GW - 55

MONITORING REPORTS

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GW-55

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2007 Annual Groundwater Monitoring Report

Thriftway Refinery
626 Road 5500
Bloomfield, New Mexico

March 31, 2008

Prepared on behalf of:
Thriftway Company
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1.0 Introduction

Animas Environmental Services, LLC (AES) has prepared this Annual Report on behalf of Thriftway Company (Thriftway) for the Thriftway Refinery, located at 626 County Road 5500, Bloomfield, San Juan County, New Mexico, in accordance with New Mexico Oil Conservation Division (NMOCD) and New Mexico Environment Department (NMED) Ground Water Quality Bureau (GWQB) regulations.

This annual groundwater monitoring and sampling report details the groundwater monitoring and sampling activities at the site during 2007. A general site plan is included as Figure 1.

2.0 Groundwater Monitoring and Sampling

BioTech Remediation, Inc. (BioTech) personnel measured groundwater elevations at the site in July and December 2007. Groundwater monitoring and sampling was also conducted at the site in July and December 2007. Influent and effluent water samples were not collected during 2007 because the on-site airstripper was not in operation.

2.1 Measurement of Groundwater Elevations

Before collection of groundwater samples, depth to groundwater in each well was measured with an electronic water level indicator, which has an accuracy of 0.01 foot. Depth to groundwater measurements were recorded onto a Water Sample Collection Form for each well. Water Sample Collection Forms for July and December 2007 are included in Appendix A.

2.2 Measurement of Free Product

Each well with free product was measured with an electronic interface probe, and the depth to top of product and the depth to the oil/water interface were recorded onto a groundwater measurement form. Free product was measured during the July sampling event within MW-17 and during the December sampling event within MW-3, MW-12, MW-17, MW-28, MW-29, and RW-24 through RW-26.

In monitor wells containing NAPL, corrected groundwater elevations (Hc) were determined using the following formula:

$$H_c = H_m + (H_o * (\rho_o/\rho_w))$$

where

H_m is the measured elevation of the hydrocarbon-water interface (ft)

H_o is the thickness of the hydrocarbon layer (ft)

ρ_o is the hydrocarbon density of diesel, assumed to be 0.827 (g/ml) (API, 1986)

ρ_w is the water density, assumed to be 1.0 (g/ml)

2.3 Groundwater Sampling

Once the depth to groundwater was measured in each well, the well was purged with a new disposable bailer to remove stagnant water from the well. Groundwater samples

were then collected. Monitoring wells found to contain free product were not sampled. Groundwater sampling procedures included the following:

1. A new disposable bailer was used at each well. Samples were collected using a slow release valve attached to the bottom of the bailer (to ensure a slow flow and less volatilization of contaminants from groundwater). Each sample container was filled, making sure there were no bubbles or headspace in VOA/VOC sample bottles.

2. Each bottle was labeled, and chain-of-custody documentation was filled out as each well was sampled. Sample containers obtained from the analyzing laboratory were utilized during the sampling events.

3. Samples were placed in an insulated cooler and maintained at 4°C during transportation to the laboratories, Pinnacle Laboratories, Albuquerque, New Mexico, and Hall Environmental Analysis Laboratory, Albuquerque, New Mexico.

Groundwater samples were collected from the least contaminated sampling location to the most contaminated sampling location, as determined by previous sampling events, in order to prevent cross-contamination.

2.4 Equipment Decontamination Protocols

In order to ensure data validity and prevent cross-contamination, the following decontamination protocols for sampling equipment were employed:

- Wash with detergent (Alconox) and warm water
- Rinse with warm water
- Wash with detergent (Alconox) and warm water
- Rinse with de-ionized water

2.5 Laboratory Analyses

Groundwater samples collected during the semi-annual sampling events in July and December 2007, were analyzed for benzene, toluene, ethylbenzene, xylene (BTEX), methyl-t-butyl ether (MTBE), and total petroleum hydrocarbons (TPH) gasoline range organics (GRO) per EPA Method 8021B/8015B. Samples collected during the annual sampling event in December 2007 were also analyzed for the following:

- Diesel range organics (DRO) per EPA Method 8015M;
- Polynuclear aromatic hydrocarbons (PAHs) per EPA Method 8270C;
- RCRA 8 Metals per EPA Method 6020 and 7470;
- Dissolved Metals (Calcium, Magnesium, Potassium, and Sodium) per EPA Method 6010;
- Bromide per EPA Method 300.0;
- Chloride per Standard Method 4500ClE;
- Fluoride per EPA Method 300.0;
- Sulfate per EPA Method 375.2;
- Hardness as CaCO3 per Standard Method 2340B;
- Total Dissolved Solids (TDS) per Standard Method 2540C;

- Forms of Alkalinity per Standard Method 2320B

All samples were analyzed at Pinnacle Laboratories in Albuquerque, New Mexico, or one of its subcontracting laboratories, with the exception of PAHs and TDS which were analyzed at Hall Environmental Analysis Laboratory in Albuquerque, New Mexico.

3.0 Results

3.1 Hydraulic Gradient and Water Quality Data

3.1.1 Hydraulic Gradient

Prior to sampling each well, depth to groundwater measurements were recorded onto a Water Sample Collection Form. Groundwater elevations across the site in July 2007 ranged from 5,434.43 feet above mean sea level (AMSL) in MW-14 down to 5,423.90 feet AMSL in MW-5. Groundwater gradient was calculated between MW-14 and MW-5 with a magnitude of 0.008 ft/ft to the northwest for July 2007.

Groundwater elevations across the site during the sampling event in December 2007 ranged from 5434.29 feet AMSL in MW-13 down to 5424.56 feet AMSL in MW-20. Groundwater gradient was measured between MW-1 and MW-18 with a magnitude of 0.007 ft/ft to the northwest for December 2007.

The direction of groundwater gradient has remained stable in a northwest direction across the site and is consistent with historical site data. Table 1 includes depth to groundwater measurements and hydraulic elevations. Groundwater elevation contours for July and December 2007 are presented in Figures 2 and 3, respectively. Water Sample Collection Forms for July and December 2007 are presented in Appendix A.

3.1.2 Water Quality Data

Following well measurement and purging of the wells, water quality data was recorded until temperature, pH, conductivity, and dissolved oxygen (DO) measurements stabilized. Temperature in the monitoring wells in 2007 ranged from 12.10°C up to 18.74°C. pH was neutral at 7.0 to 7.86, and conductivity was recorded at 2.949 mS up to 11.95 mS. Dissolved oxygen concentrations were measured and ranged from 0.15 mg/L to 3.29 mg/L.

3.2 Free Product

Non-aqueous phase liquid (NAPL) or free product was measured in several wells, including MW-3, MW-12, MW-17, MW-29, and RW-24 through RW-26, throughout the year. Measured thicknesses ranged from a sheen in MW-3 in December 2007 up to a maximum of 1.32 feet in RW-24 in December 2007. Free product thickness contours for December 2007 are presented in Figure 4.

3.3 Dissolved Phase Contaminants Concentrations

3.3.1 Volatile Organics

Benzene concentrations that exceeded the New Mexico Water Quality Control Commission (WQCC) standard of 10 µg/L were detected in MW-1, MW-2, MW-14, and RW-26. Benzene concentrations exceeding the WQCC standard of 10 µg/L ranged from 20 µg/L in MW-14 up to 1,000 µg/L in RW-26 for July 2007 and from 16 µg/L in MW-14 up to 730 µg/L in MW-2 for December 2007. Benzene concentration contours for July and December 2007 are presented as Figures 5 and 6, respectively.

Toluene and ethylbenzene concentrations were below laboratory detection limits or below the applicable WQCC standards of 750 µg/L throughout 2007 in the wells that were sampled. Xylene concentrations were also below laboratory detection limits or below the applicable WQCC standard of 620 µg/L throughout 2007 in all wells sampled.

MTBE concentrations were above the WQCC standard of 100 µg/L in MW-20 during 2007. MTBE concentrations were reported in MW-20 at 180 µg/L in July 2007 and at 360 µg/L in December 2007. All other wells were either below the laboratory detection limit or below applicable WQCC standards in the wells included in the sampling events. MTBE concentration contours for July and December 2007 are included in Figure 7.

TPH-GRO (C_6-C_{10}) concentrations ranged from below the laboratory detection limit up to 21 mg/L in July 2007 and up to 4.3 in December 2007 in MW-2. TPH-DRO (C_{10}-C_{22}) concentrations ranged from below laboratory detection limit up to 36.8 mg/L in July 2007 and up to 395 mg/L in MW-2 in December 2007.

