CONC FOUND	CONC KNOWN	% REC #	LOWER UPPER
LCSW-978	Cadmium	0.0478	0.0500	95.6	80.0 120.0
	Chromium	0.1981	0.2000	99.1	80.0 120.0
	Lead	0.5056	0.5000	101.1	80.0 120.0
	Selenium	1.9299	2.0000	96.5	80.0 120.0

		QC LIMITS			
CCV #	ANALYTE	TRUE VALUE	BATCH READ	% REC #	LOWER UPPER
ICV-	Silver	0.4000	0.3905	97.6	90.0 110.0
	Arsenic	1.6000	1.5602	97.5	90.0 110.0
	Barium	4.0000	3.8098	95.2	90.0 110.0
	Cadmium	4.0000	3.8279	95.7	90.0 110.0
	Chromium	4.0000	3.9303	98.3	90.0 110.0
	Lead	20.0000	19.1408	95.7	90.0 110.0
	Selenium	1.6000	1.5084	94.3	90.0 110.0
CCV1--2	Silver	0.4000	0.3881	97.0	90.0 110.0
	Arsenic	1.6000	1.5562	97.3	90.0 110.0
	Barium	4.0000	3.8251	95.6	90.0 110.0
	Cadmium	4.0000	3.7988	95.0	90.0 110.0
	Chromium	4.0000	3.9456	98.6	90.0 110.0
	Lead	20.0000	19.1193	95.6	90.0 110.0
	Selenium	1.6000	1.5401	96.3	90.0 110.0
CCV2--3	Silver	0.4000	0.3758	94.0	90.0 110.0
	Arsenic	1.6000	1.5167	94.8	90.0 110.0
	Barium	4.0000	3.7876	94.7	90.0 110.0
	Cadmium	4.0000	3.7385	93.5	90.0 110.0
	Chromium	4.0000	3.9263	98.2	90.0 110.0
	Lead	20.0000	19.0059	95.0	90.0 110.0
	Selenium	1.6000	1.5484	96.8	90.0 110.0
CCV4--4	Silver	0.4000	0.3948	98.7	90.0 110.0
	Arsenic	1.6000	1.5878	99.2	90.0 110.0
	Barium	4.0000	3.8122	95.3	90.0 110.0
	Cadmium	4.0000	3.8513	96.3	90.0 110.0
	Chromium	4.0000	3.9266	98.2	90.0 110.0
	Lead	20.0000	19.1362	95.7	90.0 110.0
	Selenium	1.6000	1.5941	99.6	90.0 110.0
CCV5--5	Silver	0.4000	0.3902	97.6	90.0 110.0
	Arsenic	1.6000	1.5697	98.1	90.0 110.0
	Barium	4.0000	3.8065	95.2	90.0 110.0
	Cadmium	4.0000	3.8405	96.0	90.0 110.0
	Chromium	4.0000	3.8939	97.3	90.0 110.0
	Lead	20.0000	18.8176	94.1	90.0 110.0
	Selenium	1.6000	1.4991	93.7	90.0 110.0
CCV6--6	Silver	0.4000	0.3993	99.8	90.0 110.0
	Arsenic	1.6000	1.5670	97.9	90.0 110.0
	Barium	4.0000	3.8900	97.3	90.0 110.0
	Cadmium	4.0000	3.8540	96.4	90.0 110.0
	Chromium	4.0000	3.8859	97.1	90.0 110.0
	Lead	20.0000	18.6704	93.4	90.0 110.0
	Selenium	1.6000	1.5780	98.6	90.0 110.0

Analysis Batch Number: ICPWA-04/01/97-010 -4

Test Identification : ICPWA-Metals by ICP

Sequence : DATG091

Number of Samples : 15

Batch Data-Date/Time : 04/02/97 / 08:36:22

CCB#	ANALYTE	CONC FOUND #	CONC LIMIT
ICB-	Silver	0.0001	0.0060
	Arsenic	0.0033	0.0300
	Barium	ND	0.0030
	Cadmium	0.0011	0.0040
	Chromium	0.0008	0.0100
	Lead	0.0026	0.0400
	Selenium	0.0223	0.0700
CCB1-	Silver	ND	0.0060
	Arsenic	ND	0.0300
	Barium	ND	0.0030
	Cadmium	0.0002	0.0040
	Chromium	ND	0.0100
	Lead	ND	0.0400
	Selenium	ND	0.0700
CCB2-	Silver	ND	0.0060
	Arsenic	0.0046	0.0300
	Barium	0.0002	0.0030
	Cadmium	0.0020	0.0040
	Chromium	ND	0.0100
	Lead	0.0257	0.0400
	Selenium	0.0024	0.0700
CCB4-	Silver	0.0022	0.0060
	Arsenic	ND	0.0300
	Barium	0.0008	0.0030
	Cadmium	0.0008	0.0040
	Chromium	ND	0.0100
	Lead	ND	0.0400
	Selenium	ND	0.0700
CCB5-	Silver	ND	0.0060
	Arsenic	0.0044	0.0300
	Barium	0.0007	0.0030
	Cadmium	0.0009	0.0040
	Chromium	ND	0.0100
	Lead	ND	0.0400
	Selenium	ND	0.0700
CCB6-	Silver	0.0004	0.0060
	Arsenic	0.0103	0.0300
	Barium	ND	0.0030
	Cadmium	ND	0.0040
	Chromium	0.0028	0.0100
	Lead	ND	0.0400
	Selenium	ND	0.0700

----- Result Footnotes -----

(11) - Both Duplicate results are less than the MDL.

Analysis Batch Number: ICPWA-04/01/97-010 -4
Test Identification : ICPWA-Metals by ICP
Number of Samples : 15
Batch Data-Date/Time : 04/02/97 / 08:36:22

Sequence : DATG091

Groups & Samples

15598-60063	15598-60064	15598-60065	15637-60201	15637-60202	15637-60203	15637-60204	15637-60205
15637-60206	15637-60207	15637-60208	15638-60209	15638-60210	15638-60211	15638-60212	15638-60213
15638-60214							

657 W. Maple • P. O. Box 2606 • Farmington NM 87499
LAB: (505) 325-5667 • FAX: (505) 325-6256

[illegible]

6027

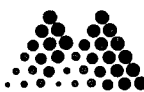
657 W. Maple • P.O. Box 2606 • Farmington NM 87499
LAB: (505) 325-5667 • FAX: (505) 325-6256

Page _____ of _____

Date: 5/19/97

[illegible]

Distribution:	White – On Site	Yellow – LAB	Pink – Sampler	Goldenrod – Client
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Mountain States Analytical, Inc.

The Quality Solution

On Site Technologies, Ltd.

612 E Murray Drive

Farmington, NM 87401

Attn: Mr. David Cox

Project: Thriftway Refinery

Sample ID: 17212-6093

Matrix: Waste Water

mw-21 (M)

MSAI Sample: 73367

MSAI Group: 19155

Date Reported: 01/16/98

Discard Date: 02/15/98

Date Submitted: 12/24/97

Date Sampled: 12/22/97

Collected by:

Purchase Order: 6093

Project No.:

Test	Analysis	Results as Received	Units	Limit of Quantitation
0392I	Flame/ICP Prep, w/ww, 3005A Method: SW-846 3005A	Batch. w951		
7251	Chromium by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.050
7255	Lead by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.25
0504	Fluoride, Ion Chromatography Method: EPA 300.0	ND	mg/l	1
0505	Bromide, Ion Chromatography Method: EPA 300.0	ND	mg/l	1
3000	SVOA Extraction, Water Method: SW-846 3510B	Complete		
6719	Polycyclic Aro/Hydrocarb, 8270A ww Method: SW-846 8270A			
	Acenaphthene	ND	ug/l	(1) 10
	Acenaphthylene	ND	ug/l	10
	Anthracene	ND	ug/l	10
	Benz(a)anthracene	ND	ug/l	10
	Benzo(b)fluoranthene	ND	ug/l	10
	Benzo(k)fluoranthene	ND	ug/l	10
	Benzo(ghi)perylene	ND	ug/l	10
	Benzo(a)pyrene	ND	ug/l	25
	Chrysene	ND	ug/l	10
	Dibenz(a,h)anthracene	ND	ug/l	10
	Fluoranthene	ND	ug/l	10
	Fluorene	ND	ug/l	10
	Naphthalene	ND	ug/l	10

10
Years of
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Corporate Office

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801-973-0050 • 1-800-973-6724(MSAI) • FAX 801-972-6278

e-mail: service@msailabs.com

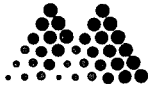
Southwest States Region

6223 Bayonne, Spring, Texas 77389

281-320-2842 • FAX 281-320-0989

e-mail: gbrewer@msailabs.com

MEMBER
ACIL



Mountain States Analytical, Inc.

On Site Technologies, Ltd.

The Quality Solution

Page 2

MSAI Sample: 73367
MSAI Group: 19155

Sample ID: 17212-6093

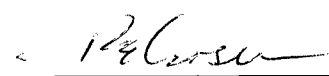
Test	Analysis	Results as Received	Units	Limit of Quantitation
6719	Polycyclic Aro/Hydrocarb, 8270A ww Method: SW-846 8270A			
	Phenanthrene	ND	ug/l	10
	Pyrene	ND	ug/l	10
	Indeno(1,2,3-cd)pyrene	ND	ug/l	10
	2-Methylnaphthalene	ND	ug/l	10

- (1) Samples 73368, 73369, 73371, 73373, 73374, 73375 and 73376 each had one surrogate recovery outside of QC limits. The data was deemed valid according to Section V, Part D, Number 3 of the "Laboratory Data Validation Functional Guidelines for Evaluating Organic Analyses", February 1988.

ND - Not detected at the limit of quantitation

This report consists of the following items: A cover letter, a signed analytical report for each sample specified on the cover letter, and if applicable, an inorganic quality control summary. Organic sample reports contain footnotes which describe any quality control anomalies which may have occurred.

Respectfully Submitted,
Reviewed and Approved by:

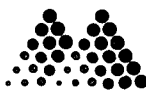

Rolf E. Larsen
Project Manager

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e-mail: gbrewer@msailabs.com





Mountain States Analytical, Inc.

The Quality Solution

On Site Technologies, Ltd.
612 E Murray Drive
Farmington, NM 87401

Attn: Mr. David Cox
Project: Thriftway Refinery

Sample ID: 17213-6093

Matrix: Waste Water

ww-20 (m)

MSAI Sample: 73368
MSAI Group: 19155
Date Reported: 01/16/98
Discard Date: 02/15/98
Date Submitted: 12/24/97
Date Sampled: 12/22/97
Collected by:
Purchase Order: 6093
Project No.:

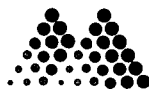
Test	Analysis	Results as Received	Units	Limit of Quantitation
-----	-----	-----	-----	-----
0392I	Flame/ICP Prep, w/ww, 3005A Method: SW-846 3005A	Batch. w951		
7251	Chromium by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.050
7255	Lead by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.25
0504	Fluoride, Ion Chromatography Method: EPA 300.0	ND	mg/l	2
0505	Bromide, Ion Chromatography Method: EPA 300.0	ND	mg/l	2
3000	SVOA Extraction, Water Method: SW-846 3510B	Complete		
6719	Polycyclic Aro/Hydrocarb, 8270A ww Method: SW-846 8270A			
	Acenaphthene	ND	ug/l	10
	Acenaphthylene	ND	ug/l	10
	Anthracene	ND	ug/l	10
	Benz(a)anthracene	ND	ug/l	10
	Benzo(b)fluoranthene	ND	ug/l	10
	Benzo(k)fluoranthene	ND	ug/l	10
	Benzo(ghi)perylene	ND	ug/l	10
	Benzo(a)pyrene	ND	ug/l	25
	Chrysene	ND	ug/l	10
	Dibenz(a,h)anthracene	ND	ug/l	10
	Fluoranthene	ND	ug/l	10
	Fluorene	ND	ug/l	10
	Naphthalene	ND	ug/l	10

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On Site Technologies, Ltd.

The Quality Solution

Page 2

MSAI Sample: 73368

MSAI Group: 19155

Sample ID: 17213-6093

Test	Analysis	Results as Received	Units	Limit of Quantitation
6719	Polycyclic Aro/Hydrocarb, 8270A ww Method: SW-846 8270A			
	Phenanthrene	ND	ug/l	10
	Pyrene	ND	ug/l	10
	Indeno(1,2,3-cd)pyrene	ND	ug/l	10
	2-Methylnaphthalene	ND	ug/l	10

ND - Not detected at the limit of quantitation

This report consists of the following items: A cover letter, a signed analytical report for each sample specified on the cover letter, and if applicable, an inorganic quality control summary. Organic sample reports contain footnotes which describe any quality control anomalies which may have occurred.

Respectfully Submitted,
Reviewed and Approved by:

Rolf E. Larsen
Project Manager

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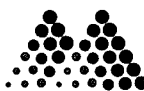
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Mountain States Analytical, Inc.

The Quality Solution

On Site Technologies, Ltd.
612 E Murray Drive
Farmington, NM 87401

Attn: Mr. David Cox
Project: Thriftway Refinery

Sample ID: 17214-6093

Matrix: Waste Water

MW-22 (u)

MSAI Sample: 73369
MSAI Group: 19155
Date Reported: 01/16/98
Discard Date: 02/15/98
Date Submitted: 12/24/97
Date Sampled: 12/22/97
Collected by:
Purchase Order: 6093
Project No.:

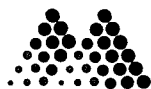
Test	Analysis	Results as Received	Units	Limit of Quantitation
0392I	Flame/ICP Prep, w/ww, 3005A Method: SW-846 3005A	Batch. w951		
7251	Chromium by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.050
7255	Lead by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.25
0504	Fluoride, Ion Chromatography Method: EPA 300.0	ND	mg/l	2
0505	Bromide, Ion Chromatography Method: EPA 300.0	ND	mg/l	2
3000	SVOA Extraction, Water Method: SW-846 3510B	Complete		
6719	Polycyclic Aro/Hydrocarb, 8270A ww Method: SW-846 8270A			
	Acenaphthene	ND	ug/l	10
	Acenaphthylene	ND	ug/l	10
	Anthracene	ND	ug/l	10
	Benz (a) anthracene	ND	ug/l	10
	Benzo (b) fluoranthene	ND	ug/l	10
	Benzo (k) fluoranthene	ND	ug/l	10
	Benzo (ghi) perylene	ND	ug/l	10
	Benzo (a) pyrene	ND	ug/l	25
	Chrysene	ND	ug/l	10
	Dibenz (a, h) anthracene	ND	ug/l	10
	Fluoranthene	ND	ug/l	10
	Fluorene	ND	ug/l	10
	Naphthalene	ND	ug/l	10

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MSAI Sample: 73369
MSAI Group: 19155

Sample ID: 17214-6093

Test	Analysis	Results as Received	Units	Limit of Quantitation
6719	Polycyclic Aro/Hydrocarb, 8270A ww Method: SW-846 8270A			
	Phenanthrene	ND	ug/l	10
	Pyrene	ND	ug/l	10
	Indeno(1,2,3-cd)pyrene	ND	ug/l	10
	2-Methylnaphthalene	ND	ug/l	10

ND - Not detected at the limit of quantitation

This report consists of the following items: A cover letter, a signed analytical report for each sample specified on the cover letter, and if applicable, an inorganic quality control summary. Organic sample reports contain footnotes which describe any quality control anomalies which may have occurred.

Respectfully Submitted,
Reviewed and Approved by:

Rolf E. Larsen
Project Manager

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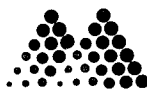
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Mountain States Analytical, Inc.

The Quality Solution

On Site Technologies, Ltd.
612 E Murray Drive
Farmington, NM 87401

Attn: Mr. David Cox
Project: Thriftway Refinery

Sample ID: 17215-6093 *MW-15* *(12)*
Matrix: Waste Water

MSAI Sample: 73370
MSAI Group: 19155
Date Reported: 01/16/98
Discard Date: 02/15/98
Date Submitted: 12/24/97
Date Sampled: 12/22/97
Collected by:
Purchase Order: 6093
Project No.:

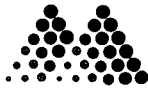
Test	Analysis	Results as Received	Units	Limit of Quantitation
----	-----	-----	-----	-----
0392I	Flame/ICP Prep, w/ww, 3005A Method: SW-846 3005A	Batch. w951		
7251	Chromium by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.050
7255	Lead by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.25
0504	Fluoride, Ion Chromatography Method: EPA 300.0	ND	mg/l	2
0505	Bromide, Ion Chromatography Method: EPA 300.0	1.0	mg/l	0.1
3000	SVOA Extraction, Water Method: SW-846 3510B	Complete		
6719	Polycyclic Aro/Hydrocarb, 8270A ww Method: SW-846 8270A			
	Acenaphthene	ND	ug/l	(1) 10
	Acenaphthylene	ND	ug/l	10
	Anthracene	ND	ug/l	10
	Benz (a) anthracene	ND	ug/l	10
	Benzo (b) fluoranthene	ND	ug/l	10
	Benzo (k) fluoranthene	ND	ug/l	10
	Benzo (ghi) perylene	ND	ug/l	10
	Benzo (a) pyrene	ND	ug/l	25
	Chrysene	ND	ug/l	10
	Dibenz (a,h) anthracene	ND	ug/l	10
	Fluoranthene	ND	ug/l	10
	Fluorene	ND	ug/l	10
	Naphthalene	ND	ug/l	10

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MSAI Sample: 73370

MSAI Group: 19155

Sample ID: 17215-6093

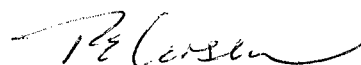
Test	Analysis	Results as Received	Units	Limit of Quantitation
6719	Polycyclic Aro/Hydrocarb, 8270A ww Method: SW-846 8270A			
	Phenanthrene	ND	ug/l	10
	Pyrene	ND	ug/l	10
	Indeno (1,2,3-cd) pyrene	ND	ug/l	10
	2-Methylnaphthalene	ND	ug/l	10

- (1) Sample 73370 had three surrogate recoveries outside of QC limits. The sample was reported with the project manager's approval due to the fact that the sample holding time had expired.

ND - Not detected at the limit of quantitation

This report consists of the following items: A cover letter, a signed analytical report for each sample specified on the cover letter, and if applicable, an inorganic quality control summary. Organic sample reports contain footnotes which describe any quality control anomalies which may have occurred.

Respectfully Submitted,
Reviewed and Approved by:


Rolf E. Larsen
Project Manager

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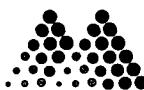
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Mountain States Analytical, Inc.

The Quality Solution

On Site Technologies, Ltd.
612 E Murray Drive
Farmington, NM 87401

Attn: Mr. David Cox
Project: Thriftway Refinery

Sample ID: 17216-6093
Matrix: Waste Water

INFLUENT (2)

MSAI Sample: 73371
MSAI Group: 19155
Date Reported: 01/16/98
Discard Date: 02/15/98
Date Submitted: 12/24/97
Date Sampled: 12/22/97
Collected by:
Purchase Order: 6093
Project No.:

Test	Analysis	Results as Received	Units	Limit of Quantitation
----	-----	-----	-----	-----
0392I	Flame/ICP Prep, w/ww, 3005A Method: SW-846 3005A	Batch. w951		
7251	Chromium by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.050
7255	Lead by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.25
0504	Fluoride, Ion Chromatography Method: EPA 300.0	ND	mg/l	2
0505	Bromide, Ion Chromatography Method: EPA 300.0	ND	mg/l	2
3000	SVOA Extraction, Water Method: SW-846 3510B	Complete		
6719	Polycyclic Aro/Hydrocarb, 8270A ww Method: SW-846 8270A			
	Acenaphthene	ND	ug/l	10
	Acenaphthylene	ND	ug/l	10
	Anthracene	ND	ug/l	10
	Benz (a) anthracene	ND	ug/l	10
	Benzo (b) fluoranthene	ND	ug/l	10
	Benzo (k) fluoranthene	ND	ug/l	10
	Benzo (ghi) perylene	ND	ug/l	10
	Benzo (a) pyrene	ND	ug/l	25
	Chrysene	ND	ug/l	10
	Dibenz (a,h) anthracene	ND	ug/l	10
	Fluoranthene	ND	ug/l	10
	Fluorene	ND	ug/l	10
	Naphthalene	87	ug/l	10

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Mountain States Analytical, Inc.
On Site Technologies, Ltd. *The Quality Solution*

Sample ID: 17216-6093

MSAI Sample: 73371
MSAI Group: 19155

Test	Analysis	Results as Received	Units	Limit of Quantitation
6719	Polycyclic Aro/Hydrocarb, 8270A ww Method: SW-846 8270A			
	Phenanthrene	ND	ug/l	10
	Pyrene	ND	ug/l	10
	Indeno (1,2,3-cd) pyrene	ND	ug/l	10
	2-Methylnaphthalene	33	ug/l	10

ND - Not detected at the limit of quantitation

This report consists of the following items: A cover letter, a signed analytical report for each sample specified on the cover letter, and if applicable, an inorganic quality control summary. Organic sample reports contain footnotes which describe any quality control anomalies which may have occurred.

Respectfully Submitted,
Reviewed and Approved by:

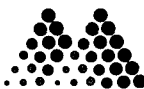

Rolf E. Larsen
Project Manager

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Mountain States Analytical, Inc.

The Quality Solution

On Site Technologies, Ltd.
612 E Murray Drive
Farmington, NM 87401

Attn: Mr. David Cox
Project: Thriftway Refinery

Sample ID: 17217-6093
Matrix: Waste Water

EFFLUENT (62)

MSAI Sample: 73372
MSAI Group: 19155
Date Reported: 01/16/98
Discard Date: 02/15/98
Date Submitted: 12/24/97
Date Sampled: 12/22/97
Collected by:
Purchase Order: 6093
Project No.:

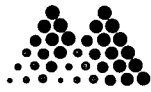
Test Analysis	Results as Received	Units	Limit of Quantitation
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0392I Flame/ICP Prep, w/ww, 3005A Method: SW-846 3005A	Batch. w951		
7251 Chromium by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.050
7255 Lead by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.25
0504 Fluoride, Ion Chromatography Method: EPA 300.0	ND	mg/l	2
0505 Bromide, Ion Chromatography Method: EPA 300.0	ND	mg/l	0.1
3000 SVOA Extraction, Water Method: SW-846 3510B	Complete		
6719 Polycyclic Aro/Hydrocarb, 8270A ww Method: SW-846 8270A			
Acenaphthene	ND	ug/l	10
Acenaphthylene	ND	ug/l	10
Anthracene	ND	ug/l	10
Benz(a)anthracene	ND	ug/l	10
Benzo(b)fluoranthene	ND	ug/l	10
Benzo(k)fluoranthene	ND	ug/l	10
Benzo(ghi)perylene	ND	ug/l	10
Benzo(a)pyrene	ND	ug/l	25
Chrysene	ND	ug/l	10
Dibenz(a,h)anthracene	ND	ug/l	10
Fluoranthene	ND	ug/l	10
Fluorene	ND	ug/l	10
Naphthalene	14	ug/l	10

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The Quality Solution

MSAI Sample: 73372

MSAI Group: 19155

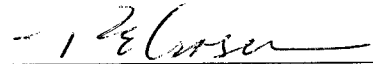
Sample ID: 17217-6093

Test	Analysis	Results as Received	Units	Limit of Quantitation
6719	Polycyclic Aro/Hydrocarb, 8270A ww Method: SW-846 8270A			
	Phenanthrene	ND	ug/l	10
	Pyrene	ND	ug/l	10
	Indeno (1,2,3-cd) pyrene	ND	ug/l	10
	2-Methylnaphthalene	ND	ug/l	10

ND - Not detected at the limit of quantitation

This report consists of the following items: A cover letter, a signed analytical report for each sample specified on the cover letter, and if applicable, an inorganic quality control summary. Organic sample reports contain footnotes which describe any quality control anomalies which may have occurred.

Respectfully Submitted,
Reviewed and Approved by:


Rolf E. Larsen
Project Manager

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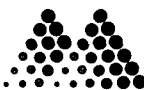
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Mountain States Analytical, Inc.

The Quality Solution

On Site Technologies, Ltd.
612 E Murray Drive
Farmington, NM 87401

Attn: Mr. David Cox
Project: Thriftway Refinery

Sample ID: 17220-6093 *MW-10 (2)*

Matrix: Waste Water

MSAI Sample: 73373
MSAI Group: 19155
Date Reported: 01/16/98
Discard Date: 02/15/98
Date Submitted: 12/24/97
Date Sampled: 12/22/97
Collected by:
Purchase Order: 6093
Project No.:

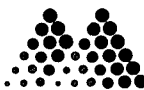
Test Analysis	Results as Received	Units	Limit of Quantitation
-----	-----	-----	-----
0392I Flame/ICP Prep, w/ww, 3005A Method: SW-846 3005A	Batch. w951		
7251 Chromium by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.050
7255 Lead by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.25
0504 Fluoride, Ion Chromatography Method: EPA 300.0	ND	mg/l	2
0505 Bromide, Ion Chromatography Method: EPA 300.0	ND	mg/l	2
3000 SVOA Extraction, Water Method: SW-846 3510B	Complete		
6719 Polycyclic Aro/Hydrocarb, 8270A ww Method: SW-846 8270A			
Acenaphthene	ND	ug/l	10
Acenaphthylene	ND	ug/l	10
Anthracene	ND	ug/l	10
Benz (a) anthracene	ND	ug/l	10
Benzo (b) fluoranthene	ND	ug/l	10
Benzo (k) fluoranthene	ND	ug/l	10
Benzo (ghi) perylene	ND	ug/l	10
Benzo (a) pyrene	ND	ug/l	25
Chrysene	ND	ug/l	10
Dibenz (a, h) anthracene	ND	ug/l	10
Fluoranthene	ND	ug/l	10
Fluorene	ND	ug/l	10
Naphthalene	ND	ug/l	10

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On Site Technologies, Ltd.

The Quality Solution

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MSAI Sample: 73373
MSAI Group: 19155

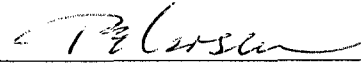
Sample ID: 17220-6093

Test	Analysis	Results as Received	Units	Limit of Quantitation
6719	Polycyclic Aro/Hydrocarb, 8270A ww Method: SW-846 8270A			
	Phenanthrene	ND	ug/l	10
	Pyrene	ND	ug/l	10
	Indeno(1,2,3-cd)pyrene	ND	ug/l	10
	2-Methylnaphthalene	ND	ug/l	10

ND - Not detected at the limit of quantitation

This report consists of the following items: A cover letter, a signed analytical report for each sample specified on the cover letter, and if applicable, an inorganic quality control summary. Organic sample reports contain footnotes which describe any quality control anomalies which may have occurred.

Respectfully Submitted,
Reviewed and Approved by:

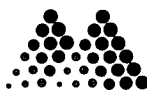

Rolf E. Larsen
Project Manager

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Mountain States Analytical, Inc.

The Quality Solution

On Site Technologies, Ltd.
612 E Murray Drive
Farmington, NM 87401

Attn: Mr. David Cox
Project: Thriftway Refinery

Sample ID: 17221-6093 MW-11 (X)
Matrix: Waste Water

MSAI Sample: 73374
MSAI Group: 19155
Date Reported: 01/16/98
Discard Date: 02/15/98
Date Submitted: 12/24/97
Date Sampled: 12/22/97
Collected by:
Purchase Order: 6093
Project No.:

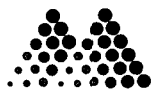
Test	Analysis	Results as Received	Units	Limit of Quantitation
----	-----	-----	-----	-----
0392I	Flame/ICP Prep, w/ww, 3005A Method: SW-846 3005A	Batch. w951		
7251	Chromium by ICP, w/ww, 6010A Method: SW-846 6010A	0.053	mg/l	0.050
7255	Lead by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.25
0504	Fluoride, Ion Chromatography Method: EPA 300.0	ND	mg/l	2
0505	Bromide, Ion Chromatography Method: EPA 300.0	ND	mg/l	2
3000	SVOA Extraction, Water Method: SW-846 3510B	Complete		
6719	Polycyclic Aro/Hydrocarb, 8270A ww Method: SW-846 8270A			
	Acenaphthene	ND	ug/l	10
	Acenaphthylene	ND	ug/l	10
	Anthracene	ND	ug/l	10
	Benz (a) anthracene	ND	ug/l	10
	Benzo (b) fluoranthene	ND	ug/l	10
	Benzo (k) fluoranthene	ND	ug/l	10
	Benzo (ghi) perylene	ND	ug/l	10
	Benzo (a) pyrene	ND	ug/l	25
	Chrysene	ND	ug/l	10
	Dibenz (a,h) anthracene	ND	ug/l	10
	Fluoranthene	ND	ug/l	10
	Fluorene	ND	ug/l	10
	Naphthalene	ND	ug/l	10

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The Quality Solution

MSAI Sample: 73374

MSAI Group: 19155

Sample ID: 17221-6093

Test	Analysis	Results as Received	Units	Limit of Quantitation
6719	Polycyclic Aro/Hydrocarb, 8270A ww Method: SW-846 8270A			
	Phenanthrene	ND	ug/l	10
	Pyrene	ND	ug/l	10
	Indeno (1,2,3-cd) pyrene	ND	ug/l	10
	2-Methylnaphthalene	ND	ug/l	10

ND - Not detected at the limit of quantitation

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Respectfully Submitted,
Reviewed and Approved by:


Rolf E. Larsen
Project Manager

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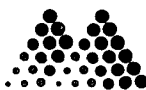
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The Quality Solution

On Site Technologies, Ltd.
612 E Murray Drive
Farmington, NM 87401

Attn: Mr. David Cox
Project: Thriftway Refinery

Sample ID: 17222-6093 **MW-9** (PC)
Matrix: Waste Water

MSAI Sample: 73375
MSAI Group: 19155
Date Reported: 01/16/98
Discard Date: 02/15/98
Date Submitted: 12/24/97
Date Sampled: 12/22/97
Collected by:
Purchase Order: 6093
Project No.:

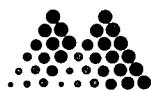
Test	Analysis	Results as Received	Units	Limit of Quantitation
0392I	Flame/ICP Prep, w/ww, 3005A Method: SW-846 3005A	Batch. w951		
7251	Chromium by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.050
7255	Lead by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.25
0504	Fluoride, Ion Chromatography Method: EPA 300.0	ND	mg/l	2
0505	Bromide, Ion Chromatography Method: EPA 300.0	ND	mg/l	2
3000	SVOA Extraction, Water Method: SW-846 3510B	Complete		
6719	Polycyclic Aro/Hydrocarb, 8270A ww Method: SW-846 8270A			
	Acenaphthene	ND	ug/l	10
	Acenaphthylene	ND	ug/l	10
	Anthracene	ND	ug/l	10
	Benz (a) anthracene	ND	ug/l	10
	Benzo (b) fluoranthene	ND	ug/l	10
	Benzo (k) fluoranthene	ND	ug/l	10
	Benzo (ghi) perylene	ND	ug/l	10
	Benzo (a) pyrene	ND	ug/l	25
	Chrysene	ND	ug/l	10
	Dibenz (a, h) anthracene	ND	ug/l	10
	Fluoranthene	ND	ug/l	10
	Fluorene	ND	ug/l	10
	Naphthalene	ND	ug/l	10

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MSAI Sample: 73375

MSAI Group: 19155

Sample ID: 17222-6093

Test	Analysis	Results as Received	Units	Limit of Quantitation
6719	Polycyclic Aro/Hydrocarb, 8270A ww Method: SW-846 8270A			
	Phenanthrene	ND	ug/l	10
	Pyrene	ND	ug/l	10
	Indeno (1,2,3-cd) pyrene	ND	ug/l	10
	2-Methylnaphthalene	ND	ug/l	10

ND - Not detected at the limit of quantitation

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Respectfully Submitted,
Reviewed and Approved by:

Rolf E. Larsen
Project Manager

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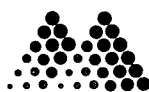
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Mountain States Analytical, Inc.