BTEX, MTBE, TPH-GRO, and TPH-DRO analytical data are summarized in Table 2. Laboratory analytical reports are presented in Appendix B.

3.3.2 Polynuclear Aromatic Hydrocarbons

Groundwater samples from MW-1, MW-2, MW-10, MW-14, MW-18, and MW-20 through MW-22 were analyzed for PAHs per EPA Method 8270C during the December 2007 sampling event.

Total naphthalenes (including 1- and 2-methyl naphthalene) exceeded the WQCC standard of 30 µg/L in MW-2 with 272 µg/L. Naphthalene concentrations in all other wells sampled were below the laboratory detection limit of 0.70 µg/L. Note that pyrene was reported in MW-1 with 5.5 µg/L and in MW-18 with 4.0 µg/L. In MW-2, phenanthrene was detected at 120 µg/L, and fluorene was reported at 58 µg/L. All other PAH concentrations were below laboratory detection limits in all wells sampled in December 2007. Note that the laboratory detection limit for benzo(a)pyrene was 3.5 µg/L in MW-2, which is above the WQCC standard of 0.7 µg/L. PAH analytical data are summarized in Table 3. Laboratory analytical results are included in Appendix B.

3.3.3 RCRA 8 Metals

RCRA 8 metals were analyzed by EPA Method 6020 and 7470 from groundwater samples collected from MW-1, MW-2, MW-10, MW-14, MW-18, and MW-20 through MW-22 during the December 2007 sampling event. Arsenic was detected above the WQCC standard of 0.10 mg/L in MW-18 with a concentration of 0.108 mg/L. All other

wells sampled for arsenic were below the WQCC standard. Laboratory results for barium, cadmium, chromium, lead, selenium, silver, and mercury had reported concentrations either below applicable WQCC standards or below laboratory detection limits. RCRA 8 metals analytical results are summarized in Table 4, and laboratory analytical reports are included in Appendix B.

3.3.4 Dissolved Metals, Chlorides, Carbon Dioxide and Forms of Alkalinity

Groundwater samples from MW-1, MW-2, MW-10, MW-14, MW-18, and MW-20 through MW-22 were also analyzed for calcium, magnesium, potassium, sodium, bromide, chloride, fluoride, sulfate, hardness (as $CaCO_3$), TDS, and forms of alkalinity during the December 2007 sampling event. TDS concentrations were above the WQCC standard of 1,000 mg/L in all wells sampled, with the highest TDS detected in MW-22 with 10,000 mg/L. Sulfate concentrations exceeded the applicable WQCC standard of 600 mg/L in all wells sampled, with the exception of MW-2 with 68.4 mg/L sulfate. The highest sulfate concentration was detected in MW-22 with 5,610 mg/L. Chloride concentrations did not exceed the WQCC standard of 250 mg/L in any of the wells sampled. Bicarbonate concentrations ranged from 253 mg/L as $CaCO_3$ in MW-10 up to 1,490 mg/L as $CaCo_3$ in MW-2. Carbonate concentrations ranged from below the laboratory detection limit of 0.100 mg/L as $CaCo_3$ up to 3.1 mg/L as $CaCo_3$ in MW-18. Dissolved calcium concentrations ranged from 47.1 mg/L in MW-2 up to 450 mg/L in MW-20, and dissolved magnesium concentrations ranged from 11.0 mg/L in MW-2 up to 89.2 mg/L in MW-18. Dissolved potassium concentrations ranged from 2.47 mg/L in MW-2 up to 7.05 mg/L in MW-22, and dissolved sodium concentrations ranged from 438 mg/L in MW-1 up to 2,340 mg/L in MW-22. Laboratory data have been summarized and are presented within Tables 5 and 6. Laboratory analytical reports are found in Appendix B.

4.0 Remediation Unit Operations and Sampling

The airstripper was installed in the western portion of the facility in about 1990 and upgraded in about 1996. The airstripper has pumped groundwater for treatment and then subsequent discharge to the evaporation ponds at the facility. Water from the airstripper influent and effluent was previously sampled on a monthly basis in order to calculate the removal efficiency. Results of the monthly sampling events were included within the Annual Report. However, during 2007 the airstripper was not operated because of declining removal efficiency of the airstripper in conjunction with increasing mechanical problems. Thriftway Company proposes to re-evaluate correction action alternatives and technologies for the site after additional site investigation and pilot study work at the site.