The Quality Solution

On Site Technologies, Ltd.
612 E Murray Drive
Farmington, NM 87401

Attn: Mr. David Cox
Project: Thriftway Refinery

Sample ID: 17223-6093
Matrix: Waste Water

mw-13 (12)

MSAI Sample: 73376
MSAI Group: 19155
Date Reported: 01/16/98
Discard Date: 02/15/98
Date Submitted: 12/24/97
Date Sampled: 12/19/97
Collected by:
Purchase Order: 6093
Project No.:

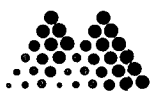
Test Analysis	Results as Received	Units	Limit of Quantitation
-----	-----	-----	-----
0392I Flame/ICP Prep, w/ww, 3005A Method: SW-846 3005A	Batch. w951		
7251 Chromium by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.050
7255 Lead by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.25
0504 Fluoride, Ion Chromatography Method: EPA 300.0	ND	mg/l	2
0505 Bromide, Ion Chromatography Method: EPA 300.0	ND	mg/l	2
3000 SVOA Extraction, Water Method: SW-846 3510B	Complete		
6719 Polycyclic Aro/Hydrocarb, 8270A ww Method: SW-846 8270A			
Acenaphthene	ND	ug/l	10
Acenaphthylene	ND	ug/l	10
Anthracene	ND	ug/l	10
Benz (a) anthracene	ND	ug/l	10
Benzo (b) fluoranthene	ND	ug/l	10
Benzo (k) fluoranthene	ND	ug/l	10
Benzo (ghi) perylene	ND	ug/l	10
Benzo (a) pyrene	ND	ug/l	25
Chrysene	ND	ug/l	10
Dibenz (a, h) anthracene	ND	ug/l	10
Fluoranthene	ND	ug/l	10
Fluorene	ND	ug/l	10
Naphthalene	ND	ug/l	10

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On Site Technologies, Ltd.

The Quality Solution

Sample ID: 17223-6093

MSAI Sample: 73376
MSAI Group: 19155

Test	Analysis	Results as Received	Units	Limit of Quantitation
6719	Polycyclic Aro/Hydrocarb, 8270A ww Method: SW-846 8270A			
	Phenanthrene	ND	ug/l	10
	Pyrene	ND	ug/l	10
	Indeno (1,2,3-cd) pyrene	ND	ug/l	10
	2-Methylnaphthalene	ND	ug/l	10

ND - Not detected at the limit of quantitation

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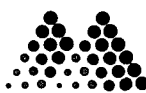

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Project Manager

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Mountain States Analytical, Inc.

The Quality Solution

On Site Technologies, Ltd.
612 E Murray Drive
Farmington, NM 87401

Attn: Mr. David Cox
Project: Thriftway Refinery

Sample ID: 17224-6096 *mul-4* *22*
Matrix: Waste Water

MSAI Sample: 73377
MSAI Group: 19155
Date Reported: 01/16/98
Discard Date: 02/15/98
Date Submitted: 12/24/97
Date Sampled: 12/22/97
Collected by:
Purchase Order: 6093
Project No.:

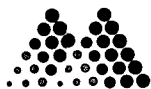
Test	Analysis	Results as Received	Units	Limit of Quantitation
-----	-----	-----	-----	-----
0392I	Flame/ICP Prep, w/ww, 3005A Method: SW-846 3005A	Batch. w951		
7251	Chromium by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.050
7255	Lead by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.25
0504	Fluoride, Ion Chromatography Method: EPA 300.0	ND	mg/l	2
0505	Bromide, Ion Chromatography Method: EPA 300.0	ND	mg/l	2
3000	SVOA Extraction, Water Method: SW-846 3510B	Complete		
6719	Polycyclic Aro/Hydrocarb, 8270A ww Method: SW-846 8270A			
	Acenaphthene	ND	ug/l	10
	Acenaphthylene	ND	ug/l	10
	Anthracene	ND	ug/l	10
	Benz (a) anthracene	ND	ug/l	10
	Benzo (b) fluoranthene	ND	ug/l	10
	Benzo (k) fluoranthene	ND	ug/l	10
	Benzo (ghi) perylene	ND	ug/l	10
	Benzo (a) pyrene	ND	ug/l	25
	Chrysene	ND	ug/l	10
	Dibenz (a, h) anthracene	ND	ug/l	10
	Fluoranthene	ND	ug/l	10
	Fluorene	ND	ug/l	10
	Naphthalene	ND	ug/l	10

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The Quality Solution

Sample ID: 17224-6096

MSAI Sample: 73377
MSAI Group: 19155

Test	Analysis	Results as Received	Units	Limit of Quantitation
6719	Polycyclic Aro/Hydrocarb, 8270A ww Method: SW-846 8270A			
	Phenanthrene	ND	ug/l	10
	Pyrene	ND	ug/l	10
	Indeno (1,2,3-cd) pyrene	ND	ug/l	10
	2-Methylnaphthalene	ND	ug/l	10

ND - Not detected at the limit of quantitation

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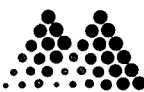

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Project Manager

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The Quality Solution

On Site Technologies, Ltd.
612 E Murray Drive
Farmington, NM 87401

Attn: Mr. David Cox
Project: Thriftway Refinery

Sample ID: 17225-6096 *MW-5 (2)*
Matrix: Waste Water

MSAI Sample: 73378
MSAI Group: 19155
Date Reported: 01/16/98
Discard Date: 02/15/98
Date Submitted: 12/24/97
Date Sampled: 12/19/97
Collected by:
Purchase Order: 6093
Project No.:

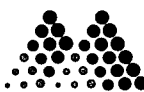
Test Analysis	Results as Received	Units	Limit of Quantitation
-----	-----	-----	-----
0392I Flame/ICP Prep, w/ww, 3005A Method: SW-846 3005A	Batch. w951		
7251 Chromium by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.050
7255 Lead by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.25
0504 Fluoride, Ion Chromatography Method: EPA 300.0	ND	mg/l	2
0505 Bromide, Ion Chromatography Method: EPA 300.0	ND	mg/l	2
3000 SVOA Extraction, Water Method: SW-846 3510B	Complete		
6719 Polycyclic Aro/Hydrocarb, 8270A ww Method: SW-846 8270A			
Acenaphthene	ND	ug/l	10
Acenaphthylene	ND	ug/l	10
Anthracene	ND	ug/l	10
Benz (a) anthracene	ND	ug/l	10
Benzo (b) fluoranthene	ND	ug/l	10
Benzo (k) fluoranthene	ND	ug/l	10
Benzo (ghi) perylene	ND	ug/l	10
Benzo (a) pyrene	ND	ug/l	25
Chrysene	ND	ug/l	10
Dibenz (a, h) anthracene	ND	ug/l	10
Fluoranthene	ND	ug/l	10
Fluorene	ND	ug/l	10
Naphthalene	ND	ug/l	10

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On Site Technologies, Ltd.

Sample ID: 17225-6096

Page 2

MSAI Sample: 73378
MSAI Group: 19155

Test	Analysis	Results as Received	Units	Limit of Quantitation
6719	Polycyclic Aro/Hydrocarb, 8270A ww Method: SW-846 8270A			
	Phenanthrene	ND	ug/l	10
	Pyrene	ND	ug/l	10
	Indeno(1,2,3-cd)pyrene	ND	ug/l	10
	2-Methylnaphthalene	ND	ug/l	10

ND - Not detected at the limit of quantitation

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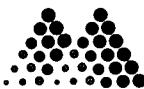
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Project Manager

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Mountain States Analytical, Inc.

The Quality Solution

On Site Technologies, Ltd.
612 E Murray Drive
Farmington, NM 87401

Attn: Mr. David Cox
Project: Thriftway Refinery

Sample ID: 17241-6094 *mw-1 (PC)*
Matrix: Waste Water

MSAI Sample: 73408
MSAI Group: 19167
Date Reported: 01/19/98
Discard Date: 02/18/98
Date Submitted: 12/29/97
Date Sampled: 12/23/97
Collected by:
Purchase Order: 6094
Project No.:

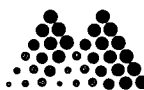
Test Analysis	Results as Received	Units	Limit of Quantitation
-----	-----	-----	-----
0392I Flame/ICP Prep, w/ww, 3005A Method: SW-846 3005A	Batch. w963		
7251 Chromium by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.050
7255 Lead by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.25
0504 Fluoride, Ion Chromatography Method: EPA 300.0	ND	mg/l	2
0505 Bromide, Ion Chromatography Method: EPA 300.0	ND	mg/l	2
3000 SVOA Extraction, Water Method: SW-846 3510B	Complete		
6719 Polycyclic Aro/Hydrocarb, 8270A ww Method: SW-846 8270A			
Acenaphthene	ND	ug/l	10
Acenaphthylene	ND	ug/l	10
Anthracene	ND	ug/l	10
Benz(a)anthracene	ND	ug/l	10
Benzo(b)fluoranthene	ND	ug/l	10
Benzo(k)fluoranthene	ND	ug/l	10
Benzo(ghi)perylene	ND	ug/l	10
Benzo(a)pyrene	ND	ug/l	25
Chrysene	ND	ug/l	10
Dibenz(a,h)anthracene	ND	ug/l	10
Fluoranthene	ND	ug/l	10
Fluorene	ND	ug/l	10
Naphthalene	ND	ug/l	10

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MSAI Sample: 73408
MSAI Group: 19167

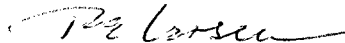
Sample ID: 17241-6094

Test	Analysis	Results as Received	Units	Limit of Quantitation
6719	Polycyclic Aro/Hydrocarb, 8270A ww Method: SW-846 8270A			
	Phenanthrene	ND	ug/l	10
	Pyrene	ND	ug/l	10
	Indeno (1,2,3-cd) pyrene	ND	ug/l	10
	2-Methylnaphthalene	ND	ug/l	10

ND - Not detected at the limit of quantitation

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Reviewed and Approved by:

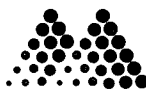

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Project Manager

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Southwest States Region
6223 Bayonne, Spring, Texas 77389
281-320-2842 • FAX 281-320-0989
e-mail: gbrewer@msailabs.com

MEMBER
ACIL



Mountain States Analytical, Inc.

The Quality Solution

On Site Technologies, Ltd.

612 E Murray Drive

Farmington, NM 87401

Attn: Mr. David Cox

Project: Thriftway Refinery

Sample ID: 17243-6094

Matrix: Waste Water

MSAI Sample: 73409

MSAI Group: 19167

Date Reported: 01/19/98

Discard Date: 02/18/98

Date Submitted: 12/29/97

Date Sampled: 12/23/97

Collected by:

Purchase Order: 6094

Project No.:

Test Analysis	Results as Received	Units	Limit of Quantitation
0392I Flame/ICP Prep, w/ww, 3005A Method: SW-846 3005A	Batch. w963		
7251 Chromium by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.050
7255 Lead by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.25
0504 Fluoride, Ion Chromatography Method: EPA 300.0	ND	mg/l	2
0505 Bromide, Ion Chromatography Method: EPA 300.0	ND	mg/l	2
3000 SVOA Extraction, Water Method: SW-846 3510B	Complete		
6719 Polycyclic Aro/Hydrocarb, 8270A ww Method: SW-846 8270A			
Acenaphthene	ND	ug/l	10
Acenaphthylene	ND	ug/l	10
Anthracene	ND	ug/l	10
Benz (a) anthracene	ND	ug/l	10
Benzo (b) fluoranthene	ND	ug/l	10
Benzo (k) fluoranthene	ND	ug/l	10
Benzo (ghi) perylene	ND	ug/l	10
Benzo (a) pyrene	ND	ug/l	25
Chrysene	ND	ug/l	10
Dibenz (a, h) anthracene	ND	ug/l	10
Fluoranthene	ND	ug/l	10
Fluorene	ND	ug/l	10
Naphthalene	ND	ug/l	10

10
Years of
Quality
Service

Corporate Office

1645 West 2200 South, Salt Lake City, Utah 84119

801-973-0050 • 1-800-973-6724(MSAI) • FAX 801-972-6278

e-mail: service@msailabs.com

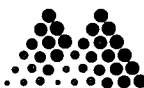
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Mountain States Analytical, Inc.

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The Quality Solution

Page 2

MSAI Sample: 73409

MSAI Group: 19167

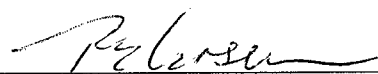
Sample ID: 17243-6094

Test	Analysis	Results as Received	Units	Limit of Quantitation
6719	Polycyclic Aro/Hydrocarb, 8270A ww Method: SW-846 8270A			
	Phenanthrene	ND	ug/l	10
	Pyrene	ND	ug/l	10
	Indeno(1,2,3-cd)pyrene	ND	ug/l	10
	2-Methylnaphthalene	ND	ug/l	10

ND - Not detected at the limit of quantitation

This report consists of the following items: A cover letter, a signed analytical report for each sample specified on the cover letter, and if applicable, an inorganic quality control summary. Organic sample reports contain footnotes which describe any quality control anomalies which may have occurred.

Respectfully Submitted,
Reviewed and Approved by:

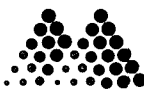

Rolf E. Larsen
Project Manager

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Mountain States Analytical, Inc.

The Quality Solution

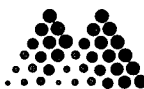
On Site Technologies, Ltd.
612 E Murray Drive
Farmington, NM 87401

Attn: Mr. David Cox
Project: Thriftway Refinery

Sample ID: 17244-6094 *mw-19* *OC*
Matrix: Waste Water

MSAI Sample: 73410
MSAI Group: 19167
Date Reported: 01/19/98
Discard Date: 02/18/98
Date Submitted: 12/29/97
Date Sampled: 12/23/97
Collected by:
Purchase Order: 6094
Project No.:

Test	Analysis	Results as Received	Units	Limit of Quantitation
----	-----	-----	-----	-----
0392I	Flame/ICP Prep, w/ww, 3005A Method: SW-846 3005A	Batch. w963		
7251	Chromium by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.050
7255	Lead by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.25
0504	Fluoride, Ion Chromatography Method: EPA 300.0	ND	mg/l	2
0505	Bromide, Ion Chromatography Method: EPA 300.0	ND	mg/l	2
3000	SVOA Extraction, Water Method: SW-846 3510B	Complete		
6719	Polycyclic Aro/Hydrocarb, 8270A ww Method: SW-846 8270A			
	Acenaphthene	ND	ug/l	10
	Acenaphthylene	ND	ug/l	10
	Anthracene	ND	ug/l	10
	Benz (a) anthracene	ND	ug/l	10
	Benzo (b) fluoranthene	ND	ug/l	10
	Benzo (k) fluoranthene	ND	ug/l	10
	Benzo (ghi) perylene	ND	ug/l	10
	Benzo (a) pyrene	ND	ug/l	25
	Chrysene	ND	ug/l	10
	Dibenz (a, h) anthracene	ND	ug/l	10
	Fluoranthene	ND	ug/l	10
	Fluorene	ND	ug/l	10
	Naphthalene	ND	ug/l	10



Mountain States Analytical, Inc.

On Site Technologies, Ltd.

The Quality Solution

MSAI Sample: 73410

MSAI Group: 19167

Sample ID: 17244-6094

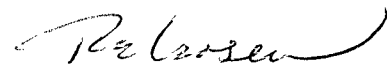
Page 2

Test	Analysis	Results as Received	Units	Limit of Quantitation
6719	Polycyclic Aro/Hydrocarb, 8270A ww Method: SW-846 8270A			
	Phenanthrene	ND	ug/l	10
	Pyrene	ND	ug/l	10
	Indeno(1,2,3-cd)pyrene	ND	ug/l	10
	2-Methylnaphthalene	ND	ug/l	10

ND - Not detected at the limit of quantitation

This report consists of the following items: A cover letter, a signed analytical report for each sample specified on the cover letter, and if applicable, an inorganic quality control summary. Organic sample reports contain footnotes which describe any quality control anomalies which may have occurred.

Respectfully Submitted,
Reviewed and Approved by:

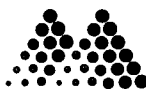

Rolf E. Larsen
Project Manager

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Mountain States Analytical, Inc.

The Quality Solution

On Site Technologies, Ltd.
612 E Murray Drive
Farmington, NM 87401

Attn: Mr. David Cox
Project: Thriftway Refinery

Sample ID: 17245-6094 *mw-1B* (2)
Matrix: Waste Water

MSAI Sample: 73411
MSAI Group: 19167
Date Reported: 01/19/98
Discard Date: 02/18/98
Date Submitted: 12/29/97
Date Sampled: 12/23/97
Collected by:
Purchase Order: 6094
Project No.:

Test	Analysis	Results as Received	Units	Limit of Quantitation
----	-----	-----	-----	-----
0392I	Flame/ICP Prep, w/ww, 3005A Method: SW-846 3005A	Batch. w963		
7251	Chromium by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.050
7255	Lead by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.25
0504	Fluoride, Ion Chromatography Method: EPA 300.0	ND	mg/l	2
0505	Bromide, Ion Chromatography Method: EPA 300.0	ND	mg/l	2
3000	SVOA Extraction, Water Method: SW-846 3510B	Complete		
6719	Polycyclic Aro/Hydrocarb, 8270A ww Method: SW-846 8270A			
	Acenaphthene	ND	ug/l	10
	Acenaphthylene	ND	ug/l	10
	Anthracene	ND	ug/l	10
	Benz(a)anthracene	ND	ug/l	10
	Benzo(b)fluoranthene	ND	ug/l	10
	Benzo(k)fluoranthene	ND	ug/l	10
	Benzo(ghi)perylene	ND	ug/l	10
	Benzo(a)pyrene	ND	ug/l	25
	Chrysene	ND	ug/l	10
	Dibenz(a,h)anthracene	ND	ug/l	10
	Fluoranthene	ND	ug/l	10
	Fluorene	ND	ug/l	10
	Naphthalene	ND	ug/l	10

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On Site Technologies, Ltd.

The Quality Solution

Page 2

Sample ID: 17245-6094

MSAI Sample: 73411

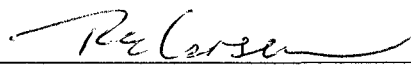
MSAI Group: 19167

Test	Analysis	Results as Received	Units	Limit of Quantitation
6719	Polycyclic Aro/Hydrocarb, 8270A ww Method: SW-846 8270A			
	Phenanthrene	ND	ug/l	10
	Pyrene	ND	ug/l	10
	Indeno (1,2,3-cd) pyrene	ND	ug/l	10
	2-Methylnaphthalene	ND	ug/l	10

ND - Not detected at the limit of quantitation

This report consists of the following items: A cover letter, a signed analytical report for each sample specified on the cover letter, and if applicable, an inorganic quality control summary. Organic sample reports contain footnotes which describe any quality control anomalies which may have occurred.

Respectfully Submitted,
Reviewed and Approved by:


Rolf E. Larsen
Project Manager

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Service

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Southwest States Region

6223 Bayonne, Spring, Texas 77389
281-320-2842 • FAX 281-320-0989
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Done for Metals

Q~

01/07/98

Analysis Batch Number: ICPWA-01/06/98-061 -4

Test Identification : ICPWA-*Metals by ICP

Sequence : DATE006

Number of Samples : 12

Batch Data-Date/Time : 01/07/98 / 08:35:29

BLANK#	ANALYTE	CONC FOUND #	CONC LIMIT
PBW1-951	Chromium	ND	0.0100
	Lead	ND	0.0400
PBW2-951-2	Chromium	ND	0.0100
	Lead	ND	0.0400

SPIKE						QC LIMITS	
SAMPLE#	ANALYTE	CONC ADDED	CONC SAMPLE	CONC SPIKE	% REC #	LOWER	UPPER
19155-73367	Chromium	0.2000	0.0113	0.1863	87.5	80.0	120.0
	Lead	0.5000	-0.0117	0.4466	91.7	80.0	120.0

MSD						QC LIMITS			
SAMPLE#	ANALYTE	CONC ADDED	CONC SAMPLE	RESULT 2	%REC2 #	LOWER	UPPER	RPD #	LIMIT
19155-73367	Chromium	0.2000	0.0113	0.1874	88.1	80.0	120.0	0.6	20.0
	Lead	0.5000	-0.0117	0.4234	87.0	80.0	120.0	5.3	20.0

DUPLICATE							
SAMPLE#	ANALYTE	RESULT 1	RESULT 2	RPD #	LIMIT	DILUTION	
19155-73367	Chromium	0.0113	0.0131	14.8	20.0	1.00	
	Lead	-0.0117	0.0000	200.0(11)	20.0	1.00	

CONTROL						QC LIMITS	
SAMPLE#	ANALYTE	CONC FOUND	CONC KNOWN	% REC #	LOWER	UPPER	
LCSW-951	Chromium	0.1876	0.2000	93.8	80.0	120.0	
	Lead	0.4438	0.5000	88.8	80.0	120.0	

CCV #	ANALYTE	TRUE VALUE	BATCH READ	% REC #	LOWER	UPPER
ICV-	Chromium	4.0000	3.8581	96.5	90.0	110.0
	Lead	20.0000	18.4481	92.2	90.0	110.0
CCV1--2	Chromium	4.0000	3.8417	96.0	90.0	110.0
	Lead	20.0000	18.3831	91.9	90.0	110.0
CCV2--3	Chromium	4.0000	3.8298	95.7	90.0	110.0
	Lead	20.0000	18.4782	92.4	90.0	110.0
CCV4--4	Chromium	4.0000	3.8306	95.8	90.0	110.0
	Lead	20.0000	18.8227	94.1	90.0	110.0
CCV5--5	Chromium	4.0000	3.9361	98.4	90.0	110.0
	Lead	20.0000	19.1559	95.8	90.0	110.0
CCV6--6	Chromium	4.0000	3.9813	99.5	90.0	110.0
	Lead	20.0000	19.3855	96.9	90.0	110.0

CCB#	ANALYTE	CONC FOUND #	CONC LIMIT
ICB-	Chromium	0.0008	0.0100
	Lead	ND	0.0400
CCB1-	Chromium	0.0002	0.0100
	Lead	0.0066	0.0400
CCB2-	Chromium	ND	0.0100
	Lead	ND	0.0400
CCB4-	Chromium	ND	0.0100
	Lead	0.0034	0.0400
CCB5-	Chromium	0.0012	0.0100

Mountain States Analytical, Inc.
Daily QC Batching Data
Data Released for Reporting

01/07/98
10:58:13
Group: 19155

Analysis Batch Number: ICPWA-01/06/98-061 -4

Test Identification : ICPWA-*Metals by ICP

Sequence : DATE006

Number of Samples : 12

Batch Data-Date/Time : 01/07/98 / 08:35:29

CCB#	ANALYTE	CONC FOUND #	CONC LIMIT
CCB5-	Lead	0.0109	0.0400
CCB6-	Chromium	ND	0.0100
	Lead	0.0083	0.0400

----- Result Footnotes -----

(11) - The duplicate results cannot be evaluated because both results are <MDL.

Groups & Samples

19155-73367	19155-73368	19155-73369	19155-73370	19155-73371	19155-73372	19155-73373	19155-73374
19155-73375	19155-73376	19155-73377	19155-73378				

MOUNTAIN STATES ANALYTICAL

```
=====
Data File   : C:\PEAKNET\DATA\00980109.D04   Report Date: 1/7/98 1:57:32 PM
Sample Name: LRB                               Collected  : 1/7/98 1:48:18 PM
Inject #    : 4                               Vial #       :
Method File : c:\peaknet\method\as14low.met   Calibrated   : 1/7/98 12:33:00 PM
System Name : IC                             Detector      : CD20
Column Type : AS14+AG14 (Both 4mm)           Operator     : NL
Data Points : 2700                           Rate         : 5.00   Hz
Module Name : DETECTOR                       Moduleware   : 1.17
=====
```

```
-----
Calibration Volume Dilution Start Stop Area Reject Pk. Width Threshold
-----
External          1          1    0.00   9.00          750       10.00       0.50
-----
```

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration mg/l	Area	Peak Start	Peak End	% Delta
1	2.27	Fluoride	-0.009	3022	2.13	2.47	0.74
2	3.05	Chloride	0.054	3988	2.90	3.22	0.00
3	3.57	Nitrite	0.013	2011	3.40	3.80	-0.37
4	4.43	Bromide	0.026	1095	4.25	4.61	0.00
5	5.13	Nitrate	-0.005	1565	4.92	5.42	0.98
6	6.25	O-phos	0.034	2766	6.02	6.67	1.30
7	7.32	Sulfate	-0.013	5027	6.99	7.58	0.50
Totals			0.100	19473			

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration mg/l	Area	Peak Start	Peak End	% Delta
Totals			0.000	0			

3A
WATER ANION SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name MOUNTAIN STATES ANALYTICAL Contract: _____

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix Spike - MSAI Sample No.: LFB Date Analyzed: 01/07/98

COMPOUND	SPIKE ADDED (mg/l)	SAMPLE CONCENTRATION (mg/l)	LFB CONCENTRATION (mg/l)	LFB % REC #	QC. LIMITS REC.
FLOURIDE	100.0	0.0	91.6	91.6	90 110
CHLORIDE	200.0	0.0	195.6	97.8	90 110
BROMIDE	400.0	0.0	398.2	99.6	90 110
NITRATE	90.8	0.0	82.3	90.6	90 110
SULFATE	400.0	0.0	410.5	102.6	90 110

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of in-house QC limits

Spike Recovery: 0 out of 5 outside of in-house QC limits

Comments: _____

3A
WATER ANION SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name MOUNTAIN STATES ANALYTICAL Contract: _____

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix Spike - MSAI Sample No.: 73370 Date Analyzed: 01/07/98

COMPOUND	SPIKE ADDED (mg/l)	SAMPLE CONCENTRATION (mg/l)	MS CONCENTRATION (mg/l)	MS % REC #	QC. LIMITS REC.
FLUORIDE	20.0	0.2	17.2	85.0	80 120
BROMIDE	80.0	1.0	86.8	107.3	80 120

COMPOUND	SPIKE ADDED (mg/l)	MSD CONCENTRATION (mg/l)	MSD % REC #	% RPD #	QC LIMITS RPD REC.
FLUORIDE	20.0	16.2	80.4	5.5	20.0 80 120
BROMIDE	80.0	84.8	104.8	2.3	20.0 80 120

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of in-house QC limits

RPD 0 out of 2 outside of in-house QC limits

Spike Recovery: 0 out of 4 outside of in-house QC limits

Comments: _____

3A
WATER ANION SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name MOUNTAIN STATES ANALYTICAL Contract: _____

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix Spike - MSAI Sample No.: 71854 Date Analyzed: 01/07/98

COMPOUND	SPIKE ADDED (mg/l)	SAMPLE CONCENTRATION (mg/l)	MS CONCENTRATION (mg/l)	MS % REC #	QC. LIMITS REC.
FLUORIDE	5000.0	0.0	4323.3	86.5	80 120
CHLORIDE	10000.0	33251.2	42031.2	87.8	80 120
BROMIDE	20000.0	11.3	22365.6	111.8	80 120
NITRATE	4540.0	0.0	4660.9	102.7	80 120
SULFATE	20000.0	3981.9	24158.0	100.9	80 120

COMPOUND	SPIKE ADDED (mg/l)	MSD CONCENTRATION (mg/l)	MSD % REC #	% RPD #	QC LIMITS RPD REC.
FLUORIDE	5000.0	4097.4	81.9	5.4	20.0 80 120
CHLORIDE	10000.0	41836.5	85.9	0.5	20.0 80 120
BROMIDE	20000.0	21183.6	105.9	5.4	20.0 80 120
NITRATE	4540.0	4428.7	97.55	5.1	20.0 80 120
SULFATE	20000.0	23065.3	95.42	4.6	20.0 80 120

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of in-house QC limits

RPD 0 out of 5 outside of in-house QC limits

Spike Recovery: 0 out of 10 outside of in-house QC limits

Comments: _____

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

6719
19155

EPA SAMPLE NO.

SBLK

Lab Name: MOUNTAIN STATES

Contract:

Lab Code: MSAI

Case No.:

SAS No.:

SDG No.: 980112C

Matrix: (soil/water) WATER

Lab Sample ID: 971224WB

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: X2567

Level: (low/med) LOW

Date Received: _____

% Moisture: _____ decanted: (Y/N) _____

Date Extracted: _____

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 01/12/98

Injection Volume: 1.0(uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
---------	----------	--	---

91-20-3-----	Naphthalene	10.0	U
91-57-6-----	2-Methylnaphthalene	10.0	U
208-96-8-----	Acenaphthylene	10.0	U
83-32-9-----	Acenaphthene	10.0	U
86-73-7-----	Fluorene	10.0	U
85-01-8-----	Phenanthrene	10.0	U
120-12-7-----	Anthracene	10.0	U
206-44-0-----	Fluoranthene	10.0	U
129-00-0-----	Pyrene	10.0	U
56-55-3-----	Benz (a) anthracene	10.0	U
218-01-9-----	Chrysene	10.0	U
205-99-2-----	Benzo(b) fluoranthene	10.0	U
207-08-9-----	Benzo(k) fluoranthene	10.0	U
50-32-8-----	Benzo(a) pyrene	10.0	U
193-39-5-----	Indeno(1,2,3-cd) pyrene	10.0	U
53-70-3-----	Dibenz(a,h) anthracene	10.0	U
191-24-2-----	Benzo(ghi) perylene	10.0	U

2C
WATER SEMIVOLATILE SURROGATE RECOVERY

Lab Name: MOUNTAIN STATES

Contract:

Lab Code: MSAI

Case No.:

SAS No.:

SDG No.: 980112C

	EPA SAMPLE NO.	S1 (2FP) #	S2 (PHL) #	S3 (NBZ) #	S4 (FBP) #	S5 (TBP) #	S6 (TPH) #	S7 #	S8 #	TOT OUT
01	SBLK	34	28	57	58	58	63			0
02	SBLKLCS	36	30	59	58	67	65			0
03	SBLKLCS	34	29	57	55	67	64			0
04										
05										
06										
07										
08										
09										
10										
11										
12										
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30										

QC LIMITS

S1 (2FP) = 2-Fluorophenol (21-110)
 S2 (PHL) = Phenol-d6 (10-110)
 S3 (NBZ) = Nitrobenzene-d5 (35-114)
 S4 (FBP) = 2-Fluorobiphenyl (43-116)
 S5 (TBP) = 2,4,6-Tribromophenol (10-123)
 S6 (TPH) = Terphenyl-d14 (33-141)

Column to be used to flag recovery values
 * Values outside of contract required QC limits
 D Surrogate diluted out

2C
WATER SEMIVOLATILE SURROGATE RECOVERY

Lab Name: MOUNTAIN STATES

Contract:

Lab Code: MSAI

Case No.:

SAS No.:

SDG No.: 980114C

	EPA SAMPLE NO.	S1 (2FP) #	S2 (PHL) #	S3 (NBZ) #	S4 (FBP) #	S5 (TBP) #	S6 (TPH) #	S7 #	S8 #	TOT OUT
01	17212	45	35	63	60	76	85			0
02	17213	40	32	44	43*	73	34			1
03	17214	15*	15	56	54	15	69			1
04	17215	35	27	26*	29*	61	30*			3
05	17216	10*	24	54	62	86	106			1
06	17217	26	24	52	55	54	85			0
07	17220	17*	15	53	55	30	78			1
08	17221	12*	15	47	49	24	62			1
09	17222	18*	18	53	55	31	71			1
10	17223	11*	12	53	53	18	71			1
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QC LIMITS

S1 (2FP) = 2-Fluorophenol (21-110)
 S2 (PHL) = Phenol-d6 (10-110)
 S3 (NBZ) = Nitrobenzene-d5 (35-114)
 S4 (FBP) = 2-Fluorobiphenyl (43-116)
 S5 (TBP) = 2,4,6-Tribromophenol (10-123)
 S6 (TPH) = Terphenyl-d14 (33-141)

Column to be used to flag recovery values
 * Values outside of contract required QC limits
 D Surrogate diluted out

2C
WATER SEMIVOLATILE SURROGATE RECOVERY

Lab Name: MOUNTAIN STATES

Contract:

Lab Code: MSAI

Case No.:

SAS No.:

SDG No.: 980115C

	EPA SAMPLE NO.	S1 (2FP) #	S2 (PHL) #	S3 (NBZ) #	S4 (FBP) #	S5 (TBP) #	S6 (TPH) #	S7 #	S8 #	TOT OUT
01	17724	34	29	57	55	92	76			0
02	17725	29	25	54	56	84	49			0
03										
04										
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QC LIMITS

S1 (2FP) = 2-Fluorophenol (21-110)
 S2 (PHL) = Phenol-d6 (10-110)
 S3 (NBZ) = Nitrobenzene-d5 (35-114)
 S4 (FBP) = 2-Fluorobiphenyl (43-116)
 S5 (TBP) = 2,4,6-Tribromophenol (10-123)
 S6 (TPH) = Terphenyl-d14 (33-141)

Column to be used to flag recovery values
 * Values outside of contract required QC limits
 D Surrogate diluted out

FORM 3
WATER SEMIVOLATILE LAB CONTROL SAMPLE

Lab Name: MOUNTAIN STATES

Contract:

Lab Code: MSAI

Case No.:

SAS No.:

SDG No.: 980112C

Matrix Spike - Sample No.: SBLK

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Phenol	100	0.00	32.0	32	5-112
2-Chlorophenol	100	0.00	71.1	71	23-134
1,4-Dichlorobenzene	100	0.00	55.4	55	20-124
N-Nitrosodi-N-propylami	100	0.00	86.6	87	1-230
1,2,4-Trichlorobenzene	100	0.00	60.4	60	44-142
4-Chloro-3-methylphenol	100	0.00	75.8	76	22-147
Acenaphthene	100	0.00	77.1	77	47-145
4-Nitrophenol	100	0.00	28.0	28	1-132
2,4-Dinitrotoluene	100	0.00	87.9	88	39-139
Pentachlorophenol	100	0.00	64.0	64	14-176
Pyrene	100	0.00	89.2	89	52-115

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC #	% RPD #	QC LIMITS RPD	REC.
Phenol	100	31.8	32	0	42	5-112
2-Chlorophenol	100	70.6	71	0	40	23-134
1,4-Dichlorobenzene	100	55.6	56	2	28	20-124
N-Nitrosodi-N-propylami	100	86.3	86	1	38	1-230
1,2,4-Trichlorobenzene	100	61.5	62	3	28	44-142
4-Chloro-3-methylphenol	100	75.2	75	1	42	22-147
Acenaphthene	100	76.5	76	1	31	47-145
4-Nitrophenol	100	29.3	29	4	50	1-132
2,4-Dinitrotoluene	100	91.2	91	3	38	39-139
Pentachlorophenol	100	65.3	65	2	50	14-176
Pyrene	100	90.2	90	1	31	52-115

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 11 outside limits

Spike Recovery: 0 out of 22 outside limits

COMMENTS:

CHAIN OF CUSTODY RECORD

6785

ON SITE

TECHNOLOGIES, LTD. 657 W. Maple • P. O. Box 2606 • Farmington NM 87499
LAB: (505) 325-5667 • FAX: (505) 325-6256

Date: 12/23/97

Page 1 of 21

TO MSA 1

Purchase Order No.: 6093		Job No.	
Name ACCOUNTS PAY.		Title	
Company ON SITE		Company ON SITE TECH	
Address		Mailing Address	
City, State, Zip		City, State, Zip	
Telephone No. 505 325-2432		Telefax No. 6256	

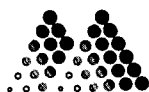
SEND INVOICE TO		REPORT RESULTS TO	
Name		Name	
Company		Company	
Address		Mailing Address	
City, State, Zip		City, State, Zip	
Telephone No.		Telefax No.	

Sampling Location: THRIFTWAY REFINERY		ANALYSIS REQUESTED	
Sampler: KS			
SAMPLE IDENTIFICATION		LAB ID	
DATE	TIME		
12/21/97	1520	17212-6093	
1555		17213-	
1447		17214-	
1345		17215-	
1630		17216-	
1650		17217-	
1130		17220-	
1215		17221-	
1040		17222-	
12/19/97	1540	17223- ✓	
12/21/97	0950	17224-6096	
12/19/97	1630	17225- ✓	

Relinquished by: [Signature]		Received by: J.V. Seeger	
Date/Time		Date/Time 12/24/97 1030	
Relinquished by:		Received by:	
Date/Time		Date/Time	
Relinquished by:		Received by:	
Date/Time		Date/Time	
Method of Shipment:		Special Instructions:	
Authorized by: [Signature]		Date 12/23/97	
(Client Signature Must Accompany Request)			

Distribution: White - On Site Yellow - LAB Pink - Sampler Goldenrod - Client

RECEIVED JAN 21 1998 @



Mountain States Analytical, Inc.

The Quality Solution

January 19, 1998

Mr. David Cox
On Site Technologies, Ltd.
612 E Murray Drive
Farmington, NM 87401

Reference:

Project: Thriftway Refinery
MSAI Group: 19167

Dear Mr. Cox:

Enclosed are the analytical results for your project referenced above. The following samples are included in the report.

17241-6094
17244-6094

17243-6094
17245-6094

All holding times were met for the tests performed on these samples.

If the report is acceptable, please approve the enclosed invoice and forward it for payment.

Thank you for selecting Mountain States Analytical, Inc. to serve as your analytical laboratory on this project. If you have any questions concerning these results, please feel free to contact me at any time.

We look forward to working with you on future projects.

With Regards,

Rolf E. Larsen
Project Manager

10
Years of
Quality
Service

Corporate Office
1645 West 2200 South, Salt Lake City, Utah 84119
801-973-0050 • 1-800-973-6724(MSAI) • FAX 801-972-6278
e-mail: service@msailabs.com

Southwest States Region
6223 Bayonne, Spring, Texas 77389
281-320-2842 • FAX 281-320-0989
e-mail: gbrewer@msailabs.com



Analysis Batch Number: ICPWA-01/02/98-001 -3
 Test Identification : ICPWA-*Metals by ICP
 Number of Samples : 7
 Batch Data-Date/Time : 01/06/98 / 14:23:18

Sequence : DATE002

*Done for Metals**01/06/98*

BLANK#	ANALYTE	CONC FOUND #	CONC LIMIT
19182-73445	Silver	0.0020	0.0060
	Calcium	0.0842	0.4000
	Cadmium	ND	0.0040
	Chromium	0.0019	0.0100
	Iron	ND	0.2000
	Potassium	0.0492	0.1000
	Magnesium	0.0129	0.0500
	Sodium	0.0681	0.2000
	Lead	ND	0.0400
	Selenium	0.0149	0.0700
19182-73445-2	Silver	0.0020	0.0060
	Calcium	0.0842	0.4000
	Cadmium	ND	0.0040
	Chromium	0.0019	0.0100
	Iron	ND	0.2000
	Potassium	0.0492	0.1000
	Magnesium	0.0129	0.0500
	Sodium	0.0681	0.2000
	Lead	ND	0.0400
	Selenium	0.0149	0.0700

						QC LIMITS	
SAMPLE#	ANALYTE	CONC ADDED	CONC SAMPLE	CONC SPIKE	% REC #	LOWER	UPPER
19182-73444	Silver	0.0500	0.0033	0.0519	97.2	80.0	120.0
	Calcium	2.0000	68.5199	70.2087	84.4	80.0	120.0
	Cadmium	0.0500	0.0018	0.0488	94.0	80.0	120.0
	Chromium	0.2000	0.0065	0.2036	98.6	80.0	120.0
	Iron	1.0000	0.0254	0.9836	95.8	80.0	120.0
	Potassium	10.0000	1.7273	11.8861	101.6	80.0	120.0
	Magnesium	2.0000	22.0140	24.1802	108.3	80.0	120.0
	Sodium	3.0000	51.6995	56.4517	158.4(2h)	80.0	120.0
	Lead	0.5000	-0.0183	0.4817	100.0	80.0	120.0
	Selenium	2.0000	0.0167	2.0017	99.3	80.0	120.0

						QC LIMITS			
SAMPLE#	ANALYTE	CONC ADDED	CONC SAMPLE	RESULT 2	%REC2 #	LOWER	UPPER	RPD #	LIMIT
19182-73444	Silver	0.0500	0.0033	0.0492	91.8	80.0	120.0	5.3	20.0
	Calcium	2.0000	68.5199	68.6243	5.2(2k)	80.0	120.0	2.3(8a)	20.0
	Cadmium	0.0500	0.0018	0.0481	92.6	80.0	120.0	1.4	20.0
	Chromium	0.2000	0.0065	0.1983	95.9	80.0	120.0	2.6	20.0
	Iron	1.0000	0.0254	0.9863	96.1	80.0	120.0	0.3	20.0
	Potassium	10.0000	1.7273	11.5840	98.6	80.0	120.0	2.6	20.0
	Magnesium	2.0000	22.0140	23.6075	79.7(2k)	80.0	120.0	2.4(8a)	20.0
	Sodium	3.0000	51.6995	54.8495	105.0	80.0	120.0	2.9(2h)	20.0
	Lead	0.5000	-0.0183	0.4750	98.7	80.0	120.0	1.4	20.0
	Selenium	2.0000	0.0167	1.8412	91.2	80.0	120.0	8.4	20.0

Analysis Batch Number: ICPWA-01/02/98-001 -3

Test Identification : ICPWA-*Metals by ICP

Sequence : DATE002

Number of Samples : 7

Batch Data-Date/Time : 01/06/98 / 14:23:18

DUPLICATE

SAMPLE#	ANALYTE	RESULT 1	RESULT 2	RPD #	LIMIT	DILUTION
19182-73444	Silver	0.0033	0.0001	188.2(11)	20.0	1.00
	Calcium	68.5199	71.2596	3.9	20.0	1.00
	Cadmium	0.0018	0.0000	200.0(11)	20.0	1.00
	Chromium	0.0065	0.0052	22.2(11)	20.0	1.00
	Iron	0.0254	0.0000	200.0(11)	20.0	1.00
	Potassium	1.7273	1.8000	4.1	20.0	1.00
	Magnesium	22.0140	23.1677	5.1	20.0	1.00
	Sodium	51.6995	55.9581	7.9	20.0	1.00
	Lead	-0.0183	0.0009	220.7(11)	20.0	1.00
	Selenium	0.0167	0.0044	116.6(11)	20.0	1.00

CONTROL

SAMPLE#	ANALYTE	CONC FOUND	CONC KNOWN	% REC #	QC LIMITS	
					LOWER	UPPER
19182-73446	Silver	0.0520	0.0500	104.0	80.0	120.0
	Calcium	2.3591	2.0000	118.0	80.0	120.0
	Cadmium	0.0495	0.0500	99.0	80.0	120.0
	Chromium	0.1983	0.2000	99.1	80.0	120.0
	Iron	1.0551	1.0000	105.5	80.0	120.0
	Potassium	9.4192	10.0000	94.2	80.0	120.0
	Magnesium	1.9875	2.0000	99.4	80.0	120.0
	Sodium	3.0208	3.0000	100.7	80.0	120.0
	Lead	0.4925	0.5000	98.5	80.0	120.0
	Selenium	1.9309	2.0000	96.5	80.0	120.0
19182-73446-2	Silver	0.0520	0.0500	104.0	80.0	120.0
	Calcium	2.3591	2.0000	118.0	80.0	120.0
	Cadmium	0.0495	0.0500	99.0	80.0	120.0
	Chromium	0.1983	0.2000	99.1	80.0	120.0
	Iron	1.0551	1.0000	105.5	80.0	120.0
	Potassium	9.4192	10.0000	94.2	80.0	120.0
	Magnesium	1.9875	2.0000	99.4	80.0	120.0
	Sodium	3.0208	3.0000	100.7	80.0	120.0
	Lead	0.4925	0.5000	98.5	80.0	120.0
	Selenium	1.9309	2.0000	96.5	80.0	120.0

QC LIMITS

CCV #	ANALYTE	TRUE VALUE	BATCH READ	% REC #	LOWER	UPPER
ICV-	Silver	0.4000	0.4116	102.9	90.0	110.0
	Calcium	40.0000	39.7571	99.4	90.0	110.0
	Cadmium	4.0000	3.8886	97.2	90.0	110.0
	Chromium	4.0000	3.9700	99.3	90.0	110.0
	Iron	4.0000	3.8885	97.2	90.0	110.0
	Potassium	40.0000	38.3963	96.0	90.0	110.0
	Magnesium	20.0000	19.7082	98.5	90.0	110.0
	Sodium	40.0000	39.1488	97.9	90.0	110.0
	Lead	20.0000	19.1308	95.7	90.0	110.0
	Selenium	1.6000	1.5940	99.6	90.0	110.0
CCV1--2	Silver	0.4000	0.4160	104.0	90.0	110.0
	Calcium	40.0000	39.8485	99.6	90.0	110.0
	Cadmium	4.0000	3.8882	97.2	90.0	110.0

Analysis Batch Number: ICPWA-01/02/98-001 -3

Test Identification : ICPWA-*Metals by ICP

Sequence : DATE002

Number of Samples : 7

Batch Data-Date/Time : 01/06/98 / 14:23:18

CCV #	ANALYTE	TRUE VALUE	BATCH READ	QC LIMITS	
				% REC #	LOWER UPPER
CCV1--2	Chromium	4.0000	3.9684	99.2	90.0 110.0
	Iron	4.0000	3.9647	99.1	90.0 110.0
	Potassium	40.0000	39.8060	99.5	90.0 110.0
	Magnesium	20.0000	19.8419	99.2	90.0 110.0
	Sodium	40.0000	40.1231	100.3	90.0 110.0
	Lead	20.0000	19.1267	95.6	90.0 110.0
	Selenium	1.6000	1.5542	97.1	90.0 110.0
CCV2--3	Silver	0.4000	0.4137	103.4	90.0 110.0
	Calcium	40.0000	40.8265	102.1	90.0 110.0
	Cadmium	4.0000	3.9953	99.9	90.0 110.0
	Chromium	4.0000	4.0145	100.4	90.0 110.0
	Iron	4.0000	3.9484	98.7	90.0 110.0
	Potassium	40.0000	38.2453	95.6	90.0 110.0
	Magnesium	20.0000	19.7715	98.9	90.0 110.0
	Sodium	40.0000	37.8269	94.6	90.0 110.0
	Lead	20.0000	19.7050	98.5	90.0 110.0
	Selenium	1.6000	1.6495	103.1	90.0 110.0
CCV3--4	Silver	0.4000	0.4045	101.1	90.0 110.0
	Calcium	40.0000	39.1954	98.0	90.0 110.0
	Cadmium	4.0000	3.8160	95.4	90.0 110.0
	Chromium	4.0000	3.8913	97.3	90.0 110.0
	Iron	4.0000	3.9014	97.5	90.0 110.0
	Potassium	40.0000	38.3236	95.8	90.0 110.0
	Magnesium	20.0000	19.4544	97.3	90.0 110.0
	Sodium	40.0000	38.2755	95.7	90.0 110.0
	Lead	20.0000	18.8574	94.3	90.0 110.0
	Selenium	1.6000	1.5339	95.9	90.0 110.0

CCB#	ANALYTE	CONC FOUND #	CONC LIMIT
ICB-	Silver	0.0037	0.0060
	Calcium	ND	0.4000
	Cadmium	ND	0.0040
	Chromium	0.0037	0.0100
	Iron	ND	0.2000
	Potassium	0.0268	0.1000
	Magnesium	ND	0.0500
	Sodium	0.0020	0.2000
	Lead	ND	0.0400
	Selenium	0.0018	0.0700
CCB1-	Silver	0.0036	0.0060
	Calcium	0.0132	0.4000
	Cadmium	0.0011	0.0040
	Chromium	0.0059	0.0100
	Iron	0.0143	0.2000
	Potassium	0.0604	0.1000
	Magnesium	0.0072	0.0500
	Sodium	0.0184	0.2000
	Lead	0.0316	0.0400
	Selenium	0.0226	0.0700

Analysis Batch Number: ICPWA-01/02/98-001 -3

Test Identification : ICPWA-*Metals by ICP

Sequence : DATE002

Number of Samples : 7

Batch Data-Date/Time : 01/06/98 / 14:23:18

CCB#	ANALYTE	CONC FOUND #	CONC LIMIT
CCB2-	Silver	0.0026	0.0060
	Calcium	0.0236	0.4000
	Cadmium	0.0015	0.0040
	Chromium	0.0060	0.0100
	Iron	ND	0.2000
	Potassium	0.0995	0.1000
	Magnesium	0.0071	0.0500
	Sodium	ND	0.2000
	Lead	0.0037	0.0400
	Selenium	0.0036	0.0700
	Silver	ND	0.0060
CCB3-	Calcium	0.0504	0.4000
	Cadmium	0.0028	0.0040
	Chromium	0.0037	0.0100
	Iron	ND	0.2000
	Potassium	0.0324	0.1000
	Magnesium	0.0233	0.0500
	Sodium	ND	0.2000
	Lead	0.0013	0.0400
	Selenium	0.0127	0.0700

----- Result Footnotes -----

- (2h) - Sample concentration >4X spk added. PDS was recovered within limits.
(2k) - Sample concentration >4X spk added. Serial dillution was recovered within 10% limits.
(8a) - See comments below.
(11) - The duplicate results cannot be evaluated because both results are <MDL.

----- Batch Notes -----

RPD is acceptable.
jdb

Groups & Samples

19167-73408 19167-73409 19167-73410 19167-73411 19182-73444 19182-73445 19182-73446 19183-73448
19183-73449

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

16719
19167

EPA SAMPLE NO.

SBLK1

Lab Name: MOUNTAIN STATES

Contract:

Lab Code: MSAI

Case No.:

SAS No.:

SDG No.: 980117A

Matrix: (soil/water) WATER

Lab Sample ID: 971230WB

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: Z1350

Level: (low/med) LOW

Date Received: _____

% Moisture: _____ decanted: (Y/N) _____

Date Extracted:

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 01/17/98

Injection Volume: 1.0(uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
---------	----------	--	---

91-20-3-----	Naphthalene	10.0	U
91-57-6-----	2-Methylnaphthalene	10.0	U
208-96-8-----	Acenaphthylene	10.0	U
83-32-9-----	Acenaphthene	10.0	U
86-73-7-----	Fluorene	10.0	U
85-01-8-----	Phenanthrene	10.0	U
120-12-7-----	Anthracene	10.0	U
206-44-0-----	Fluoranthene	10.0	U
129-00-0-----	Pyrene	10.0	U
56-55-3-----	Benz (a) anthracene	10.0	U
218-01-9-----	Chrysene	10.0	U
205-99-2-----	Benzo(b) fluoranthene	10.0	U
207-08-9-----	Benzo(k) fluoranthene	10.0	U
50-32-8-----	Benzo(a) pyrene	10.0	U
193-39-5-----	Indeno(1,2,3-cd) pyrene	10.0	U
53-70-3-----	Dibenz(a,h) anthracene	10.0	U
191-24-2-----	Benzo(ghi) perylene	10.0	U

2C
WATER SEMIVOLATILE SURROGATE RECOVERY

Lab Name: MOUNTAIN STATES

Contract:

Lab Code: MSAI

Case No.:

SAS No.:

SDG No.: 980117A

	EPA SAMPLE NO.	S1 (2FP) #	S2 (PHL) #	S3 (NBZ) #	S4 (FBP) #	S5 (TBP) #	S6 (TPH) #	S7 #	S8 #	TOT OUT
01	SBLK1	62	43	92	67	78	108			0
02										
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QC LIMITS

S1 (2FP) = 2-Fluorophenol (21-110)
 S2 (PHL) = Phenol-d6 (10-110)
 S3 (NBZ) = Nitrobenzene-d5 (35-114)
 S4 (FBP) = 2-Fluorobiphenyl (43-116)
 S5 (TBP) = 2,4,6-Tribromophenol (10-123)
 S6 (TPH) = Terphenyl-d14 (33-141)

Column to be used to flag recovery values
 * Values outside of contract required QC limits
 D Surrogate diluted out

2C
WATER SEMIVOLATILE SURROGATE RECOVERY

Lab Name: MOUNTAIN STATES

Contract:

Lab Code: MSAI

Case No.:

SAS No.:

SDG No.: 980115C

	EPA SAMPLE NO.	S1 (2FP) #	S2 (PHL) #	S3 (NBZ) #	S4 (FBP) #	S5 (TBP) #	S6 (TPH) #	S7 #	S8 #	TOT OUT
01	17241	25	25	59	59	51	56			0
02	17243	28	28	52	58	85	79			0
03	17244	20*	28	56	58	104	88			1
04	17245	23	24	44	52	77	63			0
05										
06										
07										
08										
09										
10										
11										
12										
13										
14										
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16										
17										
18										
19										
20										
21										
22										
23										
24										
25										
26										
27										
28										
29										
30										

QC LIMITS

S1 (2FP) = 2-Fluorophenol (21-110)
 S2 (PHL) = Phenol-d6 (10-110)
 S3 (NBZ) = Nitrobenzene-d5 (35-114)
 S4 (FBP) = 2-Fluorobiphenyl (43-116)
 S5 (TBP) = 2,4,6-Tribromophenol (10-123)
 S6 (TPH) = Terphenyl-d14 (33-141)

Column to be used to flag recovery values
 * Values outside of contract required QC limits
 D Surrogate diluted out

2C
WATER SEMIVOLATILE SURROGATE RECOVERY

Lab Name: MOUNTAIN STATES

Contract:

Lab Code: MSAI

Case No.:

SAS No.:

SDG No.: 980106A

	EPA SAMPLE NO.	S1 (2FP) #	S2 (PHL) #	S3 (NBZ) #	S4 (FBP) #	S5 (TBP) #	S6 (TPH) #	S7 #	S8 #	TOT OUT
01	BLK2	74	52	105	84	3*	92			1
02	BLK2LCS	69	44	104	82	30	91			0
03	BLK2LCSD	66	42	100	80	46	88			0
04										
05										
06										
07										
08										
09										
10										
11										
12										
13										
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26										
27										
28										
29										
30										

QC LIMITS

S1 (2FP) = 2-Fluorophenol (21-110)
 S2 (PHL) = Phenol-d6 (10-110)
 S3 (NBZ) = Nitrobenzene-d5 (35-114)
 S4 (FBP) = 2-Fluorobiphenyl (43-116)
 S5 (TBP) = 2,4,6-Tribromophenol (10-123)
 S6 (TPH) = Terphenyl-d14 (33-141)

Column to be used to flag recovery values
 * Values outside of contract required QC limits
 D Surrogate diluted out

FORM 3
WATER SEMIVOLATILE LAB CONTROL SAMPLE

Lab Name: MOUNTAIN STATES

Contract:

Lab Code: MSAI

Case No.:

SAS No.:

SDG No.: 980106A

Matrix Spike - Sample No.: BLK2

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Phenol	100	0.00	41.2	41	5-112
2-Chlorophenol	100	0.00	82.5	82	23-134
1,4-Dichlorobenzene	100	0.00	58.9	59	20-124
N-Nitrosodi-N-propylami	100	0.00	109	109	1-230
1,2,4-Trichlorobenzene	100	0.00	53.4	53	44-142
4-Chloro-3-methylphenol	100	0.00	82.8	83	22-147
Acenaphthene	100	0.00	90.0	90	47-145
4-Nitrophenol	100	0.00	0.00	0*	1-132
2,4-Dinitrotoluene	100	0.00	90.8	91	39-139
Pentachlorophenol	100	0.00	0.00	0*	14-176
Pyrene	100	0.00	103	103	52-115

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC #	% RPD #	QC LIMITS RPD	REC.
Phenol	100	38.3	38	8	42	5-112
2-Chlorophenol	100	81.3	81	1	40	23-134
1,4-Dichlorobenzene	100	53.5	54	9	28	20-124
N-Nitrosodi-N-propylami	100	100	100	9	38	1-230
1,2,4-Trichlorobenzene	100	46.7	47	12	28	44-142
4-Chloro-3-methylphenol	100	83.0	83	0	42	22-147
Acenaphthene	100	84.6	85	6	31	47-145
4-Nitrophenol	100	0.00	0*		50	1-132
2,4-Dinitrotoluene	100	91.0	91	0	38	39-139
Pentachlorophenol	100	2.9	3*		50	14-176
Pyrene	100	97.0	97	6	31	52-115

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 11 outside limits

Spike Recovery: 4 out of 22 outside limits

COMMENTS: 4-Nitrophenol & Pentachlorophenol are not target compounds

MOUNTAIN STATES ANALYTICAL

```
=====
|Data File   : C:\PEAKNET\DATA\data0003.D28   Report Date: 1/9/98 1:24:26 PM |
|Sample Name: LRB                               Collected  : 1/9/98 1:15:50 PM |
|Inject #    : 28                               Vial #       :                |
|Method File: c:\peaknet\method\as14low.met   Calibrated   : 1/8/98 5:12:36 PM |
|System Name: IC                               Detector    : CD20              |
|Column Type: AS14+AG14 (Both 4mm)           Operator    : TE M 01/09/98 |
|Data Points: 2520                             Rate       : 5.00 Hz              |
|Module Name: DETECTOR                         Moduleware  : 1.17              |
=====
```

```
-----
Calibration Volume Dilution Start Stop Area Reject Pk. Width Threshold
-----
External          1          1    0.00  8.40          750      10.00      0.50
-----
```

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration mg/l	Area	Peak Start	Peak End	% Delta
0	0.00	Fluoride	0.000	0	0.00	0.00	0.00
1	3.05	Chloride	0.033	3770	2.87	3.18	0.66
0	0.00	Nitrite	0.000	0	0.00	0.00	0.00
0	0.00	Bromide	0.000	0	0.00	0.00	0.00
0	0.00	Nitrate	0.000	0	0.00	0.00	0.00
0	0.00	O-phos	0.000	0	0.00	0.00	0.00
0	0.00	Sulfate	0.000	0	0.00	0.00	0.00
Totals			0.033	3770			

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration mg/l	Area	Peak Start	Peak End	% Delta
Totals			0.000	0			

3A
WATER ANION SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: MOUNTAIN STATES ANALYTICAL Contract: _____
 Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: _____
 Matrix Spike - MSAI Sample No.: 73366 Date Analyzed: 01/09/98

COMPOUND	SPIKE ADDED (mg/l)	SAMPLE CONCENTRATION (mg/l)	MS CONCENTRATION (mg/l)	MS % REC #	QC. LIMITS REC.
FLUORIDE	200.0	0.0	180.4	90.2	80 120
CHLORIDE	400.0	149.4	557.5	102.0	80 120
BROMIDE	800.0	1.9	795.6	99.2	80 120
SULFATE	800.0	2338.6	3138.4	100.0	80 120

COMPOUND	SPIKE ADDED (mg/l)	MSD CONCENTRATION (mg/l)	MSD % REC #	% RPD #	QC LIMITS RPD REC.
FLUORIDE	200.0	180.0	90.0	0.2	20.0 80 120
CHLORIDE	400.0	562.8	103.3	1.0	20.0 80 120
BROMIDE	800.0	801.2	99.9	0.7	20.0 80 120
SULFATE	800.0	3126.3	98.46	0.4	20.0 80 120

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of in-house QC limits

RPD: 0 out of 4 outside of in-house QC limits
 Spike Recovery: 0 out of 8 outside of in-house QC limits

Comments: _____

3A
WATER ANION SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: MOUNTAIN STATES ANALYTICAL Contract: _____

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix Spike - MSAI Sample No.: LFB Date Analyzed: 01/09/98

COMPOUND	SPIKE ADDED (mg/l)	SAMPLE CONCENTRATION (mg/l)	LFB CONCENTRATION (mg/l)	LFB % REC #	QC. LIMITS REC.
FLOURIDE	100.0	0.0	92.7	92.7	90 110
CHLORIDE	200.0	0.0	188.4	94.2	90 110
BROMIDE	400.0	0.0	395.0	98.8	90 110
SULFATE	400.0	0.0	362.3	90.6	90 110

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of in-house QC limits

Spike Recovery: 0 out of 4 outside of in-house QC limits

Comments: _____

CHAIN OF CUSTODY RECORD

6786

ON SITE

TECHNOLOGIES, LTD. 657 W. Maple • P. O. Box 2606 • Farmington NM 87499
LAB: (505) 325-5667 • FAX: (505) 325-6256

Date: 12/26/97 Page 1 of 1

Purchase Order No.: 6094		Job No.	
Name ACCOUNTS PAY		Title	
Company ON SITE		Company ON SITE TECH	
Address		Mailing Address	
City, State, Zip		City, State, Zip	
Telephone No. 505 325-2432		Telefax No. 325-6256	
Sampling Location: THURIFTHAY REFINERY		ANALYSIS REQUESTED	
Sampler: KS			
SAMPLE IDENTIFICATION		LAB ID	
DATE TIME			
12/26/97 12:40		17241-6094	
1345		17243-	
1040		17244-	
1122		17245-	
		all HMO3 pH22	
		picu, 12/21/97	
RELINQUISHED BY:		Date/Time 12/27/97 0950	
RELINQUISHED BY:		Date/Time	
RELINQUISHED BY:		Date/Time	
Method of Shipment: Fed-x Sat. delivery		Special Instructions:	
Authorized by: [Signature]		Date 12/26/97	

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: *Terry Griffin*
Company: *BioTech Remediation*
Address: *710 E 20th Street, Suite 400*
City, State: *Farmington, NM 87401*

Date: *5-Jan-98*
COC No.: *6094*
Sample No.: *17241*
Job No.: *2-1000*

Project Name: *Thriftway Refinery Bloomfield, NM*
Project Location: *MW-1*
Sampled by: *KS* Date: *23-Dec-97* Time: *12:40*
Analyzed by: *DC* Date: *31-Dec-97*
Sample Matrix: *Liquid*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	<i>58.7</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>Toluene</i>	<i>1.6</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>Ethylbenzene</i>	<i>4.9</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>m,p-Xylene</i>	<i>25.5</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>o-Xylene</i>	<i>2.0</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>TOTAL</i>	<i>92.7</i>	<i>ug/L</i>		

ND - Not Detected at Limit of Quantitation

Method - SW-846 EPA Method 8020A Aromatic Volatile Organics by Gas Chromatography

Approved By: *JAC*

Date: *1/5/98*

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: *Terry Griffin*
 Company: *BioTech Remediation*
 Address: *710 E 20th Street, Suite 400*
 City, State: *Farmington, NM 87401*

Date: *14-Jan-98*
 COC No.: *6094*
 Sample ID.: *17241*
 Job No.: *2-1000*

Project Name: ***Thriftway Refinery Bloomfield, NM***Project Location: ***MW-1***Sampled by: *KS* Date: *23-Dec-97* Time: *12:40*Analyzed by: *HR* Date: *12-Jan-98***Laboratory Analysis**

Parameter	Results as Received	Unit of Measure	Results as Received	Unit of Measure
<i>Cations</i>				
Sodium <i>Na</i>	645	mg/L	28.06	me/L
Calcium <i>Ca</i>	458	mg/L	22.86	me/L
Magnesium <i>Mg</i>	34.0	mg/L	2.80	me/L
Potassium <i>K</i>	5.2	mg/L	0.13	me/L
<i>Anions</i>				
Chloride <i>Cl</i>	47.2	mg/L	1.33	me/L
Sulfate <i>SO4</i>	2495	mg/L	51.94	me/L
Carbonate <i>CO3 as CaCO3</i>	< 1	mg/L	< 0.01	me/L
Bicarbonate <i>HCO3 as CaCO3</i>	289	mg/L	4.74	me/L
Hydroxide <i>OH as CaCO3</i>	< 1	mg/L	< 0.01	me/L
<i>Total Dissolved Solids</i>				
Calculated, Sum of Cation/Anion	3973	mg/L	<i>Cation-Anion Balance</i> 4.17 Difference Cation-Anion, me/L 111.85 Total Cation-Anion, me/L 3.7 % Difference Cation-Anion <i>Comments</i>	
Total Dissolved Solids Dried @ 180 C	4024	mg/L		
pH	7.06			
Conductivity @ 25 C	4290	uS/cm		
Total Hardness as CaCO3	1284	mg/L		