5.0 Summary and Conclusions

BioTech personnel conducted semi-annual groundwater monitoring and sampling at the site in July and December 2007. Overall groundwater elevations continue to be stable and appear to have fluctuated moderately throughout 2007 as part of seasonal variations noted previously at the site. Groundwater gradient was calculated to be approximately 0.008 ft/ft in a northwest direction across the site in July and 0.007 ft/ft in a northwest direction in December 2007.

Free product was measured in several wells, including MW-3, MW-12, MW-17, MW-29, and RW-24 through RW-26 throughout the year. Measured thicknesses ranged from a sheen in MW-3 in December 2007 up to a maximum of 1.32 feet in RW-24 in December 2007.

Based upon the analytical results for the July and December 2007 sampling events, dissolved phase contaminant concentrations in several wells exceeded the New Mexico WQCC standards for benzene, sulfate, and TDS. MW-20 exceeded the WQCC standard for MTBE, MW-18 exceeded the WQCC standard for arsenic, and MW-2 was above the WQCC standard for total naphthalenes. The highest benzene concentration was reported at 1,000 µg/L in RW-26 in July 2007 and at 730 µg/L in MW-2 in December 2007. The highest MTBE concentrations were detected in MW-20, with 180 µg/L in July and 360 µg/L in December 2007.

6.0 Recommendations

AES has included a workplan detailing proposed corrective action activities with this report under separate cover. The workplan outlines proposed tasks including: 1) additional groundwater monitoring and sampling of existing site wells in the June 2008 sampling event; 2) installation of additional soil borings/groundwater monitor wells subsequent to the June 2008 sampling event and subsequent to removal of existing aboveground storage tanks (ASTs) that are currently leased to Giant Industries; and 3) completion of a high vacuum multi-phase extraction (MPE) pilot study to the east of the former refinery process area. Findings associated with installation of additional soil borings/monitor wells along with the results of the MPE pilot study will be used to develop a conceptual site model (CSM) and corrective action plan (CAP) for the facility.

7.0 Statement of Familiarity

I, the undersigned, am personally familiar with the information submitted in this annual groundwater monitoring report and attached documents for the Thriftway Refinery, located at 626 County Road 5500, Bloomfield, San Juan County, New Mexico, prepared on behalf of Thriftway Company. I attest that it is true and complete to the best of my knowledge.

Lany Cupps, Project Manager

Elizabeth McNally, P.E.
New Mexico Registration #15799

TABLE 1
SUMMARY OF GROUNDWATER MEASUREMENTS AND WATER QUALITY DATA
Thriftway Refinery, Bloomfield, New Mexico

Well ID	Date	T.O.C. (ft amsl)	Depth to Product (ft)	Depth to Water (ft)	NAPL Thickness (ft)	Corrected GW Elev. (ft)*	GW Elev. (ft amsl)	pH	Conductivity (mS)	Dissolved Oxygen (mg/L)	Temp. (°C)	Purge Volume (gallons)
A.S. INF	28-Jun-06							5.4	5.311	0.82	22.1	
A.S. INF	02-Jan-07							7.1	9.197	1.08	11.7	NA
A.S. EFF	28-Jun-06							2.8	6.064	0.91	22.3	
A.S. EFF	02-Jan-07							8	9.201	5.1	12.72	NA
MW-1	01-Feb-02	5449.08		14.78			5434.30					
MW-1	04-Feb-02	5449.08	9.17	9.18	0.01	5439.91	5439.89					
MW-1	29-Jul-02	5449.08		14.99			5434.09					No Sample
MW-1	06-Jun-03	5449.08		14.31			5434.77					No Sample
MW-1	21-Jan-04	5449.08		15.04			5434.04					No Sample
MW-1	26-May-04	5449.08		14.52			5434.56					No Sample
MW-1	29-Jul-04	5449.08		14.31			5434.77					No Sample
MW-1	03-Jan-05	5449.08		15.25			5433.83					No Sample
MW-1	08-Apr-05	5449.08		14.83			5434.25					
MW-1	19-Sep-05	5449.08		15.42			5433.66	NM	NM	NM	NM	No Sample
MW-1	03-Jan-06	5449.08		15.23			5433.85	7.40	2.593	0.34	17.30	3
MW-1	28-Jun-06	5449.08		14.85			5434.23	6.80	3.489	0.40	17.20	3
MW-1	28-Dec-06	5449.08		15.01			5434.07	7.20	6.065	0.28	13.20	3
MW-1	03-Jul-07	5449.08		15.27			5433.81	7.2	3.253	1.28	17.2	2.8
MW-1	18-Dec-07	5449.08		15.67			5433.41	7.26	4.102	0.65	15.32	0.25
MW-2	01-Feb-02	5442.65		11.91			5430.74					No Sample
MW-2	29-Jul-02	5442.65		11.97			5430.68					No Sample
MW-2	06-Jun-03	5442.65		12.57			5430.08					No Sample
MW-2	21-Jan-04	5442.65	11.94	13.00	1.06	5430.47	5428.88					No Sample
MW-2	26-May-04	5442.65	11.58	12.60	1.02	5430.84	5429.31					No Sample
MW-2	28-Jul-04	5442.65	11.75	12.73	0.98	5430.68	5429.21					No Sample