Approved by: *[Signature]*
 Date: *1/15/98*

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: *Terry Griffin*
Company: *BioTech Remediation*
Address: *710 E 20th Street, Suite 400*
City, State: *Farmington, NM 87401*

Date: *5-Jan-98*
COC No.: *6096*
Sample No.: *17224*
Job No.: *2-1000*

Project Name: *Thriftway Refinery Bloomfield, NM*
Project Location: *MW-4*
Sampled by: *KS* Date: *22-Dec-97* Time: *9:50*
Analyzed by: *DC* Date: *30-Dec-97*
Sample Matrix: *Liquid*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	<i>3.8</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>Toluene</i>	<i>3.1</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>Ethylbenzene</i>	<i>3.0</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>m,p-Xylene</i>	<i>0.9</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>o-Xylene</i>	<i>0.4</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>TOTAL</i>	<i>11.2</i>	<i>ug/L</i>		

ND - Not Detected at Limit of Quantitation

Method - SW-846 EPA Method 8020A Aromatic Volatile Organics by Gas Chromatography

Approved By: *[Signature]*
Date: *1/5/98*

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: *Terry Griffin*
 Company: *BioTech Remediation*
 Address: *710 E 20th Street, Suite 400*
 City, State: *Farmington, NM 87401*

Date: *14-Jan-98*
 COC No.: *6096*
 Sample ID.: *17224*
 Job No.: *2-1000*

Project Name: ***Thriftway Refinery Bloomfield, NM***
 Project Location: ***MW-4***
 Sampled by: *KS*
 Analyzed by: *HR*

Date: *22-Dec-97* Time: *9:50*
 Date: *12-Jan-98*

Laboratory Analysis

Parameter	Results as Received	Unit of Measure	Results as Received	Unit of Measure
<i>Cations</i>				
<i>Sodium Na</i>	648	mg/L	28.19	me/L
<i>Calcium Ca</i>	96	mg/L	4.79	me/L
<i>Magnesium Mg</i>	31.0	mg/L	2.55	me/L
<i>Potassium K</i>	6.7	mg/L	0.17	me/L
<i>Anions</i>				
<i>Chloride Cl</i>	116	mg/L	3.27	me/L
<i>Sulfate SO4</i>	875	mg/L	18.22	me/L
<i>Carbonate CO3 as CaCO3</i>	< 1	mg/L	< 0.01	me/L
<i>Bicarbonate HCO3 as CaCO3</i>	914	mg/L	14.98	me/L
<i>Hydroxide OH as CaCO3</i>	< 1	mg/L	< 0.01	me/L
<i>Total Dissolved Solids Calculated, Sum of Cation/Anion</i>	2687	mg/L	<i>Cation-Anion Balance</i> 0.77 Difference Cation-Anion, me/L 72.17 Total Cation-Anion, me/L 1.1 % Difference Cation-Anion <i>Comments</i>	
<i>Total Dissolved Solids Dried @ 180 C</i>	2458	mg/L		
<i>pH</i>	7.29			
<i>Conductivity @ 25 C</i>	3270	uS/cm		
<i>Total Hardness as CaCO3</i>	367	mg/L		

Approved by: *[Signature]*
 Date: *1/15/98*

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: *Terry Griffin*
Company: *BioTech Remediation*
Address: *710 E 20th Street, Suite 400*
City, State: *Farmington, NM 87401*

Date: *5-Jan-98*
COC No.: *6096*
Sample No.: *17225*
Job No.: *2-1000*

Project Name: *Thriftway Refinery Bloomfield, NM*
Project Location: *MW-5*
Sampled by: *KS*
Analyzed by: *DC*
Sample Matrix: *Liquid*

Date: *19-Dec-97* Time: *16:30*
Date: *30-Dec-97*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	<i>8.6</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>Toluene</i>	<i>0.3</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>Ethylbenzene</i>	<i>0.4</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>m,p-Xylene</i>	<i>ND</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>o-Xylene</i>	<i>ND</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>TOTAL</i>	<i>9.3</i>	<i>ug/L</i>		

ND - Not Detected at Limit of Quantitation

Method - *SW-846 EPA Method 8020A Aromatic Volatile Organics by Gas Chromatography*

Approved By: *[Signature]*
Date: *1/5/98*

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: *Terry Griffin*
 Company: *BioTech Remediation*
 Address: *710 E 20th Street, Suite 400*
 City, State: *Farmington, NM 87401*

Date: *14-Jan-98*
 COC No.: *6096*
 Sample ID.: *17225*
 Job No.: *2-1000*

Project Name: ***Thriftway Refinery Bloomfield, NM***Project Location: ***MW-5***Sampled by: ***KS***Date: ***19-Dec-97*** Time: ***16:30***Analyzed by: ***HR***Date: ***12-Jan-98*****Laboratory Analysis**

Parameter	Results as Received	Unit of Measure	Results as Received	Unit of Measure
Cations				
Sodium <i>Na</i>	1325	mg/L	57.63	me/L
Calcium <i>Ca</i>	37	mg/L	1.87	me/L
Magnesium <i>Mg</i>	7.2	mg/L	0.59	me/L
Potassium <i>K</i>	7.0	mg/L	0.18	me/L
Anions				
Chloride <i>Cl</i>	385	mg/L	10.86	me/L
Sulfate <i>SO4</i>	1798	mg/L	37.43	me/L
Carbonate <i>CO3 as CaCO3</i>	< 1	mg/L	< 0.01	me/L
Bicarbonate <i>HCO3 as CaCO3</i>	868	mg/L	14.23	me/L
Hydroxide <i>OH as CaCO3</i>	< 1	mg/L	< 0.01	me/L
Total Dissolved Solids				
Calculated, Sum of Cation/Anion	4428	mg/L	Cation-Anion Balance 2.25 Difference Cation-Anion, me/L 122.79 Total Cation-Anion, me/L 1.8 % Difference Cation-Anion Comments	
Total Dissolved Solids Dried @ 180 C	4132	mg/L		
pH	8.39			
Conductivity @ 25 C	5690	uS/cm		
Total Hardness as CaCO3	123	mg/L		

Approved by: *[Signature]*
 Date: *1/15/98*

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: *Terry Griffin*
Company: *BioTech Remediation*
Address: *710 E 20th Street, Suite 400*
City, State: *Farmington, NM 87401*

Date: *5-Jan-98*
COC No.: *6094*
Sample No.: *17243*
Job No.: *2-1000*

Project Name: *Thriftway Refinery Bloomfield, NM*
Project Location: *MW-6*
Sampled by: *KS*
Analyzed by: *DC*
Sample Matrix: *Liquid*

Date: *23-Dec-97* Time: *13:45*
Date: *30-Dec-97*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	ND	ug/L	0.2	ug/L
<i>Toluene</i>	ND	ug/L	0.2	ug/L
<i>Ethylbenzene</i>	ND	ug/L	0.2	ug/L
<i>m,p-Xylene</i>	ND	ug/L	0.2	ug/L
<i>o-Xylene</i>	0.4	ug/L	0.2	ug/L
<i>TOTAL</i>	0.4	ug/L		

ND - Not Detected at Limit of Quantitation

Method - *SW-846 EPA Method 8020A Aromatic Volatile Organics by Gas Chromatography*

Approved By: *[Signature]*
Date: *1/5/98*

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: *Terry Griffin*
 Company: *BioTech Remediation*
 Address: *710 E 20th Street, Suite 400*
 City, State: *Farmington, NM 87401*

Date: *14-Jan-98*
 COC No.: *6094*
 Sample ID.: *17243*
 Job No.: *2-1000*

Project Name: ***Thriftway Refinery Bloomfield, NM***Project Location: ***MW-6***Sampled by: *KS* Date: *23-Dec-97* Time: *13:45*Analyzed by: *HR* Date: *12-Jan-98***Laboratory Analysis**

Parameter	Results as Received	Unit of Measure	Results as Received	Unit of Measure
<i>Cations</i>				
Sodium <i>Na</i>	762	mg/L	33.15	me/L
Calcium <i>Ca</i>	106	mg/L	5.29	me/L
Magnesium <i>Mg</i>	15.5	mg/L	1.28	me/L
Potassium <i>K</i>	7.5	mg/L	0.19	me/L
<i>Anions</i>				
Chloride <i>Cl</i>	94.4	mg/L	2.66	me/L
Sulfate <i>SO4</i>	1314	mg/L	27.36	me/L
Carbonate <i>CO3 as CaCO3</i>	< 1	mg/L	< 0.01	me/L
Bicarbonate <i>HCO3 as CaCO3</i>	772	mg/L	12.65	me/L
Hydroxide <i>OH as CaCO3</i>	< 1	mg/L	< 0.01	me/L
<i>Total Dissolved Solids</i>				
Calculated, Sum of Cation/Anion	3071	mg/L	<i>Cation-Anion Balance</i> 2.77 Difference Cation-Anion, me/L 82.57 Total Cation-Anion, me/L 3.4 % Difference Cation-Anion	
Total Dissolved Solids				
Dried @ 180 C	2744	mg/L		
pH	7.69			
Conductivity @ 25 C	3730	uS/cm	<i>Comments</i>	
Total Hardness as CaCO3	329	mg/L		

Approved by: *[Signature]*
 Date: *1/15/98*

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: *Terry Griffin*
Company: *BioTech Remediation*
Address: *710 E 20th Street, Suite 400*
City, State: *Farmington, NM 87401*

Date: *5-Jan-98*
COC No.: *6096*
Sample No.: *17226*
Job No.: *2-1000*

Project Name: *Thriftway Refinery Bloomfield, NM*
Project Location: *MW-8*
Sampled by: *KS*
Analyzed by: *DC*
Sample Matrix: *Liquid*

Date: *22-Dec-97* Time: *12:20*
Date: *30-Dec-97*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	<i>1.2</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>Toluene</i>	<i>ND</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>Ethylbenzene</i>	<i>ND</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>m,p-Xylene</i>	<i>ND</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>o-Xylene</i>	<i>ND</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>TOTAL</i>	<i>1.2</i>	<i>ug/L</i>		

ND - Not Detected at Limit of Quantitation

Method - *SW-846 EPA Method 8020A Aromatic Volatile Organics by Gas Chromatography*

Approved By: *[Signature]*

Date: *1/5/98*

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: *Terry Griffin*
Company: *BioTech Remediation*
Address: *710 E 20th Street, Suite 400*
City, State: *Farmington, NM 87401*

Date: *5-Jan-98*
COC No.: *6093*
Sample No.: *17222*
Job No.: *2-1000*

Project Name: *Thriftway Refinery Bloomfield, NM*
Project Location: *MW-9*
Sampled by: *KS* Date: *22-Dec-97* Time: *10:40*
Analyzed by: *DC* Date: *30-Dec-97*
Sample Matrix: *Liquid*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	ND	ug/L	0.2	ug/L
<i>Toluene</i>	ND	ug/L	0.2	ug/L
<i>Ethylbenzene</i>	ND	ug/L	0.2	ug/L
<i>m,p-Xylene</i>	ND	ug/L	0.2	ug/L
<i>o-Xylene</i>	ND	ug/L	0.2	ug/L
<i>TOTAL</i>	ND	ug/L		

ND - Not Detected at Limit of Quantitation

Method - SW-846 EPA Method 8020A Aromatic Volatile Organics by Gas Chromatography

Approved By: *[Signature]*
Date: *1/5/98*

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LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: *Terry Griffin*
 Company: *BioTech Remediation*
 Address: *710 E 20th Street, Suite 400*
 City, State: *Farmington, NM 87401*

Date: *14-Jan-98*
 COC No.: *6093*
 Sample ID.: *17222*
 Job No.: *2-1000*

Project Name: ***Thriftway Refinery Bloomfield, NM***Project Location: ***MW-09***Sampled by: ***KS***Date: *22-Dec-97* Time: *10:40*Analyzed by: ***HR***Date: *12-Jan-98***Laboratory Analysis**

Parameter	Results as Received	Unit of Measure	Results as Received	Unit of Measure
<i>Cations</i>				
Sodium <i>Na</i>	1510	mg/L	65.68	me/L
Calcium <i>Ca</i>	326	mg/L	16.27	me/L
Magnesium <i>Mg</i>	28.4	mg/L	2.34	me/L
Potassium <i>K</i>	6.4	mg/L	0.16	me/L
<i>Anions</i>				
Chloride <i>Cl</i>	65.1	mg/L	1.84	me/L
Sulfate <i>SO4</i>	3936	mg/L	81.95	me/L
Carbonate <i>CO3 as CaCO3</i>	< 1	mg/L	< 0.01	me/L
Bicarbonate <i>HCO3 as CaCO3</i>	365	mg/L	5.98	me/L
Hydroxide <i>OH as CaCO3</i>	< 1	mg/L	< 0.01	me/L
<i>Total Dissolved Solids</i>				
Calculated, Sum of Cation/Anion	6237	mg/L	<i>Cation-Anion Balance</i> 5.31 Difference Cation-Anion, me/L 174.21 Total Cation-Anion, me/L 3.1 % Difference Cation-Anion <i>Comments</i>	
Total Dissolved Solids Dried @ 180 C	6398	mg/L		
pH	7.71			
Conductivity @ 25 C	7040	uS/cm		
Total Hardness as CaCO3	931	mg/L		

Approved by: *[Signature]*
 Date: *1/15/98*

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LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: *Terry Griffin*
Company: *BioTech Remediation*
Address: *710 E 20th Street, Suite 400*
City, State: *Farmington, NM 87401*

Date: *5-Jan-98*
COC No.: *6093*
Sample No.: *17220*
Job No.: *2-1000*

Project Name: *Thriftway Refinery Bloomfield, NM*
Project Location: *MW-10*
Sampled by: *KS*
Analyzed by: *DC*
Sample Matrix: *Liquid*

Date: *22-Dec-97* Time: *11:30*
Date: *30-Dec-97*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	ND	ug/L	0.2	ug/L
<i>Toluene</i>	ND	ug/L	0.2	ug/L
<i>Ethylbenzene</i>	ND	ug/L	0.2	ug/L
<i>m,p-Xylene</i>	ND	ug/L	0.2	ug/L
<i>o-Xylene</i>	ND	ug/L	0.2	ug/L
<i>TOTAL</i>	ND	ug/L		

ND - Not Detected at Limit of Quantitation

Method - *SW-846 EPA Method 8020A Aromatic Volatile Organics by Gas Chromatography*

Approved By: *[Signature]*
Date: *1/5/98*

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ANALYTICAL REPORT

Attn: *Terry Griffin*
 Company: *BioTech Remediation*
 Address: *710 E 20th Street, Suite 400*
 City, State: *Farmington, NM 87401*

Date: *14-Jan-98*
 COC No.: *6093*
 Sample ID.: *17220*
 Job No.: *2-1000*

Project Name: ***Thriftway Refinery Bloomfield, NM***Project Location: ***MW-10***Sampled by: ***KS***Date: *22-Dec-97* Time: *11:30*Analyzed by: ***HR***Date: *12-Jan-98***Laboratory Analysis**

Parameter	Results as Received	Unit of Measure	Results as Received	Unit of Measure
<i>Cations</i>				
<i>Sodium Na</i>	1455	mg/L	63.29	mc/L
<i>Calcium Ca</i>	318	mg/L	15.87	mc/L
<i>Magnesium Mg</i>	19.5	mg/L	1.60	mc/L
<i>Potassium K</i>	6.3	mg/L	0.16	mc/L
<i>Anions</i>				
<i>Chloride Cl</i>	50.6	mg/L	1.43	mc/L
<i>Sulfate SO4</i>	3747	mg/L	78.01	mc/L
<i>Carbonate CO3 as CaCO3</i>	< 1	mg/L	< 0.01	mc/L
<i>Bicarbonate HCO3 as CaCO3</i>	326	mg/L	5.34	mc/L
<i>Hydroxide OH as CaCO3</i>	< 1	mg/L	< 0.01	mc/L
<i>Total Dissolved Solids Calculated, Sum of Cation/Anion</i>	5922	mg/L	<i>Cation-Anion Balance</i> 3.86 Difference Cation-Anion, me/L 165.70 Total Cation-Anion, me/L 2.3 % Difference Cation-Anion <i>Comments</i>	
<i>Total Dissolved Solids Dried @ 180 C</i>	5970	mg/L		
<i>pH</i>	7.45			
<i>Conductivity @ 25 C</i>	6740	uS/cm		
<i>Total Hardness as CaCO3</i>	874	mg/L		

Approved by: *[Signature]*Date: *1/15/98*

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ANALYTICAL REPORT

Attn: *Terry Griffin*
Company: *BioTech Remediation*
Address: *710 E 20th Street, Suite 400*
City, State: *Farmington, NM 87401*

Date: *5-Jan-98*
COC No.: *6093*
Sample No.: *17221*
Job No.: *2-1000*

Project Name: *Thriftway Refinery Bloomfield, NM*
Project Location: *MW-11*
Sampled by: *KS*
Analyzed by: *DC*
Sample Matrix: *Liquid*

Date: *22-Dec-97* Time: *12:15*
Date: *30-Dec-97*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	ND	ug/L	0.2	ug/L
<i>Toluene</i>	ND	ug/L	0.2	ug/L
<i>Ethylbenzene</i>	ND	ug/L	0.2	ug/L
<i>m,p-Xylene</i>	ND	ug/L	0.2	ug/L
<i>o-Xylene</i>	ND	ug/L	0.2	ug/L
<i>TOTAL</i>	ND	ug/L		

ND - Not Detected at Limit of Quantitation

Method - *SW-846 EPA Method 8020A Aromatic Volatile Organics by Gas Chromatography*

Approved By: *JAC*

Date: *1/5/98*

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LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: *Terry Griffin*
 Company: *BioTech Remediation*
 Address: *710 E 20th Street, Suite 400*
 City, State: *Farmington, NM 87401*

Date: *14-Jan-98*
 COC No.: *6093*
 Sample ID.: *17221*
 Job No.: *2-1000*

Project Name: ***Thriftway Refinery Bloomfield, NM***Project Location: ***MW-11***Sampled by: ***KS***Date: ***22-Dec-97*** Time: ***12:15***Analyzed by: ***HR***Date: ***12-Jan-98*****Laboratory Analysis**

Parameter	Results as Received	Unit of Measure	Results as Received	Unit of Measure
<i>Cations</i>				
Sodium <i>Na</i>	1290	mg/L	56.11	me/L
Calcium <i>Ca</i>	420	mg/L	20.96	me/L
Magnesium <i>Mg</i>	19.5	mg/L	1.60	me/L
Potassium <i>K</i>	11.0	mg/L	0.28	me/L
<i>Anions</i>				
Chloride <i>Cl</i>	17.8	mg/L	0.50	me/L
Sulfate <i>SO4</i>	3902	mg/L	81.24	me/L
Carbonate <i>CO3 as CaCO3</i>	< 1	mg/L	< 0.01	me/L
Bicarbonate <i>HCO3 as CaCO3</i>	241	mg/L	3.95	me/L
Hydroxide <i>OH as CaCO3</i>	< 1	mg/L	< 0.01	me/L
<i>Total Dissolved Solids</i>				
Calculated, Sum of Cation/Anion	5901	mg/L	<i>Cation-Anion Balance</i> 6.73 Difference Cation-Anion, me/L 164.65 Total Cation-Anion, me/L 4.1 % Difference Cation-Anion	
Total Dissolved Solids Dried @ 180 C	6018	mg/L		
pH	7.41			
Conductivity @ 25 C	6470	uS/cm		
Total Hardness as CaCO3	1129	mg/L	<i>Comments</i>	

Approved by: *[Signature]*
 Date: *1/15/98*

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OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: *Terry Griffin*
Company: *BioTech Remediation*
Address: *710 E 20th Street, Suite 400*
City, State: *Farmington, NM 87401*

Date: *5-Jan-98*
COC No.: *6093*
Sample No.: *17223*
Job No.: *2-1000*

Project Name: *Thriftway Refinery Bloomfield, NM*
Project Location: *MW-13*
Sampled by: *KS*
Analyzed by: *DC*
Sample Matrix: *Liquid*

Date: *19-Dec-97* Time: *15:40*
Date: *30-Dec-97*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	ND	ug/L	0.2	ug/L
<i>Toluene</i>	ND	ug/L	0.2	ug/L
<i>Ethylbenzene</i>	ND	ug/L	0.2	ug/L
<i>m,p-Xylene</i>	ND	ug/L	0.2	ug/L
<i>o-Xylene</i>	ND	ug/L	0.2	ug/L
<i>TOTAL</i>	ND	ug/L		

ND - Not Detected at Limit of Quantitation

Method - SW-846 EPA Method 8020A Aromatic Volatile Organics by Gas Chromatography

Approved By: *[Signature]*
Date: *1/5/98*

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: *Terry Griffin*
 Company: *BioTech Remediation*
 Address: *710 E 20th Street, Suite 400*
 City, State: *Farmington, NM 87401*

Date: *14-Jan-98*
 COC No.: *6093*
 Sample ID.: *17223*
 Job No.: *2-1000*

Project Name: ***Thriftway Refinery Bloomfield, NM***Project Location: ***MW-13***Sampled by: *KS* Date: *19-Dec-97* Time: *15:40*Analyzed by: *HR* Date: *12-Jan-98***Laboratory Analysis**

Parameter	Results as Received	Unit of Measure	Results as Received	Unit of Measure
<i>Cations</i>				
<i>Sodium Na</i>	<i>1155</i>	<i>mg/L</i>	<i>50.24</i>	<i>me/L</i>
<i>Calcium Ca</i>	<i>416</i>	<i>mg/L</i>	<i>20.76</i>	<i>me/L</i>
<i>Magnesium Mg</i>	<i>31.0</i>	<i>mg/L</i>	<i>2.55</i>	<i>me/L</i>
<i>Potassium K</i>	<i>7.9</i>	<i>mg/L</i>	<i>0.20</i>	<i>me/L</i>
<i>Anions</i>				
<i>Chloride Cl</i>	<i>125</i>	<i>mg/L</i>	<i>3.53</i>	<i>me/L</i>
<i>Sulfate SO4</i>	<i>3437</i>	<i>mg/L</i>	<i>71.56</i>	<i>me/L</i>
<i>Carbonate CO3 as CaCO3</i>	<i>< 1</i>	<i>mg/L</i>	<i>< 0.01</i>	<i>me/L</i>
<i>Bicarbonate HCO3 as CaCO3</i>	<i>300</i>	<i>mg/L</i>	<i>4.92</i>	<i>me/L</i>
<i>Hydroxide OH as CaCO3</i>	<i>< 1</i>	<i>mg/L</i>	<i>< 0.01</i>	<i>me/L</i>
<i>Total Dissolved Solids</i>			<i>Cation-Anion Balance</i> <i>6.25 Difference Cation-Anion, me/L</i> <i>153.75 Total Cation-Anion, me/L</i> <i>4.1 % Difference Cation-Anion</i> <i>Comments</i>	
<i>Calculated, Sum of Cation/Anion</i>	<i>5472</i>	<i>mg/L</i>		
<i>Total Dissolved Solids</i>				
<i>Dried @ 180 C</i>	<i>5456</i>	<i>mg/L</i>		
<i>pH</i>	<i>7.28</i>			
<i>Conductivity @ 25 C</i>	<i>5980</i>	<i>uS/cm</i>		
<i>Total Hardness as CaCO3</i>	<i>1166</i>	<i>mg/L</i>		

Approved by: *J.C.*
 Date: *1/15/98*

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: *Terry Griffin*
Company: *BioTech Remediation*
Address: *710 E 20th Street, Suite 400*
City, State: *Farmington, NM 87401*

Date: *5-Jan-98*
COC No.: *6093*
Sample No.: *17215*
Job No.: *2-1000*

Project Name: *Thriftway Refinery Bloomfield, NM*
Project Location: *MW-15*
Sampled by: *KS*
Analyzed by: *DC*
Sample Matrix: *Liquid*

Date: *22-Dec-97* Time: *13:45*
Date: *30-Dec-97*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	ND	ug/L	0.2	ug/L
<i>Toluene</i>	ND	ug/L	0.2	ug/L
<i>Ethylbenzene</i>	ND	ug/L	0.2	ug/L
<i>m,p-Xylene</i>	ND	ug/L	0.2	ug/L
<i>o-Xylene</i>	ND	ug/L	0.2	ug/L
<i>TOTAL</i>	ND	ug/L		

ND - Not Detected at Limit of Quantitation

Method - *SW-846 EPA Method 8020A Aromatic Volatile Organics by Gas Chromatography*

Approved By: *[Signature]*
Date: *1/5/98*

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: *Terry Griffin*
 Company: *BioTech Remediation*
 Address: *710 E 20th Street, Suite 400*
 City, State: *Farmington, NM 87401*

Date: *14-Jan-98*
 COC No.: *6093*
 Sample ID.: *17215*
 Job No.: *2-1000*

Project Name: ***Thriftway Refinery Bloomfield, NM***Project Location: ***MW-15***Sampled by: *KS*Date: *22-Dec-97* Time: *13:45*Analyzed by: *HR*Date: *12-Jan-98***Laboratory Analysis**

Parameter	Results as Received	Unit of Measure	Results as Received	Unit of Measure
<i>Cations</i>				
Sodium <i>Na</i>	825	mg/L	35.89	me/L
Calcium <i>Ca</i>	375	mg/L	18.71	me/L
Magnesium <i>Mg</i>	21.4	mg/L	1.76	me/L
Potassium <i>K</i>	6.8	mg/L	0.17	me/L
<i>Anions</i>				
Chloride <i>Cl</i>	78.5	mg/L	2.21	me/L
Sulfate <i>SO4</i>	2696	mg/L	56.13	me/L
Carbonate <i>CO3 as CaCO3</i>	< 1	mg/L	< 0.01	me/L
Bicarbonate <i>HCO3 as CaCO3</i>	204	mg/L	3.34	me/L
Hydroxide <i>OH as CaCO3</i>	< 1	mg/L	< 0.01	me/L
<i>Total Dissolved Solids</i>				
Calculated, Sum of Cation/Anion	4207	mg/L	<i>Cation-Anion Balance</i> 5.15 Difference Cation-Anion, me/L 118.22 Total Cation-Anion, me/L 4.4 % Difference Cation-Anion	
Total Dissolved Solids Dried @ 180 C	4258	mg/L		
pH	7.62			
Conductivity @ 25 C	4640	uS/cm		
Total Hardness as CaCO3	1025	mg/L	<i>Comments</i>	

Approved by: *[Signature]*
 Date: *1/15/98*

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LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: *Terry Griffin*
Company: *BioTech Remediation*
Address: *710 E 20th Street, Suite 400*
City, State: *Farmington, NM 87401*

Date: *5-Jan-98*
COC No.: *6094*
Sample No.: *17245*
Job No.: *2-1000*

Project Name: *Thriftway Refinery Bloomfield, NM*
Project Location: *MW-18*
Sampled by: *KS* Date: *23-Dec-97* Time: *11:22*
Analyzed by: *DC* Date: *30-Dec-97*
Sample Matrix: *Liquid*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	63.8	ug/L	0.2	ug/L
<i>Toluene</i>	1.2	ug/L	0.2	ug/L
<i>Ethylbenzene</i>	4.2	ug/L	0.2	ug/L
<i>m,p-Xylene</i>	0.8	ug/L	0.2	ug/L
<i>o-Xylene</i>	ND	ug/L	0.2	ug/L
<i>TOTAL</i>	70.0	ug/L		

ND - Not Detected at Limit of Quantitation

Method - SW-846 EPA Method 8020A Aromatic Volatile Organics by Gas Chromatography

Approved By: *JAC*
Date: *1/5/98*

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LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: **Terry Griffin**
 Company: **BioTech Remediation**
 Address: **710 E 20th Street, Suite 400**
 City, State: **Farmington, NM 87401**

Date: **14-Jan-98**
 COC No.: **6094**
 Sample ID.: **17245**
 Job No.: **2-1000**

Project Name: **Thriftway Refinery Bloomfield, NM**Project Location: **MW-18**Sampled by: **KS** Date: **23-Dec-97** Time: **11:22**Analyzed by: **HR** Date: **12-Jan-98****Laboratory Analysis**

Parameter	Results as Received	Unit of Measure	Results as Received	Unit of Measure
<i>Cations</i>				
Sodium Na	565	mg/L	24.58	me/L
Calcium Ca	93	mg/L	4.64	me/L
Magnesium Mg	10.6	mg/L	0.87	me/L
Potassium K	4.9	mg/L	0.12	me/L
<i>Anions</i>				
Chloride Cl	65	mg/L	1.83	me/L
Sulfate SO ₄	928	mg/L	19.32	me/L
Carbonate CO ₃ as CaCO ₃	< 1	mg/L	< 0.01	me/L
Bicarbonate HCO ₃ as CaCO ₃	597	mg/L	9.78	me/L
Hydroxide OH as CaCO ₃	< 1	mg/L	< 0.01	me/L
<i>Total Dissolved Solids</i>				
Calculated, Sum of Cation/Anion	2263	mg/L	<i>Cation-Anion Balance</i> 0.72 Difference Cation-Anion, me/L 61.15 Total Cation-Anion, me/L 1.2 % Difference Cation-Anion <i>Comments</i>	
Total Dissolved Solids Dried @ 180 C	2008	mg/L		
pH	7.59			
Conductivity @ 25 C	2830	uS/cm		
Total Hardness as CaCO ₃	276	mg/L		

Approved by: *Jack*
 Date: *1/15/98*

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: *Terry Griffin*
Company: *BioTech Remediation*
Address: *710 E 20th Street, Suite 400*
City, State: *Farmington, NM 87401*

Date: *5-Jan-98*
COC No.: *6094*
Sample No.: *17244*
Job No.: *2-1000*

Project Name: *Thriftway Refinery Bloomfield, NM*
Project Location: *MW-19*
Sampled by: *KS* Date: *23-Dec-97* Time: *10:40*
Analyzed by: *DC* Date: *31-Dec-97*
Sample Matrix: *Liquid*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	36.9	ug/L	0.2	ug/L
<i>Toluene</i>	3.8	ug/L	0.2	ug/L
<i>Ethylbenzene</i>	244	ug/L	1	ug/L
<i>m,p-Xylene</i>	356	ug/L	1	ug/L
<i>o-Xylene</i>	1.4	ug/L	0.2	ug/L
<i>TOTAL</i>	642	ug/L		

ND - Not Detected at Limit of Quantitation

Method - *SW-846 EPA Method 8020A Aromatic Volatile Organics by Gas Chromatography*

Approved By: *[Signature]*
Date: *1/5/98*

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: **Terry Griffin**
 Company: **BioTech Remediation**
 Address: **710 E 20th Street, Suite 400**
 City, State: **Farmington, NM 87401**

Date: **14-Jan-98**
 COC No.: **6094**
 Sample ID.: **17244**
 Job No.: **2-1000**

Project Name: **Thriftway Refinery Bloomfield, NM**
 Project Location: **MW-19**

Sampled by: **KS** Date: **23-Dec-97** Time: **10:40**
 Analyzed by: **HR** Date: **12-Jan-98**

Laboratory Analysis

Parameter	Results as Received	Unit of Measure		Results as Received	Unit of Measure	
<i>Cations</i>						
Sodium <i>Na</i>	1215	mg/L		52.85	me/L	
Calcium <i>Ca</i>	118	mg/L		5.89	me/L	
Magnesium <i>Mg</i>	30.6	mg/L		2.52	me/L	
Potassium <i>K</i>	4.6	mg/L		0.12	me/L	
<i>Anions</i>						
Chloride <i>Cl</i>	264	mg/L		7.45	me/L	
Sulfate <i>SO4</i>	1880	mg/L		39.14	me/L	
Carbonate <i>CO3 as CaCO3</i>	< 1	mg/L		< 0.01	me/L	
Bicarbonate <i>HCO3 as CaCO3</i>	1228	mg/L		20.13	me/L	
Hydroxide <i>OH as CaCO3</i>	< 1	mg/L		< 0.01	me/L	
Total Dissolved Solids			<i>Cation-Anion Balance</i> 5.34 Difference Cation-Anion, me/L 128.09 Total Cation-Anion, me/L 4.2 % Difference Cation-Anion <i>Comments</i>			
Calculated, Sum of Cation/Anion	4740	mg/L				
Total Dissolved Solids						
Dried @ 180 C	4238	mg/L				
pH	7.41					
Conductivity @ 25 C	5560	uS/cm				
Total Hardness as CaCO3	421	mg/L				

Approved by: *[Signature]*
 Date: **1/15/98**

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

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LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: *Terry Griffin*
Company: *BioTech Remediation*
Address: *710 E 20th Street, Suite 400*
City, State: *Farmington, NM 87401*

Date: *5-Jan-98*
COC No.: *6093*
Sample No.: *17213*
Job No.: *2-1000*

Project Name: *Thriftway Refinery Bloomfield, NM*
Project Location: *MW-20*
Sampled by: *KS*
Analyzed by: *DC*
Sample Matrix: *Liquid*

Date: *22-Dec-97* Time: *15:55*
Date: *31-Dec-97*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	<i>4.5</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>Toluene</i>	<i>6.7</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>Ethylbenzene</i>	<i>9.3</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>m,p-Xylene</i>	<i>6.0</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>o-Xylene</i>	<i>0.8</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>TOTAL</i>	<i>27.3</i>	<i>ug/L</i>		

ND - Not Detected at Limit of Quantitation

Method - *SW-846 EPA Method 8020A Aromatic Volatile Organics by Gas Chromatography*

Approved By: *[Signature]*
Date: *1/5/98*

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: *Terry Griffin*
 Company: *BioTech Remediation*
 Address: *710 E 20th Street, Suite 400*
 City, State: *Farmington, NM 87401*

Date: *14-Jan-98*
 COC No.: *6093*
 Sample ID.: *17213*
 Job No.: *2-1000*

Project Name: ***Thriftway Refinery Bloomfield, NM***Project Location: ***MW-20***Sampled by: ***KS***Date: ***22-Dec-97*** Time: ***15:55***Analyzed by: ***HR***Date: ***12-Jan-98*****Laboratory Analysis**

Parameter	Results as Received	Unit of Measure	Results as Received	Unit of Measure
<i>Cations</i>				
<i>Sodium Na</i>	1060	mg/L	46.11	me/L
<i>Calcium Ca</i>	500	mg/L	24.95	me/L
<i>Magnesium Mg</i>	42.6	mg/L	3.51	me/L
<i>Potassium K</i>	6.3	mg/L	0.16	me/L
<i>Anions</i>				
<i>Chloride Cl</i>	222	mg/L	6.26	me/L
<i>Sulfate SO4</i>	2796	mg/L	58.21	me/L
<i>Carbonate CO3 as CaCO3</i>	< 1	mg/L	< 0.01	me/L
<i>Bicarbonate HCO3 as CaCO3</i>	756	mg/L	12.39	me/L
<i>Hydroxide OH as CaCO3</i>	< 1	mg/L	< 0.01	me/L
<i>Total Dissolved Solids</i>				
<i>Calculated, Sum of Cation/Anion</i>	5383	mg/L	<i>Cation-Anion Balance</i> 2.14 Difference Cation-Anion, me/L 151.59 Total Cation-Anion, me/L 1.4 % Difference Cation-Anion <i>Comments</i>	
<i>Total Dissolved Solids Dried @ 180 C</i>	5218	mg/L		
<i>pH</i>	7.02			
<i>Conductivity @ 25 C</i>	5860	uS/cm		
<i>Total Hardness as CaCO3</i>	1424	mg/L		

Approved by: *[Signature]*
 Date: *1/15/98*

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

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ANALYTICAL REPORT

Attn: *Terry Griffin*
Company: *BioTech Remediation*
Address: *710 E 20th Street, Suite 400*
City, State: *Farmington, NM 87401*

Date: *5-Jan-98*
COC No.: *6093*
Sample No.: *17212*
Job No.: *2-1000*

Project Name: *Thriftway Refinery Bloomfield, NM*
Project Location: *MW-21*
Sampled by: *KS*
Analyzed by: *DC*
Sample Matrix: *Liquid*

Date: *22-Dec-97* Time: *15:28*
Date: *31-Dec-97*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	<i>1.3</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>Toluene</i>	<i>1.5</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>Ethylbenzene</i>	<i>2.4</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>m,p-Xylene</i>	<i>0.5</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>o-Xylene</i>	<i>0.3</i>	<i>ug/L</i>	<i>0.2</i>	<i>ug/L</i>
<i>TOTAL</i>	<i>5.9</i>	<i>ug/L</i>		

ND - Not Detected at Limit of Quantitation

Method - *SW-846 EPA Method 8020A Aromatic Volatile Organics by Gas Chromatography*

Approved By: *[Signature]*
Date: *1/5/98*

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ANALYTICAL REPORT

Attn: **Terry Griffin**
 Company: **BioTech Remediation**
 Address: **710 E 20th Street, Suite 400**
 City, State: **Farmington, NM 87401**

Date: **14-Jan-98**
 COC No.: **6093**
 Sample ID.: **17212**
 Job No.: **2-1000**

Project Name: **Thriftway Refinery Bloomfield, NM**Project Location: **MW-21**Sampled by: **KS**Date: **22-Dec-97** Time: **15:28**Analyzed by: **HR**Date: **12-Jan-98****Laboratory Analysis**

Parameter	Results as Received	Unit of Measure	Results as Received	Unit of Measure
Cations				
Sodium Na	985	mg/L	42.85	me/L
Calcium Ca	180	mg/L	8.98	me/L
Magnesium Mg	24.4	mg/L	2.01	me/L
Potassium K	6.8	mg/L	0.17	me/L
Anions				
Chloride Cl	68.6	mg/L	1.93	me/L
Sulfate SO ₄	1704	mg/L	35.48	me/L
Carbonate CO ₃ as CaCO ₃	< 1	mg/L	< 0.01	me/L
Bicarbonate HCO ₃ as CaCO ₃	974	mg/L	15.96	me/L
Hydroxide OH as CaCO ₃	< 1	mg/L	< 0.01	me/L
Total Dissolved Solids				
Calculated, Sum of Cation/Anion	3943	mg/L	Cation-Anion Balance 0.63 Difference Cation-Anion, me/L 107.38 Total Cation-Anion, me/L 0.6 % Difference Cation-Anion Comments	
Total Dissolved Solids Dried @ 180 C	3546	mg/L		
pH	7.16			
Conductivity @ 25 C	4610	uS/cm		
Total Hardness as CaCO ₃	550	mg/L		

Approved by: *[Signature]*Date: **1/15/98**

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ANALYTICAL REPORT

Attn: *Terry Griffin*
Company: *BioTech Remediation*
Address: *710 E 20th Street, Suite 400*
City, State: *Farmington, NM 87401*

Date: *5-Jan-98*
COC No.: *6093*
Sample No.: *17214*
Job No.: *2-1000*

Project Name: *Thriftway Refinery Bloomfield, NM*
Project Location: *MW-22*
Sampled by: *KS*
Analyzed by: *DC*
Sample Matrix: *Liquid*

Date: *22-Dec-97* Time: *14:47*
Date: *30-Dec-97*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	ND	ug/L	0.2	ug/L
<i>Toluene</i>	ND	ug/L	0.2	ug/L
<i>Ethylbenzene</i>	ND	ug/L	0.2	ug/L
<i>m,p-Xylene</i>	ND	ug/L	0.2	ug/L
<i>o-Xylene</i>	ND	ug/L	0.2	ug/L
<i>TOTAL</i>	ND	ug/L		

ND - Not Detected at Limit of Quantitation

Method - *SW-846 EPA Method 8020A Aromatic Volatile Organics by Gas Chromatography*

Approved By: *[Signature]*
Date: *1/5/98*

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: **Terry Griffin**
 Company: **BioTech Remediation**
 Address: **710 E 20th Street, Suite 400**
 City, State: **Farmington, NM 87401**

Date: **14-Jan-98**
 COC No.: **6093**
 Sample ID.: **17214**
 Job No.: **2-1000**

Project Name: **Thriftway Refinery Bloomfield, NM**
 Project Location: **MW-22**
 Sampled by: **KS**
 Analyzed by: **HR**

Date: **22-Dec-97** Time: **14:47**
 Date: **12-Jan-98**

Laboratory Analysis

Parameter	Results as Received	Unit of Measure		Results as Received	Unit of Measure	
<i>Cations</i>						
Sodium <i>Na</i>	1740	mg/L		75.69	me/L	
Calcium <i>Ca</i>	494	mg/L		24.65	me/L	
Magnesium <i>Mg</i>	25.5	mg/L		2.10	me/L	
Potassium <i>K</i>	10.2	mg/L		0.26	me/L	
<i>Anions</i>						
Chloride <i>Cl</i>	67.8	mg/L		1.91	me/L	
Sulfate <i>SO4</i>	4733	mg/L		98.54	me/L	
Carbonate <i>CO3 as CaCO3</i>	< 1	mg/L		< 0.01	me/L	
Bicarbonate <i>HCO3 as CaCO3</i>	449	mg/L		7.36	me/L	
Hydroxide <i>OH as CaCO3</i>	< 1	mg/L		< 0.01	me/L	
Total Dissolved Solids			<i>Cation-Anion Balance</i> 5.11 Difference Cation-Anion, me/L 210.51 Total Cation-Anion, me/L 2.4 % Difference Cation-Anion <i>Comments</i>			
Calculated, Sum of Cation/Anion	7520	mg/L				
Total Dissolved Solids						
Dried @ 180 C	7602	mg/L				
pH	7.17					
Conductivity @ 25 C	8180	uS/cm				
Total Hardness as CaCO3	1339	mg/L				

Approved by: *[Signature]*
 Date: **1/15/98**

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: *Terry Griffin*
Company: *BioTech Remediation*
Address: *710 E 20th Street, Suite 400*
City, State: *Farmington, NM 87401*

Date: *5-Jan-98*
COC No.: *6093*
Sample No.: *17216*
Job No.: *2-1000*

Project Name: *Thriftway Refinery Bloomfield, NM*
Project Location: *Influent*
Sampled by: *KS*
Analyzed by: *DC*
Sample Matrix: *Liquid*

Date: *22-Dec-97* Time: *16:30*
Date: *31-Dec-97*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	<i>2078</i>	<i>ug/L</i>	<i>4</i>	<i>ug/L</i>
<i>Toluene</i>	<i>1610</i>	<i>ug/L</i>	<i>4</i>	<i>ug/L</i>
<i>Ethylbenzene</i>	<i>729</i>	<i>ug/L</i>	<i>4</i>	<i>ug/L</i>
<i>m,p-Xylene</i>	<i>1627</i>	<i>ug/L</i>	<i>4</i>	<i>ug/L</i>
<i>o-Xylene</i>	<i>426</i>	<i>ug/L</i>	<i>4</i>	<i>ug/L</i>
<i>TOTAL</i>	<i>6470</i>	<i>ug/L</i>		

ND - Not Detected at Limit of Quantitation

Method - *SW-846 EPA Method 8020A Aromatic Volatile Organics by Gas Chromatography*

Approved By: *[Signature]*
Date: *1/5/98*

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: **Terry Griffin**
 Company: **BioTech Remediation**
 Address: **710 E 20th Street, Suite 400**
 City, State: **Farmington, NM 87401**

Date: **14-Jan-98**
 COC No.: **6093**
 Sample ID.: **17216**
 Job No.: **2-1000**

Project Name: **Thriftway Refinery Bloomfield, NM**Project Location: **Influent**Sampled by: **KS**Date: **22-Dec-97** Time: **16:30**Analyzed by: **HR**Date: **12-Jan-98****Laboratory Analysis**

Parameter	Results as Received	Unit of Measure		Results as Received	Unit of Measure	
<i>Cations</i>						
Sodium Na	728	mg/L		31.67	me/L	
Calcium Ca	272	mg/L		13.57	me/L	
Magnesium Mg	31.2	mg/L		2.57	me/L	
Potassium K	6.6	mg/L		0.17	me/L	
<i>Anions</i>						
Chloride Cl	766	mg/L		21.61	me/L	
Sulfate SO4	1414	mg/L		29.44	me/L	
Carbonate CO3 as CaCO3	< 1	mg/L		< 0.01	me/L	
Bicarbonate HCO3 as CaCO3	86	mg/L		1.41	me/L	
Hydroxide OH as CaCO3	< 1	mg/L		< 0.01	me/L	
Total Dissolved Solids			<i>Cation-Anion Balance</i> 4.48 Difference Cation-Anion, me/L 100.43 Total Cation-Anion, me/L 4.5 % Difference Cation-Anion <i>Comments</i>			
Calculated, Sum of Cation/Anion	3304	mg/L				
Total Dissolved Solids						
Dried @ 180 C	3410	mg/L				
pH	5.47					
Conductivity @ 25 C	4530	uS/cm				
Total Hardness as CaCO3	808	mg/L				

Approved by: *[Signature]*
 Date: **1/15/98**

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: *Terry Griffin*
Company: *BioTech Remediation*
Address: *710 E 20th Street, Suite 400*
City, State: *Farmington, NM 87401*

Date: *5-Jan-98*
COC No.: *6093*
Sample No.: *17217*
Job No.: *2-1000*

Project Name: *Thriftway Refinery Bloomfield, NM*
Project Location: *Effluent*
Sampled by: *KS* Date: *22-Dec-97* Time: *16:50*
Analyzed by: *DC* Date: *31-Dec-97*
Sample Matrix: *Liquid*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	122.6	ug/L	0.2	ug/L
<i>Toluene</i>	97.2	ug/L	0.2	ug/L
<i>Ethylbenzene</i>	44.5	ug/L	0.2	ug/L
<i>m,p-Xylene</i>	102.3	ug/L	0.2	ug/L
<i>o-Xylene</i>	29.6	ug/L	0.2	ug/L
<i>TOTAL</i>	396.2	ug/L		

ND - Not Detected at Limit of Quantitation

Method - SW-846 EPA Method 8020A Aromatic Volatile Organics by Gas Chromatography

Approved By: *[Signature]*
Date: *1/5/98*

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LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: **Terry Griffin**
 Company: **BioTech Remediation**
 Address: **710 E 20th Street, Suite 400**
 City, State: **Farmington, NM 87401**

Date: **14-Jan-98**
 COC No.: **6093**
 Sample ID.: **17217**
 Job No.: **2-1000**

Project Name: **Thriftway Refinery Bloomfield, NM**Project Location: **Effluent**Sampled by: **KS**Date: **22-Dec-97** Time: **16:50**Analyzed by: **HR**Date: **12-Jan-98****Laboratory Analysis**

Parameter	Results as Received	Unit of Measure	Results as Received	Unit of Measure
Cations				
Sodium <i>Na</i>	732	mg/L	31.84	me/L
Calcium <i>Ca</i>	274	mg/L	13.67	me/L
Magnesium <i>Mg</i>	31.6	mg/L	2.60	me/L
Potassium <i>K</i>	6.6	mg/L	0.17	me/L
Anions				
Chloride <i>Cl</i>	648	mg/L	18.28	me/L
Sulfate <i>SO4</i>	1401	mg/L	29.17	me/L
Carbonate <i>CO3 as CaCO3</i>	< 1	mg/L	< 0.01	me/L
Bicarbonate <i>HCO3 as CaCO3</i>	278	mg/L	4.56	me/L
Hydroxide <i>OH as CaCO3</i>	< 1	mg/L	< 0.01	me/L
Total Dissolved Solids				
Calculated, Sum of Cation/Anion	3371	mg/L	Cation-Anion Balance 3.72 Difference Cation-Anion, me/L 100.29 Total Cation-Anion, me/L 3.7 % Difference Cation-Anion	
Total Dissolved Solids				
Dried @ 180 C	3416	mg/L		
pH	7.57			
Conductivity @ 25 C	4470	uS/cm	Comments	
Total Hardness as CaCO3	814	mg/L		

Approved by: *[Signature]*
 Date: **1/15/98**

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

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LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: *Terry Griffin*
Company: *BioTech Remediation*
Address: *710 E 20th Street, Suite 400*
City, State: *Farmington, NM 87401*

Date: *5-Jan-98*
COC No.: *6093*
Sample No.: *17218*
Job No.: *2-1000*

Project Name: *Thriftway Refinery Bloomfield, NM*
Project Location: *Travel Blank*
Sampled by: *KS*
Analyzed by: *DC*
Sample Matrix: *Liquid*

Date: *22-Dec-97* Time: *8:30*
Date: *30-Dec-97*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	ND	ug/L	0.2	ug/L
<i>Toluene</i>	ND	ug/L	0.2	ug/L
<i>Ethylbenzene</i>	ND	ug/L	0.2	ug/L
<i>m,p-Xylene</i>	ND	ug/L	0.2	ug/L
<i>o-Xylene</i>	ND	ug/L	0.2	ug/L
<i>TOTAL</i>	ND	ug/L		

ND - Not Detected at Limit of Quantitation

Method - *SW-846 EPA Method 8020A Aromatic Volatile Organics by Gas Chromatography*

Approved By: *[Signature]*
Date: *1/5/98*

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: *Terry Griffin*
Company: *BioTech Remediation*
Address: *710 E 20th Street, Suite 400*
City, State: *Farmington, NM 87401*

Date: *5-Jan-98*
COC No.: *6093*
Sample No.: *17219*
Job No.: *2-1000*

Project Name: *Thriftway Refinery Bloomfield, NM*
Project Location: *Travel Blank*
Sampled by: *KS*
Analyzed by: *DC*
Sample Matrix: *Liquid*

Date: *19-Dec-97* Time: *15:00*
Date: *30-Dec-97*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	ND	ug/L	0.2	ug/L
<i>Toluene</i>	ND	ug/L	0.2	ug/L
<i>Ethylbenzene</i>	ND	ug/L	0.2	ug/L
<i>m,p-Xylene</i>	ND	ug/L	0.2	ug/L
<i>o-Xylene</i>	ND	ug/L	0.2	ug/L
<i>TOTAL</i>	ND	ug/L		

ND - Not Detected at Limit of Quantitation

Method - SW-846 EPA Method 8020A Aromatic Volatile Organics by Gas Chromatography

Approved By: *[Signature]*
Date: *1/5/98*

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: *Terry Griffin*
Company: *BioTech Remediation*
Address: *710 E 20th Street, Suite 400*
City, State: *Farmington, NM 87401*

Date: *5-Jan-98*
COC No.: *6094*
Sample No.: *17242*
Job No.: *2-1000*

Project Name: *Thriftway Refinery Bloomfield, NM*
Project Location: *Travel Blank*
Sampled by: *KS* Date: *23-Dec-97* Time: *10:40*
Analyzed by: *DC* Date: *30-Dec-97*
Sample Matrix: *Liquid*

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	ND	ug/L	0.2	ug/L
<i>Toluene</i>	ND	ug/L	0.2	ug/L
<i>Ethylbenzene</i>	ND	ug/L	0.2	ug/L
<i>m,p-Xylene</i>	0.2	ug/L	0.2	ug/L
<i>o-Xylene</i>	ND	ug/L	0.2	ug/L
<i>TOTAL</i>	0.2	ug/L		

ND - Not Detected at Limit of Quantitation

Method - *SW-846 EPA Method 8020A Aromatic Volatile Organics by Gas Chromatography*

Approved By: *[Signature]*
Date: *1/5/98*

OFF: (505) 325-5667



LAB: (505) 325-1556

QUALITY ASSURANCE REPORT

for EPA Method 8020

Date Analyzed: 30-Dec-97

Internal QC No.: 0559-STD

Surrogate QC No.: 0567-STD

Reference Standard QC No.: 0529/30-QC

Method Blank

Parameter	Result	Unit of Measure
Average Amount of All Analytes In Blank	< 0.2	ppb

Calibration Check

Parameter	Unit of Measure	True Value	Analyzed Value	RPD	Limit
Benzene	ppb	20.0	19.8	1	15%
Toluene	ppb	20.0	20.5	3	15%
Ethylbenzene	ppb	20.0	20.5	2	15%
m,p-Xylene	ppb	40.0	39.5	1	15%
o-Xylene	ppb	20.0	20.5	2	15%

Matrix Spike

Parameter	1 - Percent Recovered	2 - Percent Recovered	Limit	RPD	Limit
Benzene	90	96	(39-150)	5	20%
Toluene	94	98	(46-148)	5	20%
Ethylbenzene	90	101	(32-160)	5	20%
m,p-Xylene	89	98	(35-145)	5	20%
o-Xylene	93	96	(35-145)	3	20%

Surrogate Recoveries

Laboratory Identification	S1 Percent Recovered	S2 Percent Recovered	Laboratory Identification	S1 Percent Recovered	S2 Percent Recovered
Limit Percent Recovered	(70-130)		Limit Percent Recovered	(70-130)	
17242-6094	93		17221-6093	93	
17218-6093	93		17223-6093	93	
17219-6093	93		17215-6093	93	
17226-6096	93		17214-6093	93	
17222-6093	93		17224-6096	92	
17220-6093	93		17225-6096	93	

S1: Fluorobenzene

ON SITE
TECHNOLOGIES, LTD.

QUALITY ASSURANCE REPORT

for EPA Method 8020

Internal QC No.: 0559-STD

Surrogate QC No.: 0567-STD

Reference Standard QC No.: 0529/30-QC

Method Blank

<i>Parameter</i>	<i>Result</i>	<i>Unit of Measure</i>
<i>Average Amount of All Analytes In Blank</i>	<0.2	ppb

Calibration Check

<i>Parameter</i>	<i>Unit of Measure</i>	<i>True Value</i>	<i>Analyzed Value</i>	<i>RPD</i>	<i>Limit</i>
<i>Benzene</i>	ppb	20.0	19.8	1	15%
<i>Toluene</i>	ppb	20.0	20.5	3	15%
<i>Ethylbenzene</i>	ppb	20.0	20.5	2	15%
<i>m,p-Xylene</i>	ppb	40.0	39.5	1	15%
<i>o-Xylene</i>	ppb	20.0	20.5	2	15%

Matrix Spike

<i>Parameter</i>	<i>1- Percent Recovered</i>	<i>2 - Percent Recovered</i>	<i>Limit</i>	<i>RPD</i>	<i>Limit</i>
<i>Benzene</i>	90	96	(39-150)	5	20%
<i>Toluene</i>	94	98	(46-148)	5	20%
<i>Ethylbenzene</i>	90	101	(32-160)	5	20%
<i>m,p-Xylene</i>	89	98	(35-145)	5	20%
<i>o-Xylene</i>	93	96	(35-145)	3	20%

Surrogate Recoveries

	S1 Percent Recovered	S2 Percent Recovered		S1 Percent Recovered	S2 Percent Recovered
<i>Laboratory Identification</i>			<i>Laboratory Identification</i>		
<i>Limit Percent Recovered</i>	(70-130)		<i>Limit Percent Recovered</i>	(70-130)	
17243-6094	92				
17245-6094	90				
				JHR 1/6/98	GC 1/5/98

S1: Flourobenezene

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

QUALITY ASSURANCE REPORT*for EPA Method 8020*

Date Analyzed: 31-Dec-97

Internal QC No.: 0559-STD

Surrogate QC No.: 0567-STD

Reference Standard QC No.: 0529/30-QC

Method Blank

Parameter	Result	Unit of Measure
Average Amount of All Analytes In Blank	< 0.2	ppb

Calibration Check

Parameter	Unit of Measure	True Value	Analyzed Value	RPD	Limit
Benzene	ppb	20.0	19.8	1	15%
Toluene	ppb	20.0	20.5	2	15%
Ethylbenzene	ppb	20.0	20.6	3	15%
m,p-Xylene	ppb	40.0	39.7	1	15%
o-Xylene	ppb	20.0	20.3	2	15%

Matrix Spike

Parameter	1 - Percent Recovered	2 - Percent Recovered	Limit	RPD	Limit
Benzene	89	93	(39-150)	1	20%
Toluene	88	93	(46-148)	2	20%
Ethylbenzene	91	94	(32-160)	1	20%
m,p-Xylene	89	92	(35-145)	1	20%
o-Xylene	93	96	(35-145)	2	20%

Surrogate Recoveries

Laboratory Identification	S1 Percent Recovered	S2 Percent Recovered	Laboratory Identification	S1 Percent Recovered	S2 Percent Recovered
Limit Percent Recovered	(70-130)		Limit Percent Recovered	(70-130)	
17212-6093	88				
17213-6093	87				
17217-6093	90				
17241-6094	89				
17244-6094	89				
17216-6093	90				

S1: Fluorobenzene

OFF: (505) 325-5667



LAB: (505) 325-1556

QUALITY ASSURANCE REPORT*Cation/Anion Balance*

Date: 12-Jan-98

Quality Control Sample

<i>Parameter</i>	<i>Laboratory Identification</i>	<i>True Value</i>	<i>Analyzed Value</i>	<i>Unit of Measure</i>	<i>% Diff</i>	<i>Limit % Diff</i>
Sodium, Na	0453-QC	2.60	2.74	mg/L	5	10
Calcium, Ca	0465-QC	2.18	2.01	mg/L	-8	10
Magnesium, Mg	0465-QC	1.14	1.22	mg/L	7	10
Potassium, K	0453-QC	1.97	1.91	mg/L	-3	10
Chloride, Cl	0563-QC	85	91	mg/L	7	10
Sulfate, SO ₄	0563-QC	96	99	mg/L	3	10
Alkalinity	0563-QC	163	176	mg/L	8	10
pH	0563-QC	9.14	9.17		0	10
Conductivity	0563-QC	900	907	uS/cm	1	15
Total Dissolved Solids, 180C	0563-QC	732	756	uS/cm	3	15

Matrix Spike

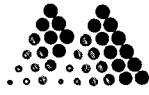
<i>Parameter</i>	<i>Laboratory Identification</i>	<i>Analyzed Value</i>	<i>Matrix Spike</i>	<i>Spike Value</i>	<i>Unit of Measure</i>	<i>Spike Recovery</i>
Sodium, Na	17223-6093	1.16	0.50	1.68	mg/L	101%
Calcium, Ca	17241-6094	1.14	0.50	1.63	mg/L	99%
Magnesium, Mg	17220-6093	0.98	0.50	1.52	mg/L	103%
Potassium, K	17222-6093	1.60	0.50	2.30	mg/L	110%

Method Blank

<i>Parameter</i>	<i>Laboratory Identification</i>	<i>Analyzed Value</i>	<i>Unit of Measure</i>
Sodium, Na	LF-Blank	< 0.2	mg/L
Calcium, Ca	LF-Blank	< 0.05	mg/L
Magnesium, Mg	LF-Blank	< 0.05	mg/L
Potassium, K	LF-Blank	< 0.05	mg/L
Chloride, Cl	LF-Blank	< 3 X DL	mg/L
Sulfate, SO ₄	LF-Blank	< 1	mg/L
Conductivity	LF-Blank	< 2	uS/cm

(12) JMC
1/15/98 1/16/98

RECEIVED JAN 26 1998 (m)



Mountain States Analytical, Inc.

The Quality Solution

January 16, 1998

Mr. David Cox
On Site Technologies, Ltd.
612 E Murray Drive
Farmington, NM 87401

Reference:

Project: Thriftway Refinery
MSAI Group: 19155

Dear Mr. Cox:

Enclosed are the analytical results for your project referenced above. The following samples are included in the report.

17212-6093	17213-6093	17214-6093
17215-6093	17216-6093	17217-6093
17220-6093	17221-6093	17222-6093
17223-6093	17224-6096	17225-6096

All holding times were met for the tests performed on these samples.

If the report is acceptable, please approve the enclosed invoice and forward it for payment.

Thank you for selecting Mountain States Analytical, Inc. to serve as your analytical laboratory on this project. If you have any questions concerning these results, please feel free to contact me at any time.

We look forward to working with you on future projects.