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Well ID	Date	T.O.C. (ft amsl)	Depth to Product (ft)	Depth to Water (ft)	NAPL Thickness (ft)	Corrected GW Elev. (ft)*	GW Elev. (ft amsl)	pH	Conductivity (mS)	Dissolved Oxygen (mg/L)	Temp. (°C)	Purge Volume (gallons)
MW-2	03-Jan-05	5442.65	12.00	12.99	0.99	5430.43	5428.94					No Sample
MW-2	01-Apr-05	5442.65	12.48	11.51	0.97	5431.89	5430.43					
MW-2	19-Sep-05	5442.65	11.65	12.60	0.95	5430.79	5429.36	NM	NM	NM	NM	
MW-2	05-Jan-06	5442.65	11.78	12.70	0.92	5430.67	5429.28	7.20	2.238	0.50	15.00	
MW-2	28-Jun-06	5442.65		11.86		5430.79	5430.79	6.80	2.575	0.51	17.00	1.5
MW-2	02-Jan-07	5442.65		NM				NM	NM	NM	NM	
MW-2	03-Jul-07	5442.65		11.51			5431.14	7.2	3.080	0.21	15.8	2
MW-2	19-Dec-07	5442.65		12.09			5430.56	7.29	2.949	0.45	15.45	0.25
MW-3	01-Feb-02	5431.43		6.03			5425.40					No Sample
MW-3	29-Jul-02	5431.43	5.30	6.73	1.43	5425.81	5423.66					No Sample
MW-3	06-Jun-03	5431.43	5.00	6.10	1.10	5426.19	5424.53					No Sample
MW-3	24-Jan-04	5431.43	5.18	6.58	1.40	5425.94	5423.83					No Sample
MW-3	26-May-04	5431.43	4.99	6.82	1.83	5426.03	5423.28					No Sample
MW-3	28-Jul-04	5431.43	4.79	5.58	0.79	5426.46	5425.27					No Sample
MW-3	03-Jan-05	5431.43	4.86	5.33	0.47	5426.47	5425.76					
MW-3	01-Apr-05	5431.43	3.67	3.67	0.00	5427.76	5427.76					
MW-3	19-Sep-05	5431.43	5.3	5.70	0.40	5426.04	5425.44					
MW-3	05-Jan-06	5431.43	5.01	5.18	0.17	5426.38	5426.13	NM	NM	NM	NM	No Purge
MW-3	28-Jun-06	5431.43	5.27	6.27	1.00	5425.94	5424.43	NM	NM	NM	NM	No Purge
MW-3	02-Jan-07	5431.43		4.79			5426.64	7.0	4.791	0.69	13.7	3
MW-3	19-Dec-07	5431.43		4.32			5427.11	Not Sampled - Sheen Present				
MW-4	02-May-01	5430.12		4.96			5425.16	6.9	1.41	2.15	64.4	5
MW-4	30-Jul-01	5430.12		5.72			5424.40	7.0	1.56	11.54	77	6
MW-4	30-Jan-02	5430.12		5.37			5424.75					P
MW-4	25-Jul-02	5430.12		5.70			5424.42	7.3	2.54	1.34	84	P
MW-4	21-Nov-02	5430.12		5.17			5424.95	7.5	1.41	1.80	53.4	P