With Regards,

Rolf E. Larsen
Project Manager

10
Years of
Quality
Service

Corporate Office
1645 West 2200 South, Salt Lake City, Utah 84119
801-973-0050 • 1-800-973-6724(MSAI) • FAX 801-972-6278
e-mail: service@msailabs.com

Southwest States Region
6223 Bayonne, Spring, Texas 77389
281-320-2842 • FAX 281-320-0989
e-mail: gbrewer@msailabs.com



WATER SAMPLING RECORD

PROJECT NAME Quarterly Monitoring LOCATION NUMBER MW-01
 CLIENT COMPANY Thriftway Refining DATE 6/18/97
 SITE NAME Thriftway Refinery PHASE/TASK NO. _____
 SITE ADDRESS 626 Rd 5500, Bloomfield, NM

SAMPLING SPECIFICATIONS REQUESTED SAMPLING DEPTH INTERVAL (feet): _____ REQUESTED WAIT FOLLOWING DEVELOPMENT /PURGING (hours): _____		INITIAL MEASUREMENTS TIME ELAPSED FROM FINAL DEVELOPMENT/PURGING (hours): _____ INITIAL WATER DEPTH (feet): <u>15.37</u> NONAQUEOUS LIQUIDS PRESENT (DESCRIBE): _____	
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WATER QUALITY /WATER COLLECTION								DO = DISSOLVED OXYGEN; COND. = CONDUCTIVITY				
DATE	TIME	SAMPLER INITIALS	WATER QUALITY READINGS					WATER COLLECTION DATA				
			TEMP (°C)	pH	DO (mg/L)	COND. (Umhos/cm)	VOLUME REMOVED (gallons)	REMOVAL RATE (gal/min)	PUMP INTAKE DEPTH (feet)	BAIL	FINAL WATER DEPTH (feet)	NOTES
6/18	1006	KS	16.0	7.20	0.19	4670	1.75	-	-	✓	-	
			16.1	7.08	0.18	4700	3.50	-	-	✓	-	
			16.1	7.12	0.18	4670	5.25				16.68	

SAMPLE CONTAINERS				CONTAINER TYPE: G = CLEAR GLASS; A = AMBER GLASS; P = PLASTIC; V = VOA VILE (GLASS); O = OTHER PRESERVATIVES: H = HCL; N = HNO ₃ ; S = H ₂ SO ₄ ; A = NaOH; M = HgCl ₂ ; O = OTHER (SPECIFY); - = NONE							
ANALYTICAL PARAMETERS	CONTAINER			FIELD FILTERED		PRES.	COOLED		COMMENTS		
	NUMBER	TYPE	VOLUME	YES	NO		YES	NO			
BTEX	2	V	40		X	M	K				
CATION/ANION	1	P	1000		X	-					
METALS	2	P	500		X	N					
PAH	1	A	1000		X	-			OMIT		
BTEX	3	V	40		X	H	V				

COMMENTS: _____
 SAMPLED BY: _____
 SIGNATURE: _____ DATE: _____

BIOTECH
REMEDATION
 710 East 20th Street
 Farmington, NM 87401
 Field Office (505) 632-3365

WATER SAMPLING RECORD

PROJECT NAME Quarterly Monitoring LOCATION NUMBER MW-4
 CLIENT COMPANY Thriftway Refining DATE 6/17/97
 SITE NAME Thriftway Refinery PHASE/TASK NO. _____
 SITE ADDRESS 626 Rd 5500, Bloomfield, NM

SAMPLING SPECIFICATIONS REQUESTED SAMPLING DEPTH INTERVAL (feet): _____ REQUESTED WAIT FOLLOWING DEVELOPMENT /PURGING (hours): _____	INITIAL MEASUREMENTS TIME ELAPSED FROM FINAL DEVELOPMENT/PURGING (hours): _____ INITIAL WATER DEPTH (feet): <u>4.08</u> NONAQUEOUS LIQUIDS PRESENT (DESCRIBE): _____
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WATER QUALITY /WATER COLLECTION								DO - DISSOLVED OXYGEN; COND. - CONDUCTIVITY				
DATE	TIME	SAMPLER INITIALS	WATER QUALITY READINGS					WATER COLLECTION DATA				NOTES
			TEMP (°C)	pH	DO (mg/L)	COND. (Umhos/cm)	VOLUME REMOVED (gallons)	REMOVAL RATE (gal/min)	PUMP INTAKE DEPTH (feet)	BAIL	FINAL WATER DEPTH (feet)	
6/17	1355	KJ	16.5	7.28	0.08	5150	3.0	—	—	✓		
			16.2	7.20	0.05	5150	5.0	—	—	✓		
			16.1	7.31	0.12	5260	6.5	—	—		4.16	

SAMPLE CONTAINERS									
CONTAINER TYPE: G - CLEAR GLASS; A - AMBER GLASS; P - PLASTIC; V - VOA VILE (GLASS); O - OTHER PRESERVATIVES: H - HCL; N - HNO ₃ ; S - H ₂ SO ₄ ; A - NaOH; M - HgCl ₂ ; O - OTHER (SPECIFY); - - NONE									
ANALYTICAL PARAMETERS	CONTAINER			FIELD FILTERED		PRES.	COOLED		COMMENTS
	NUMBER	TYPE	VOLUME	YES	NO		YES	NO	

COMMENTS: _____
 SAMPLED BY: _____
 SIGNATURE: _____ DATE: _____

WATER SAMPLING RECORD

PROJECT NAME Quarterly Monitoring LOCATION NUMBER MW-5
CLIENT COMPANY Thriftway Refining DATE 6/17/97
SITE NAME Thriftway Refinery PHASE/TASK NO. _____
SITE ADDRESS 626 Rd 5500, Bloomfield, NM

SAMPLING SPECIFICATIONS REQUESTED SAMPLING DEPTH INTERVAL (feet): _____ REQUESTED WAIT FOLLOWING DEVELOPMENT /PURGING (hours): _____	INITIAL MEASUREMENTS TIME ELAPSED FROM FINAL DEVELOPMENT/PURGING (hours): _____ INITIAL WATER DEPTH (feet): <u>4.41</u> NONAQUEOUS LIQUIDS PRESENT (DESCRIBE): _____
---	--

WATER QUALITY /WATER COLLECTION								DO = DISSOLVED OXYGEN; COND. = CONDUCTIVITY				
DATE	TIME	SAMPLER INITIALS	WATER QUALITY READINGS					WATER COLLECTION DATA				
			TEMP (°C)	pH	DO (mg/L)	COND. (Umhos/cm)	VOLUME REMOVED (gallons)	REMOVAL RATE (gal/min)	PUMP INTAKE DEPTH (feet)	BAIL	FINAL WATER DEPTH (feet)	NOTES
6/17	1305	ICS	13.9	8.26	0.26	5800	2.0	-	-	✓	-	
			13.8	8.27	0.33	5960	3.5	-	-	✓	-	
			13.7	8.32	0.30	5850	5.5	-	-	✓	4.45	

SAMPLE CONTAINERS			CONTAINER TYPE: G = CLEAR GLASS; A = AMBER GLASS; P = PLASTIC; V = VOA VILE (GLASS); O = OTHER PRESERVATIVES: H = HCL; N = HNO ₃ ; S = H ₂ SO ₄ ; A = NaOH; M = HgCl ₂ ; O = OTHER (SPECIFY); - = NONE						
ANALYTICAL PARAMETERS	CONTAINER			FIELD FILTERED		PRES.	COOLED		COMMENTS
	NUMBER	TYPE	VOLUME	YES	NO		YES	NO	

COMMENTS: _____
 SAMPLED BY: _____
 SIGNATURE: _____ DATE: _____

BIOTECH
REMEDATION
710 East 20th Street
Farmington, NM 87401
Field Office (505) 632-3365

WATER SAMPLING RECORD

PROJECT NAME Quarterly Monitoring LOCATION NUMBER MW-6
CLIENT COMPANY Thriftway Refining DATE 6/17/97
SITE NAME Thriftway Refinery PHASE/TASK NO. _____
SITE ADDRESS 626 Rd 5500, Bloomfield, Nm

SAMPLING SPECIFICATIONS	REQUESTED SAMPLING DEPTH INTERVAL (feet): _____	INITIAL MEASUREMENTS
	REQUESTED WAIT FOLLOWING DEVELOPMENT /PURGING (hours): _____	TIME ELAPSED FROM FINAL DEVELOPMENT/PURGING (hours): _____
		INITIAL WATER DEPTH (feet): <u>3.62</u>
		NONAQUEOUS LIQUIDS PRESENT (DESCRIBE): _____

WATER QUALITY /WATER COLLECTION								DO = DISSOLVED OXYGEN; COND. = CONDUCTIVITY				
DATE	TIME	SAMPLER INITIALS	WATER QUALITY READINGS					WATER COLLECTION DATA				
			TEMP (°C)	pH	DO (mg/L)	COND. (Umhos/cm)	VOLUME REMOVED (gallons)	REMOVAL RATE (gal/min)	PUMP INTAKE DEPTH (feet)	BAIL	FINAL WATER DEPTH (feet)	NOTES
6/17	1533	KS	15.6	7.45	0.34	3680	4.5			✓		3" well
			15.5	7.32	0.55	4150	7.5			✓		slow recharge well
			15.9	7.44	1.71	4250	10.5	end of water			13.25	took several hours

SAMPLE CONTAINERS			CONTAINER TYPE: G = CLEAR GLASS; A = AMBER GLASS; P = PLASTIC; V = VOA VILE (GLASS); O = OTHER PRESERVATIVES: H = HCL; N = HNO ₃ ; S = H ₂ SO ₄ ; A = NaOH; M = HgCl ₂ ; O = OTHER (SPECIFY); - = NONE									
ANALYTICAL PARAMETERS	CONTAINER			FIELD FILTERED		PRES.	COOLED		COMMENTS			
	NUMBER	TYPE	VOLUME	YES	NO		YES	NO				

COMMENTS: _____
SAMPLED BY: _____
SIGNATURE: _____ DATE: _____

BIOTECH
REMEDICATION
710 East 20th Street
Farmington, NM 87401
Field Office (505) 632-3365

WATER SAMPLING RECORD

PROJECT NAME QUARTERLY Monitoring LOCATION NUMBER MW-8
CLIENT COMPANY Thriftway Refining DATE 6/16/97
SITE NAME Thriftway Refinery PHASE/TASK NO. _____
SITE ADDRESS 626 Rd. 5500

SAMPLING SPECIFICATIONS	INITIAL MEASUREMENTS
	REQUESTED SAMPLING DEPTH INTERVAL (feet): _____
	TIME ELAPSED FROM FINAL DEVELOPMENT/PURGING (hours): _____
REQUESTED WAIT FOLLOWING DEVELOPMENT /PURGING (hours): _____	INITIAL WATER DEPTH (feet): <u>3.00</u>
NONAQUEOUS LIQUIDS PRESENT (DESCRIBE): _____	

WATER QUALITY /WATER COLLECTION								DO = DISSOLVED OXYGEN; COND. = CONDUCTIVITY				
DATE	TIME	SAMPLER INITIALS	WATER QUALITY READINGS					WATER COLLECTION DATA				
			TEMP (°C)	pH	DO (mg/L)	COND. (Umhos/cm)	VOLUME REMOVED (gallons)	REMOVAL RATE (gal/min)	PUMP INTAKE DEPTH (feet)	BAIL	FINAL WATER DEPTH (feet)	NOTES
6/16/97	1443	KS	Well sonded in to a depth of 3.30'. Insufficient water to sample and develop data for									

SAMPLE CONTAINERS			CONTAINER TYPE: G = CLEAR GLASS; A = AMBER GLASS; P = PLASTIC; V = VOA VILE (GLASS); O = OTHER PRESERVATIVES: H = HCL; N = HNO ₃ ; S = H ₂ SO ₄ ; A = NaOH; M = HgCl ₂ ; O = OTHER (SPECIFY); - = NONE									
ANALYTICAL PARAMETERS	CONTAINER			FIELD FILTERED		PRES.	COOLED		COMMENTS			
	NUMBER	TYPE	VOLUME	YES	NO		YES	NO				

COMMENTS: _____
SAMPLED BY: _____
SIGNATURE: _____ DATE: _____

WATER SAMPLING RECORD

PROJECT NAME Quarterly Monitoring
CLIENT COMPANY Thriftway Refining
SITE NAME Thriftway Refinery
SITE ADDRESS 626 Rd 5500 Bloomfield, nm

LOCATION NUMBER MW 9
DATE 6/16/97
PHASE/TASK NO. _____

SAMPLING SPECIFICATIONS		INITIAL MEASUREMENTS	
REQUESTED SAMPLING DEPTH INTERVAL (feet): _____		TIME ELAPSED FROM FINAL DEVELOPMENT/PURGING (hours): _____	
REQUESTED WAIT FOLLOWING DEVELOPMENT /PURGING (hours): _____		INITIAL WATER DEPTH (feet): <u>4.27</u>	
		NONAQUEOUS LIQUIDS PRESENT (DESCRIBE): _____	

WATER QUALITY /WATER COLLECTION								DO = DISSOLVED OXYGEN; COND. = CONDUCTIVITY				
DATE	TIME	SAMPLER INITIALS	WATER QUALITY READINGS					WATER COLLECTION DATA				
			TEMP (°C)	pH	DO (mg/L)	COND. (Umhos/cm)	VOLUME REMOVED (gallons)	REMOVAL RATE (gal/min)	PUMP INTAKE DEPTH (feet)	BAIL	FINAL WATER DEPTH (feet)	NOTES
6/16/97	1402	JCS	15.5	7.34	1.82	7410	1.5	-	-	✓		low water
			14.3	7.41	1.85	7460	2.0	-	-	✓		producing well -
			14.4	3.36	3.06	7450	3.25	-	-	✓	10.92	30-45 min
			2.31									

SAMPLE CONTAINERS			CONTAINER TYPE: G = CLEAR GLASS; A = AMBER GLASS; P = PLASTIC; V = VOA VILE (GLASS); O = OTHER PRESERVATIVES: H = HCL; N = HNO ₃ ; S = H ₂ SO ₄ ; A = NaOH; M = HgCl ₂ ; O = OTHER (SPECIFY); - = NONE							
ANALYTICAL PARAMETERS	CONTAINER			FIELD FILTERED		PRES.	COOLED		COMMENTS	
	NUMBER	TYPE	VOLUME	YES	NO		YES	NO		

COMMENTS: _____
SAMPLED BY: _____
SIGNATURE: _____ DATE: _____

WATER SAMPLING RECORD

PROJECT NAME Quarterly Monitoring
 CLIENT COMPANY Thriftway Refining
 SITE NAME Thriftway Refining
 SITE ADDRESS 626 RD 5500

LOCATION NUMBER MW-10
 DATE 6/16/97
 PHASE/TASK NO. _____

SAMPLING SPECIFICATIONS REQUESTED SAMPLING DEPTH INTERVAL (feet): _____ REQUESTED WAIT FOLLOWING DEVELOPMENT /PURGING (hours): _____	INITIAL MEASUREMENTS TIME ELAPSED FROM FINAL DEVELOPMENT/PURGING (hours): _____ INITIAL WATER DEPTH (feet): <u>4.10</u> NONAQUEOUS LIQUIDS PRESENT (DESCRIBE): _____
---	--

WATER QUALITY /WATER COLLECTION								DO - DISSOLVED OXYGEN; COND. - CONDUCTIVITY				
DATE	TIME	SAMPLER INITIALS	WATER QUALITY READINGS					WATER COLLECTION DATA				
			TEMP (°C)	pH	DO (mg/L)	COND. (Umhos/cm)	VOLUME REMOVED (gallons)	REMOVAL RATE (gal/min)	PUMP INTAKE DEPTH (feet)	BAIL	FINAL WATER DEPTH (feet)	NOTES
6/16/97	1109	ICS	15.9	7.5	0.90	7410	2 1/2	—	—	✓	—	—
			14.2	7.5	0.69	7460	3 1/2	—	—	—	—	—
			13.7	7.5	0.59	7450	5.0				2.15	

SAMPLE CONTAINERS			CONTAINER TYPE: G = CLEAR GLASS; A = AMBER GLASS; P = PLASTIC; V = VOA VILE (GLASS); O = OTHER PRESERVATIVES: H = HCL; N = HNO ₃ ; S = H ₂ SO ₄ ; A = NaOH; M = HgCl ₂ ; O = OTHER (SPECIFY); - = NONE						
ANALYTICAL PARAMETERS	CONTAINER			FIELD FILTERED		PRES.	COOLED		COMMENTS
	NUMBER	TYPE	VOLUME	YES	NO		YES	NO	

COMMENTS: _____
 SAMPLED BY: _____
 SIGNATURE: _____ DATE: _____

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WATER SAMPLING RECORD

PROJECT NAME

Quarterly Monitoring

LOCATION NUMBER

mw-11

CLIENT COMPANY

Thriftway Refining

DATE

6/16

SITE NAME

Thriftway Refinery

PHASE/TASK NO.

SITE ADDRESS

626 Rd 5500

SAMPLING SPECIFICATIONS

REQUESTED SAMPLING DEPTH INTERVAL (feet):

REQUESTED WAIT FOLLOWING
DEVELOPMENT /PURGING (hours):

INITIAL MEASUREMENTS

TIME ELAPSED FROM FINAL DEVELOPMENT/PURGING (hours):

INITIAL WATER DEPTH (feet): 5.05

NONAQUEOUS LIQUIDS PRESENT (DESCRIBE):

WATER QUALITY /WATER COLLECTION

DO = DISSOLVED OXYGEN; COND. = CONDUCTIVITY

DATE	TIME	SAMPLER INITIALS	WATER QUALITY READINGS					WATER COLLECTION DATA				
			TEMP (°C)	pH	DO (mg/L)	COND. (Umhos/cm)	VOLUME REMOVED (gallons)	REMOVAL RATE (gal/min)	PUMP INTAKE DEPTH (feet)	BAIL	FINAL WATER DEPTH (feet)	NOTES
6/16	1146	KS	14.4	7.40	0.75	6700	3.0	—	—	✓		
			13.4	7.41	0.30	6900	4.0	—	—	✓	—	
			13.4	7.40	0.31	6900	5.0	—	—	✓		

SAMPLE CONTAINERS

CONTAINER TYPE: G = CLEAR GLASS; A = AMBER GLASS; P = PLASTIC; V = VOA VILE (GLASS); O = OTHER
PRESERVATIVES: H = HCL; N = HNO₃; S = H₂SO₄; A = NaOH; M = HgCl₂; O = OTHER (SPECIFY); - = NONE

ANALYTICAL PARAMETERS	CONTAINER			FIELD FILTERED		PRES.	COOLED		COMMENTS
	NUMBER	TYPE	VOLUME	YES	NO		YES	NO	

COMMENTS:

SAMPLED BY:

SIGNATURE:

DATE:

WATER SAMPLING RECORD

PROJECT NAME

*Quarterly Monitoring
Refinery Monitoring*

LOCATION NUMBER

*MW-13
870*

CLIENT COMPANY

Thriftway Refining

DATE

6/16/97

SITE NAME

Same as above Thriftway Refining

PHASE/TASK NO.

SITE ADDRESS

626 Rd 5500 Bloomfield, nm

SAMPLING SPECIFICATIONS

REQUESTED SAMPLING DEPTH INTERVAL (feet):

REQUESTED WAIT FOLLOWING
DEVELOPMENT /PURGING (hours):

INITIAL MEASUREMENTS

TIME ELAPSED FROM FINAL DEVELOPMENT/PURGING (hours):

INITIAL WATER DEPTH (feet): *17.93*

NONAQUEOUS LIQUIDS PRESENT (DESCRIBE):

none

WATER QUALITY /WATER COLLECTION

DO = DISSOLVED OXYGEN; COND. = CONDUCTIVITY

DATE	TIME	SAMPLER INITIALS	WATER QUALITY READINGS					WATER COLLECTION DATA				
			TEMP (°C)	pH	DO (mg/L)	COND. (Umhos/cm)	VOLUME REMOVED (gallons)	REMOVAL RATE (gal/min)	PUMP INTAKE DEPTH (feet)	BAIL	FINAL WATER DEPTH (feet)	NOTES
6/16	0900	KS	17.0	6.96	.29	5820	2	-	-	✓	-	
			17.2	7.16	.19	6180	3.5	-	-	✓	-	
			17.0	7.20	.19	6350	5.0	-	-	-	16.80	-

SAMPLE CONTAINERS

CONTAINER TYPE: G = CLEAR GLASS; A = AMBER GLASS; P = PLASTIC; V = VOA VILE (GLASS); O = OTHER
PRESERVATIVES: H = HCL; N = HNO₃; S = H₂SO₄; A = NaOH; M = HgCl₂; O = OTHER (SPECIFY); - = NONE

ANALYTICAL PARAMETERS	CONTAINER			FIELD FILTERED		PRES.	COOLED		COMMENTS
	NUMBER	TYPE	VOLUME	YES	NO		YES	NO	

Quarterly monitoring see attached

COMMENTS:

SAMPLED BY:

SIGNATURE:

DATE:

WATER SAMPLING RECORD

PROJECT NAME Quarterly Monitoring LOCATION NUMBER MW-15
 CLIENT COMPANY Thriftway Refining DATE 8/17/97
 SITE NAME Thriftway Refinery PHASE/TASK NO. _____
 SITE ADDRESS 626 Rd 5500, Bloomfield, NM

SAMPLING SPECIFICATIONS REQUESTED SAMPLING DEPTH INTERVAL (feet): _____ REQUESTED WAIT FOLLOWING DEVELOPMENT /PURGING (hours): _____	INITIAL MEASUREMENTS TIME ELAPSED FROM FINAL DEVELOPMENT/PURGING (hours): _____ INITIAL WATER DEPTH (feet): <u>13.28</u> NONAQUEOUS LIQUIDS PRESENT (DESCRIBE): _____
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WATER QUALITY WATER COLLECTION								DO = DISSOLVED OXYGEN; COND. = CONDUCTIVITY				
DATE	TIME	SAMPLER INITIALS	WATER QUALITY READINGS					WATER COLLECTION DATA				
			TEMP (°C)	pH	DO (mg/L)	COND. (Umhos/cm)	VOLUME REMOVED (gallons)	REMOVAL RATE (gal/min)	PUMP INTAKE DEPTH (feet)	BAIL	FINAL WATER DEPTH (feet)	NOTES
6/17	0959	JS	19.0	7.74	0.48	4570	2.0	-	-	✓	-	Low water
		KS	13.7	7.60	2.57	4890	3.25	-	-	✓	-	production
			14.2	7.76	1.71	4980	4.25	-	-	✓	18.71	from well
			13.7		1.55							about 8-10

ANALYTICAL PARAMETERS			CONTAINER		FIELD FILTERED		PRES.	COOLED		COMMENTS
			NUMBER	TYPE	VOLUME	YES	NO	YES	NO	

COMMENTS: _____
 SAMPLED BY: _____
 SIGNATURE: _____ DATE: _____

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WATER SAMPLING RECORD

PROJECT NAME Quarterly Monitoring LOCATION NUMBER MW-18
 CLIENT COMPANY Thriftway Refining DATE 6/18/97
 SITE NAME Thriftway Refinery PHASE/TASK NO. _____
 SITE ADDRESS 626 Rd. 5500, Bloomfield, NM

SAMPLING SPECIFICATIONS REQUESTED SAMPLING DEPTH INTERVAL (feet): _____ REQUESTED WAIT FOLLOWING DEVELOPMENT /PURGING (hours): _____	INITIAL MEASUREMENTS TIME ELAPSED FROM FINAL DEVELOPMENT/PURGING (hours): _____ INITIAL WATER DEPTH (feet): <u>3.00</u> NONAQUEOUS LIQUIDS PRESENT (DESCRIBE): _____
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WATER QUALITY /WATER COLLECTION								DO = DISSOLVED OXYGEN; COND. = CONDUCTIVITY				
DATE	TIME	SAMPLER INITIALS	WATER QUALITY READINGS					WATER COLLECTION DATA				
			TEMP (°c)	pH	DO (mg/L)	COND. (Umhos/cm)	VOLUME REMOVED (gallons)	REMOVAL RATE (gal/min)	PUMP INTAKE DEPTH (feet)	BAIL	FINAL WATER DEPTH (feet)	NOTES
6/18	0852	KS	14.9	7.40	0.26	3540	2.0	—	—	✓	—	
			14.9	7.55	1.12	4020	4.0	—	—	✓	—	
			14.9	7.40	2.06	4520	5.25	—	—	✓	—	
			14.9	7.49	2.03	4620	6.00	—	—	✓	11.55	

SAMPLE CONTAINERS									
CONTAINER TYPE: G = CLEAR GLASS; A = AMBER GLASS; P = PLASTIC; V = VOA VILE (GLASS); O = OTHER PRESERVATIVES: H = HCL; N = HNO ₃ ; S = H ₂ SO ₄ ; A = NaOH; M = HgCl ₂ ; O = OTHER (SPECIFY); - = NONE									
ANALYTICAL PARAMETERS	CONTAINER			FIELD FILTERED		PRES.	COOLED		COMMENTS
	NUMBER	TYPE	VOLUME	YES	NO		YES	NO	

COMMENTS: _____
 SAMPLED BY: _____
 SIGNATURE: _____ DATE: _____

WATER SAMPLING RECORD

PROJECT NAME Quarterly Monitoring LOCATION NUMBER MW-19
CLIENT COMPANY Thriftway Refining DATE 6/17/97
SITE NAME Thriftway Refinery PHASE/TASK NO. _____
SITE ADDRESS 626 Rd 5500, Bloomfield, NM

SAMPLING SPECIFICATIONS REQUESTED SAMPLING DEPTH INTERVAL (feet): _____ REQUESTED WAIT FOLLOWING DEVELOPMENT /PURGING (hours): _____	INITIAL MEASUREMENTS TIME ELAPSED FROM FINAL DEVELOPMENT/PURGING (hours): _____ INITIAL WATER DEPTH (feet): <u>3.12</u> NONAQUEOUS LIQUIDS PRESENT (DESCRIBE): _____
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WATER QUALITY /WATER COLLECTION								DO = DISSOLVED OXYGEN; COND. = CONDUCTIVITY				
DATE	TIME	SAMPLER INITIALS	WATER QUALITY READINGS					WATER COLLECTION DATA				NOTES
			TEMP (°C)	pH	DO (mg/L)	COND. (Umhos/cm)	VOLUME REMOVED (gallons)	REMOVAL RATE (gal/min)	PUMP INTAKE DEPTH (feet)	BAIL	FINAL WATER DEPTH (feet)	
6/17	1625	KS	17.8	7.72	1.94	4540	2.0	-	-	✓	-	slow recharge well - taken 5min or more
			17.1	7.75	0.82	4570	4.0					
			17.1	7.81	0.81	4570	6.0				3.46	

SAMPLE CONTAINERS									
CONTAINER TYPE: G = CLEAR GLASS; A = AMBER GLASS; P = PLASTIC; V = VOA VILE (GLASS); O = OTHER PRESERVATIVES: H = HCL; N = HNO ₃ ; S = H ₂ SO ₄ ; A = NaOH; M = HgCl ₂ ; O = OTHER (SPECIFY); - = NONE									
ANALYTICAL PARAMETERS	CONTAINER			FIELD FILTERED		PRES.	COOLED		COMMENTS
	NUMBER	TYPE	VOLUME	YES	NO		YES	NO	

COMMENTS: _____
 SAMPLED BY: _____
 SIGNATURE: _____ DATE: _____

WATER SAMPLING RECORD

PROJECT NAME Quarterly Monitoring
CLIENT COMPANY Thriftway Refining
SITE NAME Thriftway Refinery
SITE ADDRESS 626 Rd. 5500

LOCATION NUMBER MW-20
DATE 6/16/97
PHASE/TASK NO. _____

SAMPLING SPECIFICATIONS		INITIAL MEASUREMENTS	
REQUESTED SAMPLING DEPTH INTERVAL (feet): _____		TIME ELAPSED FROM FINAL DEVELOPMENT/PURGING (hours): _____	
REQUESTED WAIT FOLLOWING DEVELOPMENT/PURGING (hours): _____		INITIAL WATER DEPTH (feet): <u>5.21</u>	
		NONAQUEOUS LIQUIDS PRESENT (DESCRIBE): _____	

WATER QUALITY / WATER COLLECTION								DO - DISSOLVED OXYGEN; COND. - CONDUCTIVITY				
DATE	TIME	SAMPLER INITIALS	WATER QUALITY READINGS					WATER COLLECTION DATA				
			TEMP (°C)	pH	DO (mg/L)	COND. (Umhos/cm)	VOLUME REMOVED (gallons)	REMOVAL RATE (gal/min)	PUMP INTAKE DEPTH (feet)	BAIL	FINAL WATER DEPTH (feet)	NOTES
6/16	1515	ICL	15.0	7.21	0.51	5740	3.0	-	-	-	-	Strong
			13.7	7.04	0.27	5730	4.25	-	-	-	-	sewer
			13.4	7.09	0.26	5730	5.00				6.75	smell and
												water appeared
												blackish in
												color

SAMPLE CONTAINERS			CONTAINER TYPE: G = CLEAR GLASS; A = AMBER GLASS; P = PLASTIC; V = VOA VILE (GLASS); O = OTHER PRESERVATIVES: H = HCL; N = HNO ₃ ; S = H ₂ SO ₄ ; A = NaOH; M = HgCl ₂ ; O = OTHER (SPECIFY); - = NONE									
ANALYTICAL PARAMETERS	CONTAINER			FIELD FILTERED		PRES.	COOLED		COMMENTS			
	NUMBER	TYPE	VOLUME	YES	NO		YES	NO				

COMMENTS: _____
SAMPLED BY: _____
SIGNATURE: _____ DATE: _____

WATER SAMPLING RECORD

PROJECT NAME Quantaly Monitoring LOCATION NUMBER MW-21
CLIENT COMPANY Thriftway Refining DATE 6/17/97
SITE NAME Thriftway Refinery PHASE/TASK NO. _____
SITE ADDRESS 626 Rd 5500, Bloomfield, NM

SAMPLING SPECIFICATIONS		INITIAL MEASUREMENTS	
REQUESTED SAMPLING DEPTH INTERVAL (feet): _____		TIME ELAPSED FROM FINAL DEVELOPMENT/PURGING (hours): _____	
REQUESTED WAIT FOLLOWING DEVELOPMENT /PURGING (hours): _____		INITIAL WATER DEPTH (feet): <u>2.93</u>	
		NONAQUEOUS LIQUIDS PRESENT (DESCRIBE): _____	

WATER QUALITY /WATER COLLECTION								DO = DISSOLVED OXYGEN; COND. = CONDUCTIVITY				
DATE	TIME	SAMPLER INITIALS	WATER QUALITY READINGS					WATER COLLECTION DATA				
			TEMP (°C)	pH	DO (mg/L)	COND. (Umhos/cm)	VOLUME REMOVED (gallons)	REMOVAL RATE (gal/min)	PUMP INTAKE DEPTH (feet)	BAIL	FINAL WATER DEPTH (feet)	NOTES
6/17	0900	ICS	17.9	6.97	0.47	7680	3.0	-	-	✓	-	
			17.9	6.96	0.23	7470	5.0	-	-	-	-	
			17.8	6.97	0.19	7500	7.0	-	-	-	2.97	

SAMPLE CONTAINERS			CONTAINER TYPE: G = CLEAR GLASS; A = AMBER GLASS; P = PLASTIC; V = VOA VILE (GLASS); O = OTHER PRESERVATIVES: H = HCL; N = HNO ₃ ; S = H ₂ SO ₄ ; A = NaOH; M = HgCl ₂ ; O = OTHER (SPECIFY); - = NONE									
ANALYTICAL PARAMETERS	CONTAINER			FIELD FILTERED		PRES.	COOLED		COMMENTS			
	NUMBER	TYPE	VOLUME	YES	NO		YES	NO				

COMMENTS: _____
SAMPLED BY: _____
SIGNATURE: _____ DATE: _____

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WATER SAMPLING RECORD

PROJECT NAME Quarterly Monitoring
CLIENT COMPANY Thriftway Refining
SITE NAME Thriftway Refinery
SITE ADDRESS 626 Rd. 5500

LOCATION NUMBER MW-22
DATE 6/19/97
PHASE/TASK NO. _____

SAMPLING SPECIFICATIONS	INITIAL MEASUREMENTS
REQUESTED SAMPLING DEPTH INTERVAL (feet): _____	TIME ELAPSED FROM FINAL DEVELOPMENT/PURGING (hours): _____
REQUESTED WAIT FOLLOWING DEVELOPMENT/PURGING (hours): _____	INITIAL WATER DEPTH (feet): <u>4.15</u>
	NONAQUEOUS LIQUIDS PRESENT (DESCRIBE): _____

WATER QUALITY / WATER COLLECTION								DO = DISSOLVED OXYGEN; COND. = CONDUCTIVITY				
DATE	TIME	SAMPLER INITIALS	WATER QUALITY READINGS					WATER COLLECTION DATA				
			TEMP (°C)	pH	DO (mg/L)	COND. (Umhos/cm)	VOLUME REMOVED (gallons)	REMOVAL RATE (gal/min)	PUMP INTAKE DEPTH (feet)	BAIL	FINAL WATER DEPTH (feet)	NOTES
6/16	1615	JCS	14.6	7.10	0.10	7030	2.5	-	-	✓	-	
			14.6	7.03	0.20	7180	3.75	-	-	✓	-	
			15.0	7.04	0.29	7250	5.25	-	-	✓	5.95	
			14.8		0.21							

SAMPLE CONTAINERS			CONTAINER TYPE: G = CLEAR GLASS; A = AMBER GLASS; P = PLASTIC; V = VOA VILE (GLASS); O = OTHER PRESERVATIVES: H = HCL; N = HNO ₃ ; S = H ₂ SO ₄ ; A = NaOH; M = HgCl ₂ ; O = OTHER (SPECIFY); - = NONE						
ANALYTICAL PARAMETERS	CONTAINER			FIELD FILTERED		PRES.	COOLED		COMMENTS
	NUMBER	TYPE	VOLUME	YES	NO		YES	NO	

COMMENTS: _____
SAMPLED BY: _____
SIGNATURE: _____ DATE: _____

WATER SAMPLING RECORD

PROJECT NAME Quarterly Monitoring
 CLIENT COMPANY Thriftway Refining
 SITE NAME Thriftway Refinery
 SITE ADDRESS 626 Rd 5500, Bloomfield, NM

LOCATION NUMBER MW-1
 DATE 9/24/97
 PHASE/TASK NO. _____

SAMPLING SPECIFICATIONS REQUESTED SAMPLING DEPTH INTERVAL (feet): _____ REQUESTED WAIT FOLLOWING DEVELOPMENT /PURGING (hours): _____	INITIAL MEASUREMENTS TIME ELAPSED FROM FINAL DEVELOPMENT/PURGING (hours): _____ INITIAL WATER DEPTH (feet): <u>15.08</u> NONAQUEOUS LIQUIDS PRESENT (DESCRIBE): _____
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WATER QUALITY WATER COLLECTION								DO = DISSOLVED OXYGEN; COND. = CONDUCTIVITY				
DATE	TIME	SAMPLER INITIALS	WATER QUALITY READINGS					WATER COLLECTION DATA				
			TEMP (°C)	pH	DO (mg/L)	COND. (Umhos/cm)	VOLUME REMOVED (gallons)	REMOVAL RATE (gal/min)	PUMP INTAKE DEPTH (feet)	BAIL	FINAL WATER DEPTH (feet)	NOTES
9/24	1515	KS	17.5	7.14	0.07	4470	3.0					
	1533		17.0	7.15	0.06	4510	4.5					
	1550		17.0	7.15	0.06	4590	6.0				23.06	

SAMPLE CONTAINERS			CONTAINER TYPE: G = CLEAR GLASS; A = AMBER GLASS; P = PLASTIC; V = VOA VILE (GLASS); O = OTHER PRESERVATIVES: H = HCL; N = HNO ₃ ; S = H ₂ SO ₄ ; A = NaOH; M = HgCl ₂ ; O = OTHER (SPECIFY); - = NONE						
ANALYTICAL PARAMETERS	CONTAINER			FIELD FILTERED		PRES.	COOLED		COMMENTS
	NUMBER	TYPE	VOLUME	YES	NO		YES	NO	

COMMENTS: _____
 SAMPLED BY: _____
 SIGNATURE: _____ DATE: _____

WATER SAMPLING RECORD

PROJECT NAME Quarterly Monitoring LOCATION NUMBER MW-4
CLIENT COMPANY Thriftway Refining DATE 9/24/97
SITE NAME Thriftway Refinery PHASE/TASK NO. _____
SITE ADDRESS 626 Rd 5500, Bloomfield NM

SAMPLING SPECIFICATIONS REQUESTED SAMPLING DEPTH INTERVAL (feet): _____ REQUESTED WAIT FOLLOWING DEVELOPMENT /PURGING (hours): _____	INITIAL MEASUREMENTS TIME ELAPSED FROM FINAL DEVELOPMENT/PURGING (hours): _____ INITIAL WATER DEPTH (feet): <u>4.19</u> NONAQUEOUS LIQUIDS PRESENT (DESCRIBE): _____
---	--

WATER QUALITY WATER COLLECTION							DO = DISSOLVED OXYGEN; COND. = CONDUCTIVITY					
DATE	TIME	SAMPLER INITIALS	WATER QUALITY READINGS					WATER COLLECTION DATA				
			TEMP (°C)	pH	DO (mg/L)	COND. (Umhos/cm)	VOLUME REMOVED (gallons)	REMOVAL RATE (gal/min)	PUMP INTAKE DEPTH (feet)	BAIL	FINAL WATER DEPTH (feet)	NOTES
9/24	1310	JS	22.0	7.29	0.31	3840	5.0			✓		
	1325	JS	20.8	7.38	0.25	3990	10.0					
	1350	JS	20.6	7.51	0.19	4170	15.0				4.51	

SAMPLE CONTAINERS											
CONTAINER TYPE: G = CLEAR GLASS; A = AMBER GLASS; P = PLASTIC; V = VOA VILE (GLASS); O = OTHER PRESERVATIVES: H = HCL; N = HNO ₃ ; S = H ₂ SO ₄ ; AL = NaOH; M = HgCl ₂ ; O = OTHER (SPECIFY); - = NONE											
ANALYTICAL PARAMETERS	CONTAINER			FIELD FILTERED		PRES.	COOLED		COMMENTS		
	NUMBER	TYPE	VOLUME	YES	NO		YES	NO			

COMMENTS: _____
 SAMPLED BY: _____
 SIGNATURE: _____ DATE: _____

WATER SAMPLING RECORD

PROJECT NAME

Quantitative Monitoring
Thriftway Refinery

LOCATION NUMBER

MW-5

CLIENT COMPANY

Thriftway Refining

DATE

9/27/97

SITE NAME

Thriftway Refinery

PHASE/TASK NO.