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Well ID	Date	T.O.C. (ft amsl)	Depth to Product (ft)	Depth to Water (ft)	NAPL Thickness (ft)	Corrected GW Elev. (ft)*	GW Elev. (ft amsl)	pH	Conductivity (mS)	Dissolved Oxygen (mg/L)	Temp. (°C)	Purge Volume (gallons)
MW-4	05-Jun-03	5430.12		4.97			5425.15	7.3	2.72	1.09	62	
MW-4	19-Jan-04	5430.12		5.35			5424.77	7.0	1.119	1.86	48.7	P
MW-4	25-May-04	5430.12		5.11			5425.01	6.9	2.874	0.34	65.7	3
MW-4	27-Jul-04	5430.12		5.62			5424.50	7.4	2.71		72.1	B
MW-4	28-Dec-04	5430.12		5.16			5424.96	7.5				MP
MW-4	31-Mar-05	5430.12		4.30			5425.82	6.9	2.17	1.48	52.7	MP
MW-4	19-Sep-05	5430.12		5.30			5424.82	7.1	3.09	0.40	70.3	
MW-4	4-Jan-06	5430.12		4.91			5425.21	7.2	2.35	0.70	11.3	3
MW-4	02-Jan-07	5430.12		4.79			5425.33	NM	NM	NM	NM	No Sample
MW-4	19-Dec-07	5430.12		4.97			5425.15	NM	NM	NM	NM	No Sample
MW-5	30-Jan-02	5428.97		5.33			5423.64					P
MW-5	25-Jul-02	5428.97		5.73			5423.24	7.8	4.78	1.18	69	P
MW-5	21-Nov-02	5428.97		5.43			5423.54					
MW-5	05-Jun-03	5428.97		5.02			5423.95	8.0	3.07	1.44	59.4	B
MW-5	19-Jan-04	5428.97		5.25			5423.72	7.7	1.14	2.61	47.6	P
MW-5	25-May-04	5428.97		5.04			5423.93	7.5	3.21	0.45	60.4	3
MW-5	27-Jul-04	5428.97		5.43			5423.54	8.1	4.07		75.5	B
MW-5	28-Dec-04	5428.97		5.26			5423.71	8.0				MP
MW-5	31-Mar-05	5428.97		4.62			5424.35	7.3	2.77	0.39	52.7	MP
MW-5	19-Sep-05	5428.97	DRY	DRY	DRY		DRY	NM	NM	NM	NM	
MW-5	5-Jan-06	5428.97	DRY	DRY	DRY		DRY	NM	NM	NM	NM	
MW-5	27-Jun-06	5428.97		5.43			5423.54	7.2	4.197	0.37	16	3
MW-5	28-Dec-06	5428.97		4.88			5424.09	7.3	7.927	0.54	10.4	3
MW-5	3-Jul-07	5428.97		5.07			5423.90	7.86	4.478	2.93	16.4	1.7
MW-5	18-Dec-07	5428.97	Not Sampled - Filled with Roots									
MW-6	3-May-01	5430.70		5.15			5425.55	7.3	1.35	5.33	54.9	5

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MW-6	30-Jul-01	5430.70		5.86			5424.84	7.1	1.57	14.21	68.9	6
MW-6	30-Jan-02	5430.70		5.22			5425.48					
MW-6	25-Jul-02	5430.70		5.39			5425.31	7.2	3.26			
MW-6	21-Nov-02	5430.70		4.86			5425.84	7.5	3.24	0.86	60.8	P
MW-6	5-Jun-03	5430.70		4.90			5425.80	7.5	2.64	1.02	62.6	
MW-6	19-Jan-04	5430.70		5.14			5425.56	7.6	2.235	1.64	52.2	P
MW-6	25-May-04	5430.70		5.04			5425.66	7.1	2.882	0.31	63.3	3
MW-6	27-Jul-04	5430.70		5.14			5425.56	7.7	3.90		72.1	B
MW-6	28-Dec-04	5430.70		5.01			5425.69	7.6				MP
MW-6	31-Mar-05	5430.70		3.88			5426.82	7.2	2.42	1.24	52.7	MP
MW-6	19-Sep-05	5430.70		5.18			5425.52	7.2	3.839	0.46	70.9	
MW-6	4-Jan-06	5430.70		4.72			5425.98	7.5	2.775	1.60	11.7	3
MW-6	02-Jan-07	5430.70		4.63			5426.07	NM	NM	NM	NM	No Sample
MW-6	19-Dec-07	5430.70		4.48			5426.22	NM	NM	NM	NM	No Sample
MW-7	1-Feb-02	5435.28		5.32			5429.96					No Sample
MW-7	29-Jul-02	5435.28		6.11			5429.17					No Sample
MW-7	6-Jun-03	5435.28		9.06			5426.22					No Sample
MW-7	19-Jan-04	5435.28		9.06			5426.22	7.0	2.827	0.93	49.7	P
MW-7	25-May-04	5435.28		9.14			5426.14	6.8	3.76	0.27	63.2	3
MW-7	27-Jul-04	5435.28		9.08			5426.20	7.3	5.32		72.8	B
MW-7	28-Dec-04	5435.28		9.05			5426.23	7.8				MP
MW-7	31-Mar-05	5435.28		7.67			5427.61	6.5	3.011	0.5	52	MP
MW-7	19-Sep-05	5435.28		9.20			5426.08	7.0	4.802	0.41	70.8	
MW-7	4-Jan-06	5435.28		8.14			5427.14	7.0	3.625	0.48	14.5	3
MW-7	02-Jan-07	5435.28		8.75			5426.53	NM	NM	NM	NM	No Sample
MW-7	19-Dec-07	5435.28		8.43			5426.85	NM	NM	NM	NM	No Sample

TABLE 1
SUMMARY OF GROUNDWATER MEASUREMENTS AND WATER QUALITY DATA
Thriftway Refinery, Bloomfield, New Mexico

Well ID	Date	T.O.C. (ft amsl)	Depth to Product (ft)	Depth to Water (ft)	NAPL Thickness (ft)	Corrected GW Elev. (ft)*	GW Elev. (ft amsl)	pH	Conductivity (mS)	Dissolved Oxygen (mg/L)	Temp. (°C)	Purge Volume (gallons)
MW-8	30-May-01	5433.04		4.05			5428.99	7.1	1.79	4.57	53.4	5.2
MW-8	30-Jul-01	5433.04		5.86			5427.18	7.0	2.61	13.34	75.0	6
MW-8	31-Jan-02	5433.04		5.32			5427.72			0.36	73.3	P
MW-8	26-Jul-02	5433.04		5.84			5427.20	7.3	6.49	1.24	74.2	P
MW-8	22-Nov-02	5433.04		3.90			5429.14	6.8	3.97	0.47	55.6	P
MW-8	5-Jun-03	5433.04		4.30			5428.74	7.0	3.38	0.75	60.3	B
MW-8		5433.04	Well Not Found									
MW-8	4-Jan-06	5433.04		4.04			5429.00	6.8	3.377	0.62	13.4	3
MW-8	02-Jan-07	5433.04	Well Not Found									
MW-8	19-Dec-07	5433.04	Not Sampled - Filled with Roots									
MW-9	30-Jan-02	5436.69		NS	Well not located							
MW-9	26-Jul-02	5436.69		NS	Well not located							
MW-9	21-Nov-02	5436.69		5.37			5431.32	7.5	5.8	0.91	58.3	P
MW-9	5-Jun-03	5436.69		5.61			5431.08	7.5	4.95	0.85	63.8	P
MW-9	19-Jan-04	5436.69		5.72			5430.97	7.3	3.23	1.71	35.1	P
MW-9	25-May-04	5436.69		5.72			5430.97	7.5	4.86	0.65	61.5	3
MW-9	28-Jul-04	5436.69		5.95			5430.74	7.57	6.73		72	B
MW-9	29-Dec-04	5436.69		5.47			5431.22					MP
MW-9	31-Mar-05	5436.69		5.38			5431.31	7	4.172	1.4	52.3	MP
MW-9	19-Sep-05	5436.69		5.73			5430.96	7.3	5.805	0.56	70.9	
MW-9	4-Jan-06	5436.69		5.26			5431.43	7.4	4.035	1.17	8	3
MW-9	02-Jan-07	5436.69		5.21			5431.48	NM	NM	NM	NM	No Sample
MW-9	19-Dec-07	5436.69		5.86			5430.83	NM	NM	NM	NM	No Sample
MW-10	31-Jan-02	5437.78		5.21			5432.57					P
MW-10	26-Jul-02	5437.78		5.62			5432.16	7.4	5.51	1.37	74.4	P
MW-10	21-Nov-02	5437.78		5.32			5432.46	7.3	4.63	0.97	59.1	P