SITE ADDRESS

626 Rd 5500, Bloomfield NM

SAMPLING SPECIFICATIONS

REQUESTED SAMPLING DEPTH INTERVAL (feet):

INITIAL MEASUREMENTS

TIME ELAPSED FROM FINAL DEVELOPMENT/PURGING (hours):

INITIAL WATER DEPTH (feet):

3.22

REQUESTED WAIT FOLLOWING
DEVELOPMENT /PURGING (hours):

NONAQUEOUS LIQUIDS PRESENT (DESCRIBE):

WATER QUALITY WATER COLLECTION

DO - DISSOLVED OXYGEN; COND. - CONDUCTIVITY

DATE	TIME	SAMPLER INITIALS	WATER QUALITY READINGS					WATER COLLECTION DATA					NOTES
			TEMP (°C)	pH	DO (mg/L)	COND. (Umhos/cm)	VOLUME REMOVED (gallons)	REMOVAL RATE (gal/min)	PUMP INTAKE DEPTH (feet)	BAIL	FINAL WATER DEPTH (feet)		
9/24	1115	KJ	17.4	8.34	0.04	5680	5.0			✓		water is grey in	
↓	1141	IC	17.3	8.36	0.08	5730	7.5			✓			
	1200	KJ	17.3	8.26	0.09	5940	11.0				7.82		

SAMPLE CONTAINERS

CONTAINER TYPE: G - CLEAR GLASS; A - AMBER GLASS; P - PLASTIC; V - VOA VILE (GLASS); O - OTHER
PRESERVATIVES: H - HCL; N - HNO₃; S - H₂SO₄; A - NaOH; M - HgCl₂; O - OTHER (SPECIFY); - - NONE

ANALYTICAL PARAMETERS	CONTAINER			FIELD FILTERED		PRES.	COOLED		COMMENTS
	NUMBER	TYPE	VOLUME	YES	NO		YES	NO	

COMMENTS:

SAMPLED BY:

SIGNATURE:

DATE:

WATER SAMPLING RECORD

PROJECT NAME Quartermaster Monitoring LOCATION NUMBER MW-6
 CLIENT COMPANY Thriftway Refining DATE 9/24/97
 SITE NAME Thriftway Refinery PHASE/TASK NO. _____
 SITE ADDRESS 626 Rd 5500, Bloomfield, NM

SAMPLING SPECIFICATIONS REQUESTED SAMPLING DEPTH INTERVAL (feet): _____ REQUESTED WAIT FOLLOWING DEVELOPMENT /PURGING (hours): _____	INITIAL MEASUREMENTS TIME ELAPSED FROM FINAL DEVELOPMENT/PURGING (hours): _____ INITIAL WATER DEPTH (feet): <u>4.58</u> NONAQUEOUS LIQUIDS PRESENT (DESCRIBE): _____
---	--

WATER QUALITY WATER COLLECTION								DO - DISSOLVED OXYGEN; COND. - CONDUCTIVITY				
DATE	TIME	SAMPLER INITIALS	WATER QUALITY READINGS					WATER COLLECTION DATA				
			TEMP (°C)	pH	DO (mg/L)	COND. (Umhos/cm)	VOLUME REMOVED (gallons)	REMOVAL RATE (gal/min)	PUMP INTAKE DEPTH (feet)	BAIL	FINAL WATER DEPTH (feet)	NOTES
9/24	1415	KJ	19.7	7.43	0.50	3530	5.0				✓	
	1432	KS	19.5	7.34	0.52	3750	10.0				✓	
	1455	KJ	19.0	7.29	0.21	4100	15.0					10.10

ANALYTICAL PARAMETERS		CONTAINER TYPE: G - CLEAR GLASS; A - AMBER GLASS; P - PLASTIC; V - VOA VILE (GLASS); O - OTHER PRESERVATIVES: H - HCL; N - HNO ₃ ; S - H ₂ SO ₄ ; A - NaOH; M - HgCl ₂ ; O - OTHER (SPECIFY); - - NONE									
		CONTAINER			FIELD FILTERED		PRES.	COOLED		COMMENTS	
		NUMBER	TYPE	VOLUME	YES	NO		YES	NO		

COMMENTS: _____
 SAMPLED BY: _____
 SIGNATURE: _____ DATE: _____

WATER SAMPLING RECORD

PROJECT NAME

CLIENT COMPANY

SITE NAME

SITE ADDRESS

LOCATION NUMBER

DATE _____

PHASE/TASK NO.

SAMPLING SPECIFICATIONS

REQUESTED SAMPLING DEPTH INTERVAL (feet):

REQUESTED WAIT FOLLOWING
DEVELOPMENT /PURGING (hours):

INITIAL MEASUREMENTS

TIME ELAPSED FROM FINAL DEVELOPMENT/PURGING (hours):

INITIAL WATER DEPTH (feet): 2.68'

NONAQUEOUS LIQUIDS PRESENT (DESCRIBE):

WATER QUALITY WATER COLLECTION

DO - DISSOLVED OXYGEN; COND. - CONDUCTIVITY

[illegible]

SAMPLE CONTAINERS

CONTAINER TYPE: G - CLEAR GLASS; A - AMBER GLASS; P - PLASTIC; V - VOA VILE (GLASS); O - OTHER
PRESERVATIVES: H - HCL; N - HNO₃; S - H₂SO₄; AL - NaOH; M - HgCl₂; O - OTHER (SPECIFY); - - NONE

[illegible]

COMMENTS:

SAMPLED BY:

SIGNATURE:

DATE:

WATER SAMPLING RECORD

PROJECT NAME Quarterly Monitoring LOCATION NUMBER MU-9
CLIENT COMPANY Thriftway Refining DATE 9/25/97
SITE NAME Thriftway Refinery PHASE/TASK NO. _____
SITE ADDRESS 626 Rd 5500, Bloomfield NM

SAMPLING SPECIFICATIONS REQUESTED SAMPLING DEPTH INTERVAL (feet): _____ REQUESTED WAIT FOLLOWING DEVELOPMENT /PURGING (hours): _____	INITIAL MEASUREMENTS TIME ELAPSED FROM FINAL DEVELOPMENT/PURGING (hours): _____ INITIAL WATER DEPTH (feet): <u>3.68</u> NONAQUEOUS LIQUIDS PRESENT (DESCRIBE): _____
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WATER QUALITY WATER COLLECTION								DO = DISSOLVED OXYGEN; COND. = CONDUCTIVITY				
DATE	TIME	SAMPLER INITIALS	WATER QUALITY READINGS					WATER COLLECTION DATA				
			TEMP (°C)	pH	DO (mg/L)	COND. (Umhos/cm)	VOLUME REMOVED (gallons)	REMOVAL RATE (gal/min)	PUMP INTAKE DEPTH (feet)	BAIL	FINAL WATER DEPTH (feet)	NOTES
9/25	1000	JS	17.7	7.51	0.68	8430	1.5			✓		slow Recovery
	1023	JS	17.5	7.25	1.99	8480	2.5			-		
	1050	JS	17.4	7.27	2.02	8490	4.5				13.12	

SAMPLE CONTAINERS				CONTAINER TYPE: G = CLEAR GLASS; A = AMBER GLASS; P = PLASTIC; V = VOA VILE (GLASS); O = OTHER PRESERVATIVES: H = HCL; N = HNO ₃ ; S = H ₂ SO ₄ ; A = NaOH; M = HgCl ₂ ; O = OTHER (SPECIFY); - = NONE							
ANALYTICAL PARAMETERS	CONTAINER			FIELD FILTERED		PRES.	COOLED		COMMENTS		
	NUMBER	TYPE	VOLUME	YES	NO		YES	NO			

COMMENTS: _____
 SAMPLED BY: _____
 SIGNATURE: _____ DATE: _____

WATER SAMPLING RECORD

PROJECT NAME

Quarterly Monitoring

LOCATION NUMBER

MW-10

CLIENT COMPANY

Thriftway Refining

DATE

9/25/97

SITE NAME

Thriftway Refiners

PHASE/TASK NO.

SITE ADDRESS

626 Rd 5500, Bloomfield NM

SAMPLING SPECIFICATIONS

REQUESTED SAMPLING DEPTH INTERVAL (feet):

REQUESTED WAIT FOLLOWING
DEVELOPMENT /PURGING (hours):

INITIAL MEASUREMENTS

TIME ELAPSED FROM FINAL DEVELOPMENT/PURGING (hours):

INITIAL WATER DEPTH (feet): 3.81

NONAQUEOUS LIQUIDS PRESENT (DESCRIBE):

WATER QUALITY WATER COLLECTION

DO - DISSOLVED OXYGEN; COND. - CONDUCTIVITY

DATE	TIME	SAMPLER INITIALS	WATER QUALITY READINGS					WATER COLLECTION DATA				
			TEMP (°C)	pH	DO (mg/L)	COND. (Umhos/cm)	VOLUME REMOVED (gallons)	REMOVAL RATE (gal/min)	PUMP INTAKE DEPTH (feet)	BAIL	FINAL WATER DEPTH (feet)	NOTES
9/25	1105	KS	18.4	7.30	1.18	7300	3.0			✓		
	1123	KS	18.1	7.33	1.16	7290	6.0			✓		
	1145	KS	18.1	7.41	1.15	7410	9.0				11.41	

SAMPLE CONTAINERS

CONTAINER TYPE: G - CLEAR GLASS; A - AMBER GLASS; P - PLASTIC; V - VOA VILE (GLASS); O - OTHER
PRESERVATIVES: H - HCL; N - HNO₃; S - H₂SO₄; A - NaOH; M - HgCl₂; O - OTHER (SPECIFY); - - NONE

ANALYTICAL PARAMETERS	CONTAINER			FIELD FILTERED		PRES.	COOLED		COMMENTS
	NUMBER	TYPE	VOLUME	YES	NO		YES	NO	

COMMENTS:

SAMPLED BY:

SIGNATURE:

DATE:

WATER SAMPLING RECORD

PROJECT NAME Quarterly Monitoring LOCATION NUMBER MW-11
 CLIENT COMPANY Thriftway Refining DATE 9/25/97
 SITE NAME Thriftway Refinery PHASE/TASK NO. _____
 SITE ADDRESS 626 Rd 5500, Bloomfield NM

SAMPLING SPECIFICATIONS REQUESTED SAMPLING DEPTH INTERVAL (feet): _____ REQUESTED WAIT FOLLOWING DEVELOPMENT /PURGING (hours): _____	INITIAL MEASUREMENTS TIME ELAPSED FROM FINAL DEVELOPMENT/PURGING (hours): _____ INITIAL WATER DEPTH (feet): <u>4.96</u> NONAQUEOUS LIQUIDS PRESENT (DESCRIBE): _____
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WATER QUALITY WATER COLLECTION							DO - DISSOLVED OXYGEN; COND. - CONDUCTIVITY					
DATE	TIME	SAMPLER INITIALS	WATER QUALITY READINGS					WATER COLLECTION DATA				
			TEMP (°C)	pH	DO (mg/L)	COND. (Umhos/cm)	VOLUME REMOVED (gallons)	REMOVAL RATE (gal/min)	PUMP INTAKE DEPTH (feet)	BAIL	FINAL WATER DEPTH (feet)	NOTES
<u>9/25</u>	<u>1329</u>	<u>KS</u>	<u>16.4</u>	<u>7.32</u>	<u>0.46</u>	<u>686700</u>	<u>3 1/2</u>			☒		
	<u>1406</u>	<u>KS</u>	<u>16.3</u>	<u>7.29</u>	<u>0.39</u>	<u>6900</u>	<u>2 6.0</u>					
	<u>1432</u>	<u>KS</u>	<u>16.1</u>	<u>7.37</u>	<u>0.40</u>	<u>6890</u>	<u>9.0</u>				<u>9.80</u>	

ANALYTICAL PARAMETERS			CONTAINER			FIELD FILTERED		PRES.	COOLED		COMMENTS		
			NUMBER	TYPE	VOLUME	YES	NO		YES	NO			

COMMENTS: _____
 SAMPLED BY: _____
 SIGNATURE: _____ DATE: _____

WATER SAMPLING RECORD

PROJECT NAME Quarterly Monitoring LOCATION NUMBER MW-13
CLIENT COMPANY Thriftway Refining DATE 9/23/97
SITE NAME same PHASE/TASK NO. _____
SITE ADDRESS 626 Rd 5500, Bloomfield NM

SAMPLING SPECIFICATIONS REQUESTED SAMPLING DEPTH INTERVAL (feet): _____ REQUESTED WAIT FOLLOWING DEVELOPMENT /PURGING (hours): _____	INITIAL MEASUREMENTS TIME ELAPSED FROM FINAL DEVELOPMENT/PURGING (hours): _____ INITIAL WATER DEPTH (feet): <u>17.81'</u> NONAQUEOUS LIQUIDS PRESENT (DESCRIBE): _____
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WATER QUALITY /WATER COLLECTION								DO - DISSOLVED OXYGEN; COND. - CONDUCTIVITY				
DATE	TIME	SAMPLER INITIALS	WATER QUALITY READINGS					WATER COLLECTION DATA				
			TEMP (°C)	pH	DO (mg/L)	COND. (Umhos/cm)	VOLUME REMOVED (gallons)	REMOVAL RATE (gal/min)	PUMP INTAKE DEPTH (feet)	BAIL	FINAL WATER DEPTH (feet)	NOTES
<u>9/23</u>	<u>1545</u>	<u>KJ</u>	<u>16.1</u>	<u>7.37</u>	<u>0.44</u>	<u>6270</u>	<u>2.5</u>			☒		
	<u>1621</u>	<u>KJ</u>	<u>15.8</u>	<u>7.29</u>	<u>0.26</u>	<u>6310</u>	<u>4.25</u>			☒		
	<u>1640</u>	<u>KJ</u>	<u>15.7</u>	<u>7.21</u>	<u>0.28</u>	<u>6260</u>	<u>7.0</u>			☒	<u>17.81'</u>	

ANALYTICAL PARAMETERS			CONTAINER			FIELD FILTERED		PRES.	COOLED		COMMENTS		
			NUMBER	TYPE	VOLUME	YES	NO		YES	NO			

COMMENTS: _____
 SAMPLED BY: _____
 SIGNATURE: _____ DATE: _____

WATER SAMPLING RECORD

PROJECT NAME Quarterly Monitoring LOCATION NUMBER MW-15
 CLIENT COMPANY Thriftway Refining DATE 9/26/97
 SITE NAME Thriftway Refinery PHASE/TASK NO. _____
 SITE ADDRESS 626 Rd 5500, Bloomfield NM

SAMPLING SPECIFICATIONS REQUESTED SAMPLING DEPTH INTERVAL (feet): _____ REQUESTED WAIT FOLLOWING DEVELOPMENT /PURGING (hours): _____	INITIAL MEASUREMENTS TIME ELAPSED FROM FINAL DEVELOPMENT/PURGING (hours): _____ INITIAL WATER DEPTH (feet): <u>12.67</u> NONAQUEOUS LIQUIDS PRESENT (DESCRIBE): _____
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WATER QUALITY /WATER COLLECTION								DO - DISSOLVED OXYGEN; COND. - CONDUCTIVITY					
DATE	TIME	SAMPLER INITIALS	WATER QUALITY READINGS					WATER COLLECTION DATA					NOTES
			TEMP (°c)	pH	DO (mg/L)	COND. (Umhos/cm)	VOLUME REMOVED (gallons)	REMOVAL RATE (gal/min)	PUMP INTAKE DEPTH (feet)	BAIL	FINAL WATER DEPTH (feet)		
9/26	1100	ICS	16.9	7.49	0.60	5020	1 1/2			✓			
	1130	ICS	16.0	7.53	0.60	5110	3.0			✓			
	1200	ICS	16.0	7.53	0.55	5250	4.5			-	19.85		

SAMPLE CONTAINERS				CONTAINER TYPE: G = CLEAR GLASS; A = AMBER GLASS; P = PLASTIC; V = VOA VILE (GLASS); O = OTHER PRESERVATIVES: H = HCL; N = HNO ₃ ; S = H ₂ SO ₄ ; A = NaOH; M = HgCl ₂ ; O = OTHER (SPECIFY); - = NONE						
ANALYTICAL PARAMETERS	CONTAINER			FIELD FILTERED		PRES.	COOLED		COMMENTS	
	NUMBER	TYPE	VOLUME	YES	NO		YES	NO		

COMMENTS: _____
 SAMPLED BY: _____
 SIGNATURE: _____ DATE: _____

WATER SAMPLING RECORD

PROJECT NAME Quarterly Monitoring LOCATION NUMBER MW-18
CLIENT COMPANY Thriftway Refining DATE 9/27/97
SITE NAME Thriftway Refiners PHASE/TASK NO. _____
SITE ADDRESS 626 Rd 5500, Bloomfield, NM

SAMPLING SPECIFICATIONS	REQUESTED SAMPLING DEPTH INTERVAL (feet): _____	INITIAL MEASUREMENTS
	REQUESTED WAIT FOLLOWING DEVELOPMENT/PURGING (hours): _____	TIME ELAPSED FROM FINAL DEVELOPMENT/PURGING (hours): _____ INITIAL WATER DEPTH (feet): <u>2.50'</u> NONAQUEOUS LIQUIDS PRESENT (DESCRIBE): _____

WATER QUALITY/WATER COLLECTION								DO - DISSOLVED OXYGEN; COND. - CONDUCTIVITY				
DATE	TIME	SAMPLER INITIALS	WATER QUALITY READINGS					WATER COLLECTION DATA				
			TEMP (°C)	pH	DO (mg/L)	COND. (Umhos/cm)	VOLUME REMOVED (gallons)	REMOVAL RATE (gal/min)	PUMP INTAKE DEPTH (feet)	BAIL	FINAL WATER DEPTH (feet)	NOTES
9/24	0915	KS	18.5	8.97	2.01	1040	2.5			✓		
	0937	KS	18.3	7.88	2.94	1630	3.75					
	0949	KS	-	-	1.05	-	recalibrated DO meter					
	0955	KS	18.1	7.78	2.35	2040	5.0					
	1004	KS	18.5	7.76	2.78	2220	7.5					
	1020	KS	18.6	7.75	1.35	2500	10.0					
	1035	KS	18.3	7.72	-	2890	12.5				11.5'	
			18.7	7.49	0.88	3080	14.25					

SAMPLE CONTAINERS												
ANALYTICAL PARAMETERS			CONTAINER			FIELD FILTERED		PRES.	COOLED			
			NUMBER	TYPE	VOLUME	YES	NO		YES	NO		

COMMENTS: _____
SAMPLED BY: _____
SIGNATURE: _____ DATE: _____

WATER SAMPLING RECORD

PROJECT NAME

Quarry Monitoring

LOCATION NUMBER

MW-19

CLIENT COMPANY

Thriftway Refining

DATE

9/26/97

SITE NAME

Thriftway Refinery

PHASE/TASK NO.

SITE ADDRESS

626 Rd 5500, Bloomfield NM

SAMPLING SPECIFICATIONS

REQUESTED SAMPLING DEPTH INTERVAL (feet):

INITIAL MEASUREMENTS

TIME ELAPSED FROM FINAL DEVELOPMENT/PURGING (hours):

INITIAL WATER DEPTH (feet): 2.36

REQUESTED WAIT FOLLOWING
DEVELOPMENT /PURGING (hours):

NONAQUEOUS LIQUIDS PRESENT (DESCRIBE):

WATER QUALITY /WATER COLLECTION

DO - DISSOLVED OXYGEN; COND. - CONDUCTIVITY

DATE	TIME	SAMPLER INITIALS	WATER QUALITY READINGS					WATER COLLECTION DATA				
			TEMP (°C)	pH	DO (mg/L)	COND. (Umhos/cm)	VOLUME REMOVED (gallons)	REMOVAL RATE (gal/min)	PUMP INTAKE DEPTH (feet)	BAIL	FINAL WATER DEPTH (feet)	NOTES
9/26	1333	ICS	19.8	7.91	0.15	1440	3 1/2			✓		
	1345	ICS	19.6	7.89	0.12	1610	6 1/2			✓		
	1420		19.4		0.15	1710	10 1/2			-	3.15	

SAMPLE CONTAINERS

CONTAINER TYPE: G - CLEAR GLASS; A - AMBER GLASS; P - PLASTIC; V - VOA VILE (GLASS); O - OTHER
PRESERVATIVES: H - HCL; N - HNO₃; S - H₂SO₄; A - NaOH; M - HgCl₂; O - OTHER (SPECIFY); - - NONE

ANALYTICAL PARAMETERS	CONTAINER			FIELD FILTERED		PRES.	COOLED		COMMENTS
	NUMBER	TYPE	VOLUME	YES	NO		YES	NO	

COMMENTS:

SAMPLED BY:

SIGNATURE:

DATE:

WATER SAMPLING RECORD

PROJECT NAME Quarterly monitoring
CLIENT COMPANY Thriftway Refining
SITE NAME Thriftway Refinery
SITE ADDRESS 626 Rd 5500, Bloomfield, NM.

LOCATION NUMBER MW-20
DATE 9/24/97
PHASE/TASK NO. _____

SAMPLING SPECIFICATIONS REQUESTED SAMPLING DEPTH INTERVAL (feet): _____ REQUESTED WAIT FOLLOWING DEVELOPMENT /PURGING (hours): _____	INITIAL MEASUREMENTS TIME ELAPSED FROM FINAL DEVELOPMENT/PURGING (hours): _____ INITIAL WATER DEPTH (feet): <u>4.41</u> NONAQUEOUS LIQUIDS PRESENT (DESCRIBE): _____
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WATER QUALITY WATER COLLECTION								DO = DISSOLVED OXYGEN; COND. = CONDUCTIVITY				
DATE	TIME	SAMPLER INITIALS	WATER QUALITY READINGS					WATER COLLECTION DATA				
			TEMP (°C)	pH	DO (mg/L)	COND. (Umhos/cm)	VOLUME REMOVED (gallons)	REMOVAL RATE (gal/min)	PUMP INTAKE DEPTH (feet)	BAIL	FINAL WATER DEPTH (feet)	NOTES
9/24	1630	KS	17.7	7.32	0.27	2920	5	5.0				
	1647	KS	17.5	7.28	0.49	3220	7	7.0				
	1705	KS	17.3	7.43	0.27	3500	11	11.0			6.65	

SAMPLE CONTAINERS									
CONTAINER TYPE: G = CLEAR GLASS; A = AMBER GLASS; P = PLASTIC; V = VOA VILE (GLASS); O = OTHER PRESERVATIVES: H = HCL; N = HNO ₃ ; S = H ₂ SO ₄ ; A = NaOH; M = HgCl ₂ ; O = OTHER (SPECIFY); - = NONE									
ANALYTICAL PARAMETERS	CONTAINER			FIELD FILTERED		PRES.	COOLED		COMMENTS
	NUMBER	TYPE	VOLUME	YES	NO		YES	NO	
			</						

COMMENTS: _____
 SAMPLED BY: _____
 SIGNATURE: _____ DATE: _____

WATER SAMPLING RECORD

PROJECT NAME _____

CLIENT COMPANY _____

SITE NAME _____

SITE ADDRESS _____

LOCATION NUMBER Mw-21

DATE 9/25/97

PHASE/TASK NO. _____

SAMPLING SPECIFICATIONS REQUESTED SAMPLING DEPTH INTERVAL (feet): _____ REQUESTED WAIT FOLLOWING DEVELOPMENT /PURGING (hours): _____	INITIAL MEASUREMENTS TIME ELAPSED FROM FINAL DEVELOPMENT/PURGING (hours): _____ INITIAL WATER DEPTH (feet): <u>3.03</u> NONAQUEOUS LIQUIDS PRESENT (DESCRIBE): _____
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WATER QUALITY /WATER COLLECTION							DO - DISSOLVED OXYGEN; COND. - CONDUCTIVITY						
DATE	TIME	SAMPLER INITIALS	WATER QUALITY READINGS					WATER COLLECTION DATA					NOTES
			TEMP (°c)	pH	DO (mg/L)	COND. (Umhos/cm)	VOLUME REMOVED (gallons)	REMOVAL RATE (gal/min)	PUMP INTAKE DEPTH (feet)	BAIL	FINAL WATER DEPTH (feet)		
9/25	1611	KS	21.1	7.08	0.40	6200	3.0				✓		
	1640	KS	20.2	7.01	0.26	6150	8.0				✓		
	1700	KS	20.2	7.02	0.09	6050	13.0				✓	7.12	

SAMPLE CONTAINERS

CONTAINER TYPE: G = CLEAR GLASS; A = AMBER GLASS; P = PLASTIC; V = VOA VILE (GLASS); O = OTHER
PRESERVATIVES: H = HCL; N = HNO₃; S = H₂SO₄; A = NaOH; M = HgCl₂; O = OTHER (SPECIFY); - = NONE

ANALYTICAL PARAMETERS	CONTAINER			FIELD FILTERED		PRES.	COOLED		COMMENTS
	NUMBER	TYPE	VOLUME	YES	NO		YES	NO	

COMMENTS: _____

SAMPLED BY: _____

SIGNATURE: _____ DATE: _____

WATER SAMPLING RECORD

PROJECT NAME

Quarterly Monitoring

LOCATION NUMBER

MW-22

CLIENT COMPANY

Thriftway Refining

DATE

9/26/97

SITE NAME

Thriftway Refinery

PHASE/TASK NO.

SITE ADDRESS

626 Rd 5500 Bloomfield NM

SAMPLING SPECIFICATIONS

REQUESTED SAMPLING DEPTH INTERVAL (feet):

INITIAL MEASUREMENTS

TIME ELAPSED FROM FINAL DEVELOPMENT/PURGING (hours):

INITIAL WATER DEPTH (feet):

4.36

REQUESTED WAIT FOLLOWING
DEVELOPMENT/PURGING (hours):

NONAQUEOUS LIQUIDS PRESENT (DESCRIBE):

WATER QUALITY/WATER COLLECTION

DO = DISSOLVED OXYGEN; COND. = CONDUCTIVITY

DATE	TIME	SAMPLER INITIALS	WATER QUALITY READINGS					WATER COLLECTION DATA				
			TEMP (°c)	pH	DO (mg/L)	COND. (Umhos/cm)	VOLUME REMOVED (gallons)	REMOVAL RATE (gal/min)	PUMP INTAKE DEPTH (feet)	BAIL	FINAL WATER DEPTH (feet)	NOTES
9/26	1000	KJ	19.6	7.16	0.39	7990	2 1/2			✓		
	1020	KS	19.6	7.10	0.49	8010	5.0			✓		
	1045	KS	19.6	7.08	0.32	7970	8.0			✓	8.19	

SAMPLE CONTAINERS

CONTAINER TYPE: G = CLEAR GLASS; A = AMBER GLASS; P = PLASTIC; V = VOA VILE (GLASS); O = OTHER
PRESERVATIVES: H = HCL; N = HNO₃; S = H₂SO₄; A = NaOH; M = HgCl₂; O = OTHER (SPECIFY); - = NONE

ANALYTICAL PARAMETERS	CONTAINER			FIELD FILTERED		PRES.	COOLED		COMMENTS
	NUMBER	TYPE	VOLUME	YES	NO		YES	NO	

COMMENTS:

SAMPLED BY:

SIGNATURE:

DATE:

FREE PRODUCT BAILING LOG THRIFTWAY REFINERY

DATE: 9/29/97

TECHNICIAN: K. Senk

F:\FILE1810\BAILLOG.WK4

MONITOR WELL#	AO LEVEL	OW LEVEL	DELTA FEET	PRODUCT GALLONS	COMMENTS
MW-02	11.86	11.98	.12	20 ml	20 ml, 0.05 2nd, diesel smell
MW-03	5.15	5.19	.03	25 ml	diesel/gasoline
MW-07	8.01	8.01	0 -	0 -	heavy H.C. odor - no prod.
MW-12	13.98	14.53	.55	790 ml	diesel
MW-14	12.46	12.63	0.17	40 ml	gasoline
MW-17	5.53	5.82	.29	460 ml	- gasoline odor
MW-29	14.36	14.40	.04	15 ml	Gasoline
RW-24	13.73	14.25	.52	200 ml	diesel
RW-25	17.49	14.97	.48	240	diesel
RW-26	11.67	11.77	.13	75 ml	4" well
STR UST					

* Should not have free product on the water surface.

WATER SAMPLING RECORD

SITE ADDRESS

SAMPLING SPECIFICATIONS REQUESTED SAMPLING DEPTH INTERVAL (feet): _____ REQUESTED WAIT FOLLOWING DEVELOPMENT /PURGING (hours): _____	INITIAL MEASUREMENTS TIME ELAPSED FROM FINAL DEVELOPMENT/PURGING (hours): _____ INITIAL WATER DEPTH (feet): <u>15.08</u> NONAQUEOUS LIQUIDS PRESENT (DESCRIBE): _____
--	--

[illegible][illegible]

COMMENTS:

SAMPLED BY:

SIGNATURE:

DATE:

BIOTECH
REMEDATION
710 East 20th Street
Farmington, NM 87401
Field Office (505) 632-3365

WATER SAMPLING RECORD

PROJECT NAME Quarterly Monitoring LOCATION NUMBER 14W-4
CLIENT COMPANY Tung Ref. DATE 12/22/97
SITE NAME 82 810 PHASE/TASK NO. _____
SITE ADDRESS 620 rd 5500 Bloomfield, NM

SAMPLING SPECIFICATIONS

REQUESTED SAMPLING DEPTH INTERVAL (feet): _____

REQUESTED WAIT FOLLOWING
DEVELOPMENT /PURGING (hours): _____

INITIAL MEASUREMENTS

TIME ELAPSED FROM FINAL DEVELOPMENT/PURGING (hours): _____

INITIAL WATER DEPTH (feet): 4.31

NONAQUEOUS LIQUIDS PRESENT (DESCRIBE): petroleum

WATER QUALITY AND COLLECTION

DO - DISSOLVED OXYGEN COND. - CONDUCTIVITY

TIME	SAMPLER INITIALS	WATER QUALITY READINGS					WATER COLLECTION DATA				
		TEMP (°C)	pH	DO (mg/L)	COND. (Umhos/cm)	VOLUME REMOVED (gallons)	REMOVAL RATE (gal/min)	PUMP INTAKE DEPTH (feet)	BAIL	FINAL WATER DEPTH (feet)	NOTES
0930	KJ	13.4	7.20	0.17	2870	1.25			✓		
0944		13.4	7.12	0.14	3070	2.50			✓		
0956		13.0	7.11	0.13	3260	3.75				5.09	

SAMPLE CONTAINERS

CONTAINER TYPE: G = CLEAR GLASS; A = AMBER GLASS; P = PLASTIC; V = VOA VILE (GLASS); O = OTHER
PRESERVATIVES: H = HCL; N = HNO₃; S = H₂SO₄; A = NaOH; M = HgCl₂; O = OTHER (SPECIFY); - = NONE

ANALYTICAL PARAMETERS	CONTAINER			FIELD FILTERED		PRES.	COOLED		COMMENTS
	NUMBER	TYPE	VOLUME	YES	NO		YES	NO	

COMMENTS: _____

SAMPLED BY: _____

SIGNATURE: _____

DATE: _____

WATER SAMPLING RECORD

Mw-6

12/19/97

PHASE/TASK NO.

NONAQUEOUS LIQUIDS PRESENT (DESCRIBE):

SAMPLE CONTAINERS

CONTAINER TYPE: G = CLEAR GLASS; A = AMBER GLASS; P = PLASTIC; V = VOA VILE (GLASS); O = OTHER
PRESERVATIVES: H = HCL; N = HNO₃; S = H₂SO₄; A = NaOH; M = HgCl₂; O = OTHER (SPECIFY); - = NONE

h2Orec

BIOTECH
REMEDICATION
710 East 20th Street
Farmington, NM 87401
Field Office (505) 632-3365

WATER SAMPLING RECORD

PROJECT NAME Quarterly Monitoring
CLIENT COMPANY 810
SITE NAME _____
SITE ADDRESS _____

LOCATION NUMBER MW-5
DATE 12/19/97
PHASE/TASK NO. _____

SAMPLING SPECIFICATIONS

REQUESTED SAMPLING DEPTH INTERVAL (feet): _____

REQUESTED WAIT FOLLOWING
DEVELOPMENT/PURGING (hours): _____

INITIAL MEASUREMENTS

TIME ELAPSED FROM FINAL DEVELOPMENT/PURGING (hours): _____

INITIAL WATER DEPTH (feet): 4.37

NONAQUEOUS LIQUIDS PRESENT (DESCRIBE): _____

WATER QUALITY AND COLLECTION

DO - DISSOLVED OXYGEN COND. - CONDUCTIVITY

TIME	SAMPLER INITIALS	WATER QUALITY READINGS					WATER COLLECTION DATA				
		TEMP (°C)	pH	DO (mg/L)	COND. (Umhos/cm)	VOLUME REMOVED (gallons)	REMOVAL RATE (gal/min)	PUMP INTAKE DEPTH (feet)	BAIL	FINAL WATER DEPTH (feet)	NOTES
1556	KS	14.4	7.65	0.10	2480	1.25	1.25		✓		
1609	KS	14.0	8.09	0.08	6320	2.5			✓		
1615	KS	14.6	8.30	0.05	6040	3.75			✓		
1620	KS	14.5	8.38	0.06	5930	5.00				2.25	

SAMPLE CONTAINERS

CONTAINER TYPE: G - CLEAR GLASS; A - AMBER GLASS; P - PLASTIC; V - VOA VILE (GLASS); O - OTHER
PRESERVATIVES: H - HCL; N - HNO₃; S - H₂SO₄; A - NaOH; M - HgCl₂; O - OTHER (SPECIFY); - - NONE

ANALYTICAL PARAMETERS	CONTAINER			FIELD FILTERED		PRES.	COOLED		COMMENTS
	NUMBER	TYPE	VOLUME	YES	NO		YES	NO	

COMMENTS:

WATER smells like sewer water & its BLACK in color

SAMPLED BY:

SIGNATURE:

DATE:

BIOTECH
REMEDATION
710 East 20th Street
Farmington, NM 87401
Field Office (505) 632-3365

WATER SAMPLING RECORD

PROJECT NAME
CLIENT COMPANY
SITE NAME
SITE ADDRESS

QMR
810

LOCATION NUMBER
DATE
PHASE/TASK NO.

mw-8
12/22/97

SAMPLING SPECIFICATIONS

REQUESTED SAMPLING DEPTH INTERVAL (feet):

REQUESTED WAIT FOLLOWING
DEVELOPMENT/PURGING (hours):

INITIAL MEASUREMENTS

TIME ELAPSED FROM FINAL DEVELOPMENT/PURGING (hours):

INITIAL WATER DEPTH (feet): 3.15

NONAQUEOUS LIQUIDS PRESENT (DESCRIBE):

WATER QUALITY AND COLLECTION

DO - DISSOLVED OXYGEN COND. - CONDUCTIVITY

TIME	SAMPLER INITIALS	WATER QUALITY READINGS					WATER COLLECTION DATA				
		TEMP (°C)	pH	DO (mg/L)	COND. (Umhos/cm)	VOLUME REMOVED (gallons)	REMOVAL RATE (gal/min)	PUMP INTAKE DEPTH (feet)	BAIL	FINAL WATER DEPTH (feet)	NOTES
1230	JS					0.25			✓		

SAMPLE CONTAINERS

CONTAINER TYPE: G - CLEAR GLASS; A - AMBER GLASS; P - PLASTIC; V - VOA VILE (GLASS); O - OTHER
PRESERVATIVES: H - HCL; N - HNO₃; S - H₂SO₄; A - NaOH; M - HgCl₂; O - OTHER (SPECIFY); - - NONE

ANALYTICAL PARAMETERS	CONTAINER			FIELD FILTERED		PRES.	COOLED		COMMENTS
	NUMBER	TYPE	VOLUME	YES	NO		YES	NO	
BTEX	1	V	40		X	H	✓		

COMMENTS:

SAMPLED BY:

SIGNATURE:

DATE:

BIOTECH
REMEDICATION
710 East 20th Street
Farmington, NM 87401
Field Office (505) 632-3365

WATER SAMPLING RECORD

PROJECT NAME OMR
CLIENT COMPANY Twy R.
SITE NAME 810
SITE ADDRESS Blm.

LOCATION NUMBER Mw-9
DATE 12/22/97
PHASE/TASK NO. _____

SAMPLING SPECIFICATIONS

REQUESTED SAMPLING DEPTH INTERVAL (feet): _____

REQUESTED WAIT FOLLOWING
DEVELOPMENT/PURGING (hours): _____

INITIAL MEASUREMENTS

TIME ELAPSED FROM FINAL DEVELOPMENT/PURGING (hours): _____

INITIAL WATER DEPTH (feet): 4.05

NONAQUEOUS LIQUIDS PRESENT (DESCRIBE): _____

WATER QUALITY AND COLLECTION

DO - DISSOLVED OXYGEN COND. - CONDUCTIVITY

TIME	SAMPLER INITIALS	WATER QUALITY READINGS					WATER COLLECTION DATA				
		TEMP (°C)	pH	DO (mg/L)	COND. (Umhos/cm)	VOLUME REMOVED (gallons)	REMOVAL RATE (gal/min)	PUMP INTAKE DEPTH (feet)	BAIL	FINAL WATER DEPTH (feet)	NOTES
1015	KS	13.4	7.47	1.63	723.1	1.25			✓		
1035		13.3	7.40	1.00	715.2	2.50				6.40	sample
1040		Sample Pumping out of H ₂ O									

SAMPLE CONTAINERS

CONTAINER TYPE: G - CLEAR GLASS; A - AMBER GLASS; P - PLASTIC; V - VOA VILE (GLASS); O - OTHER
PRESERVATIVES: H - HCL; N - HNO₃; S - H₂SO₄; A - NaOH; M - HgCl₂; O - OTHER (SPECIFY); - - NONE

ANALYTICAL PARAMETERS	CONTAINER			FIELD FILTERED		PRES.	COOLED		COMMENTS
	NUMBER	TYPE	VOLUME	YES	NO		YES	NO	

COMMENTS: Ran out of water

SAMPLED BY: _____

SIGNATURE: _____

DATE: _____

BIOTECH
REMEDATION
710 East 20th Street
Farmington, NM 87401
Field Office (505) 632-3365

WATER SAMPLING RECORD

PROJECT NAME QWR
CLIENT COMPANY Tum Ref
SITE NAME 810
SITE ADDRESS Blow-hill

LOCATION NUMBER MW-10
DATE 12/22/97
PHASE/TASK NO. _____

SAMPLING SPECIFICATIONS

REQUESTED SAMPLING DEPTH INTERVAL (feet): _____

REQUESTED WAIT FOLLOWING
DEVELOPMENT/PURGING (hours): _____

INITIAL MEASUREMENTS

TIME ELAPSED FROM FINAL DEVELOPMENT/PURGING (hours): _____

INITIAL WATER DEPTH (feet): 3.98

NONAQUEOUS LIQUIDS PRESENT (DESCRIBE): _____

WATER QUALITY AND COLLECTION							DO - DISSOLVED OXYGEN COND. - CONDUCTIVITY				
TIME	SAMPLER INITIALS	WATER QUALITY READINGS					WATER COLLECTION DATA				
		TEMP (°C)	pH	DO (mg/L)	COND. (Umhos/cm)	VOLUME REMOVED (gallons)	REMOVAL RATE (gal/min)	PUMP INTAKE DEPTH (feet)	BAIL	FINAL WATER DEPTH (feet)	NOTES
1100	KS	13.5	7.74	1.22	7130	1.25					
1112	KS	13.0	7.46	0.62	7180	2.50					
1130	KS	12.9	7.42	0.61	7170	3.75				6.57	

SAMPLE CONTAINERS

CONTAINER TYPE: G = CLEAR GLASS; A = AMBER GLASS; P = PLASTIC; V = VOA VILE (GLASS); O = OTHER
PRESERVATIVES: H = HCL; N = HNO₃; S = H₂SO₄; A = NaOH; M = HgCl₂; O = OTHER (SPECIFY); - = NONE

ANALYTICAL PARAMETERS	CONTAINER			FIELD FILTERED		PRES.	COOLED		COMMENTS
	NUMBER	TYPE	VOLUME	YES	NO		YES	NO	

COMMENTS: _____

SAMPLED BY: _____

SIGNATURE: _____ DATE: _____

BIOTECH
REMEDATION
710 East 20th Street
Farmington, NM 87401
Field Office (505) 632-3365

WATER SAMPLING RECORD

PROJECT NAME Diner
CLIENT COMPANY Tony Rq
SITE NAME 810
SITE ADDRESS _____

LOCATION NUMBER MW-11
DATE 12/22/97
PHASE/TASK NO. _____

SAMPLING SPECIFICATIONS

REQUESTED SAMPLING DEPTH INTERVAL (feet): _____

REQUESTED WAIT FOLLOWING
DEVELOPMENT/PURGING (hours): _____

INITIAL MEASUREMENTS

TIME ELAPSED FROM FINAL DEVELOPMENT/PURGING (hours): _____

INITIAL WATER DEPTH (feet): 4.91

NONAQUEOUS LIQUIDS PRESENT (DESCRIBE): _____

WATER QUALITY AND COLLECTION							DO - DISSOLVED OXYGEN COND. - CONDUCTIVITY				
TIME	SAMPLER INITIALS	WATER QUALITY READINGS					WATER COLLECTION DATA				
		TEMP (°C)	pH	DO (mg/L)	COND. (Umhos/cm)	VOLUME REMOVED (gallons)	REMOVAL RATE (gal/min)	PUMP INTAKE DEPTH (feet)	BAIL	FINAL WATER DEPTH (feet)	NOTES
1140	KS	13.3	7.34	0.24	6940	1.25			✓		
1153	KS	13.4	7.33	0.33	6910	2.50			✓		
1215	KS	13.3	7.30	0.31	6900	3.75			✓	0.70	

SAMPLE CONTAINERS

CONTAINER TYPE: G - CLEAR GLASS; A - AMBER GLASS; P - PLASTIC; V - VOA VILE (GLASS); O - OTHER
PRESERVATIVES: H - HCL; N - HNO₃; S - H₂SO₄; A - NaOH; M - HgCl₂; O - OTHER (SPECIFY); - - NONE

ANALYTICAL PARAMETERS	CONTAINER			FIELD FILTERED		PRES.	COOLED		COMMENTS
	NUMBER	TYPE	VOLUME	YES	NO		YES	NO	

COMMENTS: _____

SAMPLED BY: _____

SIGNATURE: _____

DATE: _____

BIOTECH
REMEDATION
710 East 20th Street
Farmington, NM 87401
Field Office (505) 632-3365

WATER SAMPLING RECORD

PROJECT NAME

Quarterly Monitors

LOCATION NUMBER

MW-13

CLIENT COMPANY

Thrifty Refinery

DATE

12/19/97

SITE NAME

PHASE/TASK NO.

SITE ADDRESS

SAMPLING SPECIFICATIONS

REQUESTED SAMPLING DEPTH INTERVAL (feet):

INITIAL MEASUREMENTS

TIME ELAPSED FROM FINAL DEVELOPMENT/PURGING (hours):

12.48

INITIAL WATER DEPTH (feet):

17.48

REQUESTED WAIT FOLLOWING
DEVELOPMENT /PURGING (hours):

NONAQUEOUS LIQUIDS PRESENT (DESCRIBE):

WATER QUALITY AND COLLECTION

DO - DISSOLVED OXYGEN COND. - CONDUCTIVITY

TIME	SAMPLER INITIALS	WATER QUALITY READINGS					WATER COLLECTION DATA				
		TEMP (°c)	pH	DO (mg/L)	COND. (Umhos/cm)	VOLUME REMOVED (gallons)	REMOVAL RATE (gal/min)	PUMP INTAKE DEPTH (feet)	BAIL	FINAL WATER DEPTH (feet)	NOTES
1515	KS	16.3	6.94	0.31	6100	1.25	-		✓		
1530	KS	16.1	7.16	0.10	6210	2.50			✓		
1535	KS	16.2	7.27	0.09	8225	3.75			✓		
1540	Sample					5.00			✓		
Sample Time 1540											

SAMPLE CONTAINERS

CONTAINER TYPE: G - CLEAR GLASS; A - AMBER GLASS; P - PLASTIC; V - VOA VILE (GLASS); O - OTHER
PRESERVATIVES: H - HCL; N - HNO₃; S - H₂SO₄; A - NaOH; M - HgCl₂; O - OTHER (SPECIFY); - - NONE

ANALYTICAL PARAMETERS	CONTAINER			FIELD FILTERED		PRES.	COOLED		COMMENTS
	NUMBER	TYPE	VOLUME	YES	NO		YES	NO	

COMMENTS:

SAMPLED BY:

SIGNATURE:

DATE:

BIOTECH
REMEDATION
710 East 20th Street
Farmington, NM 87401
Field Office (505) 632-3365

WATER SAMPLING RECORD

PROJECT NAME

Qm

LOCATION NUMBER

mw-15

CLIENT COMPANY

Tun

DATE

12/22/97

SITE NAME

810

PHASE/TASK NO.

SITE ADDRESS

SAMPLING SPECIFICATIONS

REQUESTED SAMPLING DEPTH INTERVAL (feet):

INITIAL MEASUREMENTS

TIME ELAPSED FROM FINAL DEVELOPMENT/PURGING (hours):

INITIAL WATER DEPTH (feet): 12.98

REQUESTED WAIT FOLLOWING
DEVELOPMENT/PURGING (hours):

NONAQUEOUS LIQUIDS PRESENT (DESCRIBE):

WATER QUALITY AND COLLECTION							DO - DISSOLVED OXYGEN COND. - CONDUCTIVITY				
TIME	SAMPLER INITIALS	WATER QUALITY READINGS					WATER COLLECTION DATA				
		TEMP (°C)	pH	DO (mg/L)	COND. (Umhos/cm)	VOLUME REMOVED (gallons)	REMOVAL RATE (gal/min)	PUMP INTAKE DEPTH (feet)	BAIL	FINAL WATER DEPTH (feet)	NOTES
1313	KS	14.8	7.48	1.70	5180	1.50			✓		
1402	KS	14.2	7.60	1.10	5000	3.00			✓	15.90	

Sampled @ 1345 hrs

SAMPLE CONTAINERS

CONTAINER TYPE: G = CLEAR GLASS; A = AMBER GLASS; P = PLASTIC; V = VOA VILE (GLASS); O = OTHER
PRESERVATIVES: H = HCL; N = HNO₃; S = H₂SO₄; A = NaOH; M = HgCl₂; O = OTHER (SPECIFY); - = NONE

ANALYTICAL PARAMETERS	CONTAINER			FIELD FILTERED		PRES.	COOLED		COMMENTS
	NUMBER	TYPE	VOLUME	YES	NO		YES	NO	

COMMENTS:

slow recovery - well cracked

SAMPLED BY:

SIGNATURE:

DATE:

BIOTECH
REMEDiation
710 East 20th Street
Farmington, NM 87401
Field Office (505) 632-3365

WATER SAMPLING RECORD

PROJECT NAME Qm
CLIENT COMPANY _____
SITE NAME 810
SITE ADDRESS _____

LOCATION NUMBER Mw-18
DATE 12/23/97
PHASE/TASK NO. _____

SAMPLING SPECIFICATIONS

REQUESTED SAMPLING DEPTH INTERVAL (feet): _____

REQUESTED WAIT FOLLOWING
DEVELOPMENT /PURGING (hours): _____

INITIAL MEASUREMENTS

TIME ELAPSED FROM FINAL DEVELOPMENT/PURGING (hours): _____

INITIAL WATER DEPTH (feet): 3.29

NONAQUEOUS LIQUIDS PRESENT (DESCRIBE): _____

WATER QUALITY AND COLLECTION

DO - DISSOLVED OXYGEN COND. - CONDUCTIVITY

TIME	SAMPLER INITIALS	WATER QUALITY READINGS					WATER COLLECTION DATA				
		TEMP (°C)	pH	DO (mg/L)	COND. (Umhos/cm)	VOLUME REMOVED (gallons)	REMOVAL RATE (gal/min)	PUMP INTAKE DEPTH (feet)	BAIL	FINAL WATER DEPTH (feet)	NOTES
1105	Ks	13.3	8.32	2.10	1710	1.25			✓		
1115		10.1	7.92	—	2300	2.50	out of water				
1122		9.9	7.75	—	2310	3.75	out of water				
1140		Sample - marked				1122 on 857T10 for Tm					

SAMPLE CONTAINERS

CONTAINER TYPE: G = CLEAR GLASS; A = AMBER GLASS; P = PLASTIC; V = VOA VILE (GLASS); O = OTHER
PRESERVATIVES: H = HCL; N = HNO₃; S = H₂SO₄; A = NaOH; M = HgCl₂; O = OTHER (SPECIFY); - = NONE

ANALYTICAL PARAMETERS	CONTAINER			FIELD FILTERED		PRES.	COOLED		COMMENTS
	NUMBER	TYPE	VOLUME	YES	NO		YES	NO	

COMMENTS:

O₂ meter membrane Bad order - Bubbles showing under membrane

SAMPLED BY:

SIGNATURE:

DATE:

BIOTECH
REMEDATION
710 East 20th Street
Farmington, NM 87401
Field Office (505) 632-3365

WATER SAMPLING RECORD

PROJECT NAME Qm
CLIENT COMPANY _____
SITE NAME 810
SITE ADDRESS _____

LOCATION NUMBER Mw-19
DATE 12/23/97
PHASE/TASK NO. _____

SAMPLING SPECIFICATIONS

REQUESTED SAMPLING DEPTH INTERVAL (feet): _____

REQUESTED WAIT FOLLOWING
DEVELOPMENT/PURGING (hours): _____

INITIAL MEASUREMENTS

TIME ELAPSED FROM FINAL DEVELOPMENT/PURGING (hours): _____

INITIAL WATER DEPTH (feet): 2.91

NONAQUEOUS LIQUIDS PRESENT (DESCRIBE): _____

WATER QUALITY AND COLLECTION

DO - DISSOLVED OXYGEN COND. - CONDUCTIVITY

TIME	SAMPLER INITIALS	WATER QUALITY READINGS					WATER COLLECTION DATA				
		TEMP (°c)	pH	DO (mg/L)	COND. (Umhos/cm)	VOLUME REMOVED (gallons)	REMOVAL RATE (gal/min)	PUMP INTAKE DEPTH (feet)	BAIL	FINAL WATER DEPTH (feet)	NOTES
1000	KS	11.6	7.51	0.40	5740	1.25			✓		
1020	KS	11.1	7.57	0.20	6250	2.50					
1035	KS		7.68	0.07	6240						
1050			sample - slow recharge well							10.15	

SAMPLE CONTAINERS

CONTAINER TYPE: G = CLEAR GLASS; A = AMBER GLASS; P = PLASTIC; V = VOA VILE (GLASS); O = OTHER
PRESERVATIVES: H = HCL; N = HNO₃; S = H₂SO₄; A = NaOH; M = HgCl₂; O = OTHER (SPECIFY); - = NONE

ANALYTICAL PARAMETERS	CONTAINER			FIELD FILTERED		PRES.	COOLED		COMMENTS
	NUMBER	TYPE	VOLUME	YES	NO		YES	NO	

COMMENTS: _____

SAMPLED BY: _____

SIGNATURE: _____

DATE: _____

WATER SAMPLING RECORD

PROJECT NAME

LOCATION NUMBER

MW-20

CLIENT COMPANY

DATE _____

12/22/97

SITE NAME

PHASE/TASK NO.

SITE ADDRESS

SAMPLING SPECIFICATIONS REQUESTED SAMPLING DEPTH INTERVAL (feet): _____ REQUESTED WAIT FOLLOWING DEVELOPMENT /PURGING (hours): _____	INITIAL MEASUREMENTS TIME ELAPSED FROM FINAL DEVELOPMENT/PURGING (hours): _____ INITIAL WATER DEPTH (feet): <u>4.90</u> NONAQUEOUS LIQUIDS PRESENT (DESCRIBE): _____
--	---

[illegible][illegible]

COMMENTS:

Good H₂O Prod

SAMPLED BY:

SIGNATURE:

DATE:

BIOTECH
REMEDATION
710 East 20th Street
Farmington, NM 87401
Field Office (505) 632-3365

WATER SAMPLING RECORD

PROJECT NAME

Qm

LOCATION NUMBER

MW-21

CLIENT COMPANY

Twm. Ky

DATE

12/22/97

SITE NAME

810

PHASE/TASK NO.

SITE ADDRESS

SAMPLING SPECIFICATIONS

REQUESTED SAMPLING DEPTH INTERVAL (feet):

INITIAL MEASUREMENTS

TIME ELAPSED FROM FINAL DEVELOPMENT/PURGING (hours):

INITIAL WATER DEPTH (feet): 3.07

REQUESTED WAIT FOLLOWING
DEVELOPMENT /PURGING (hours):

NONAQUEOUS LIQUIDS PRESENT (DESCRIBE):

WATER QUALITY AND COLLECTION

DO - DISSOLVED OXYGEN COND. - CONDUCTIVITY

TIME	SAMPLER INITIALS	WATER QUALITY READINGS					WATER COLLECTION DATA				
		TEMP (°c)	pH	DO (mg/L)	COND. (Umhos/cm)	VOLUME REMOVED (gallons)	REMOVAL RATE (gal/min)	PUMP INTAKE DEPTH (feet)	BAIL	FINAL WATER DEPTH (feet)	NOTES
1502	KS	7.6	7.25	0.83	5040	1.25			✓		
1515	KS	8.1	7.28	0.37	4960	2.50			✓		
1525	KS	8.0	7.23	0.40	4960	3.75			✓	3.14	
	</										

SAMPLE CONTAINERS

CONTAINER TYPE: G = CLEAR GLASS; A = AMBER GLASS; P = PLASTIC; V = VOA VILE (GLASS); O = OTHER
PRESERVATIVES: H = HCL; N = HNO₃; S = H₂SO₄; A = NaOH; M = HgCl₂; O = OTHER (SPECIFY); - = NONE

ANALYTICAL PARAMETERS	CONTAINER			FIELD FILTERED		PRES.	COOLED		COMMENTS
	NUMBER	TYPE	VOLUME	YES	NO		YES	NO	

COMMENTS:

Good H₂O Prod.

SAMPLED BY:

SIGNATURE:

DATE:

WATER SAMPLING RECORD

PROJECT NAME

LOCATION NUMBER

Mw-27

CLIENT COMPANY

DATE _____

12/22/97

SITE NAME

PHASE/TASK NO.

810

SITE ADDRESS

SAMPLING SPECIFICATIONS REQUESTED SAMPLING DEPTH INTERVAL (feet): _____ REQUESTED WAIT FOLLOWING DEVELOPMENT /PURGING (hours): _____	INITIAL MEASUREMENTS TIME ELAPSED FROM FINAL DEVELOPMENT/PURGING (hours): _____ INITIAL WATER DEPTH (feet): <u>4.25</u> NONAQUEOUS LIQUIDS PRESENT (DESCRIBE): _____
--	---

[illegible][illegible]

COMMENTS:

Good! The production for this week?

SAMPLED BY:

SIGNATURE:

DATE:

BIOTECH
REMEDICATION
710 East 20th Street
Farmington, NM 87401
Field Office (505) 632-3365

WATER SAMPLING RECORD

PROJECT NAME

LOCATION NUMBER

CLIENT COMPANY

DATE

SITE NAME

PHASE/TASK NO.

SITE ADDRESS

Influent
Air
stripper

SAMPLING SPECIFICATIONS

REQUESTED SAMPLING DEPTH INTERVAL (feet):

INITIAL MEASUREMENTS

TIME ELAPSED FROM FINAL DEVELOPMENT/PURGING (hours):

INITIAL WATER DEPTH (feet):

REQUESTED WAIT FOLLOWING
DEVELOPMENT/PURGING (hours):

NONAQUEOUS LIQUIDS PRESENT (DESCRIBE):

WATER QUALITY AND COLLECTION

DO - DISSOLVED OXYGEN COND. - CONDUCTIVITY

TIME	SAMPLER INITIALS	WATER QUALITY READINGS					WATER COLLECTION DATA				
		TEMP (°c)	pH	DO (mg/L)	COND. (Umhos/cm)	VOLUME REMOVED (gallons)	REMOVAL RATE (gal/min)	PUMP INTAKE DEPTH (feet)	BAIL	FINAL WATER DEPTH (feet)	NOTES
1630	JCS	9.9	2.45		661						

SAMPLE CONTAINERS

CONTAINER TYPE: G - CLEAR GLASS; A - AMBER GLASS; P - PLASTIC; V - VOA VILE (GLASS); O - OTHER
PRESERVATIVES: H - HCL; N - HNO₃; S - H₂SO₄; A - NaOH; M - HgCl₂; O - OTHER (SPECIFY); - - NONE

ANALYTICAL PARAMETERS	CONTAINER			FIELD FILTERED		PRES.	COOLED		COMMENTS
	NUMBER	TYPE	VOLUME	YES	NO		YES	NO	

COMMENTS:

STRIPPER has been on line for 72 hrs.

Lowest air flow to 10 RPM
from 16 RPM

SAMPLED BY:

SIGNATURE:

DATE:

BIOTECH
REMEDATION
710 East 20th Street
Farmington, NM 87401
Field Office (505) 632-3365

WATER SAMPLING RECORD

PROJECT NAME _____
CLIENT COMPANY 810
SITE NAME _____
SITE ADDRESS _____

LOCATION NUMBER Air Stripper
Effluent
DATE 12/22/97
PHASE/TASK NO. _____

SAMPLING SPECIFICATIONS REQUESTED SAMPLING DEPTH INTERVAL (feet): _____ REQUESTED WAIT FOLLOWING DEVELOPMENT /PURGING (hours): _____	INITIAL MEASUREMENTS TIME ELAPSED FROM FINAL DEVELOPMENT/PURGING (hours): _____ INITIAL WATER DEPTH (feet): _____ NONAQUEOUS LIQUIDS PRESENT (DESCRIBE): _____
--	--

WATER QUALITY AND COLLECTION							DO - DISSOLVED OXYGEN COND. - CONDUCTIVITY				
TIME	SAMPLER INITIALS	WATER QUALITY READINGS					WATER COLLECTION DATA				
		TEMP (°C)	pH	DO (mg/L)	COND. (Umhos/cm)	VOLUME REMOVED (gallons)	REMOVAL RATE (gal/min)	PUMP INTAKE DEPTH (feet)	BAIL	FINAL WATER DEPTH (feet)	NOTES
1650	LC		6.85		4880						

SAMPLE CONTAINERS		CONTAINER TYPE: G - CLEAR GLASS; A - AMBER GLASS; P - PLASTIC; V - VOA VILE (GLASS); O - OTHER PRESERVATIVES: H - HCL; N - HNO ₃ ; S - H ₂ SO ₄ ; A - NaOH; M - HgCl ₂ ; O - OTHER (SPECIFY); - = NONE									
ANALYTICAL PARAMETERS	CONTAINER			FIELD FILTERED		PRES.	COOLED		COMMENTS		
	NUMBER	TYPE	VOLUME	YES	NO		YES	NO			

COMMENTS: _____
SAMPLED BY: _____
SIGNATURE: _____ DATE: _____

FREE PRODUCT BAILING LOG THRIFTWAY REFINERY

DATE: 12/18/97

TECHNICIAN: K. Sink

F:\FILE1810\BAILLOG.WK4

MONITOR WELL#	AO LEVEL	OW LEVEL	DELTA FEET	PRODUCT GALLONS	COMMENTS
MW-02	11.69	11.69	.05	10ml	smells like Diesel
MW-03*	3.42	3.42	-0-	-0-	No product.
MW-07*	6.61	6.61	-0-	-0-	No product
MW-12	13.87	14.39	0.52	785+130 = (915ml)	Diesel
MW-14*	12.42	12.45	0.03	5ml	smells like Diesel
MW-17	5.42	5.78	0.36	520ml	smells like Diesel
MW-29	14.14	14.21	0.07	20ml	Diesel
RW-24	13.72	14.00	0.28	440ml	Diesel
RW-25	14.39	14.54	0.15	330ml	Diesel
RW-26	11.63	11.64	0.01	-0-	Diesel
STR UST					

* Should not have free product on the water surface.