TABLE 1
SUMMARY OF GROUNDWATER MEASUREMENTS AND WATER QUALITY DATA
Thriftway Refinery, Bloomfield, New Mexico

Well ID	Date	T.O.C. (ft amsl)	Depth to Product (ft)	Depth to Water (ft)	NAPL Thickness (ft)	Corrected GW Elev. (ft)*	GW Elev. (ft amsl)	pH	Conductivity (mS)	Dissolved Oxygen (mg/L)	Temp. (°C)	Purge Volume (gallons)
MW-10	5-Jun-03	5437.78		5.35			5432.43	7.6	4.62	0.98	63.3	B
MW-10	19-Jan-04	5437.78		5.29			5432.49	7.3	2.96	1.38	45.8	P
MW-10	25-May-04	5437.78		5.19			5432.59	7.4	4.54	0.46	61.4	3
MW-10	28-Jul-04	5437.78		5.42			5432.36	8.31			69.7	B
MW-10	29-Dec-04	5437.78		5.08			5432.70					MP
MW-10	31-Mar-05	5437.78		5.00			5432.78	7.1	3.482	0.8	50.7	MP
MW-10	19-Sep-05	5437.78		5.22			5432.56	7.4	4.847	0.54	69.6	
MW-10	3-Jan-06	5437.78		4.66			5433.12	7.4	3.721	0.92	11.6	3
MW-10	28-Jun-06	5437.78		5.28			5432.50	7	5.567	0.46	18.2	3
MW-10	28-Dec-06	5437.78		4.88			5432.90	7.4	9.762	1.00	10.1	3
MW-10	3-Jul-07	5437.78		5.60			5432.18	7.5	5.638	3.29	15.83	3.5
MW-10	18-Dec-07	5437.78		5.16			5432.62	7.64	6.256	1.19	14.02	2
MW-11	31-Jan-02	5439.67		5.71			5433.96					P
MW-11	26-Jul-02	5439.67		6.29			5433.38	7.4	5.06	1.58	69.8	P
MW-11	21-Nov-02	5439.67		6.01			5433.66	7.4	4.48	0.85	60.3	P
MW-11	5-Jun-03	5439.67		5.94			5433.73	7.8	3.7	1.16	60.7	B
MW-11	20-Jan-04	5439.67		5.62			5434.05	7.3	0.45	3.62	44.5	P
MW-11	25-May-04	5439.67		5.85			5433.82	7.6	4.04	2.16	70.4	3
MW-11	28-Jul-04	5439.67		6.11			5433.56	7.78	5		65.9	B
MW-11	29-Dec-04	5439.67		5.95			5433.72					MP
MW-11	31-Mar-05	5439.67	Surface Casing Damaged By Vandals - Top of Casing Broken Off -- NS									
MW-11	19-Sep-05	5439.67	Surface Casing Damaged By Vandals - Top of Casing Broken Off -- NS									
MW-11	02-Jan-07	5439.67	Surface Casing Damaged By Vandals - Top of Casing Broken Off -- NS									
MW-12	31-Jan-02	5446.09		14.09			5432.00					P
MW-12	26-Jul-02	5446.09		14.35			5431.74	7.0	3.08	2.74	75.3	P
MW-12	3-Dec-02	5446.09		14.34			5431.75	6.9	4.01	1.21	54.4	P

TABLE 1
SUMMARY OF GROUNDWATER MEASUREMENTS AND WATER QUALITY DATA
Thriftway Refinery, Bloomfield, New Mexico

Well ID	Date	T.O.C. (ft amsl)	Depth to Product (ft)	Depth to Water (ft)	NAPL Thickness (ft)	Corrected GW Elev. (ft)*	GW Elev. (ft amsl)	pH	Conductivity (mS)	Dissolved Oxygen (mg/L)	Temp. (°C)	Purge Volume (gallons)
MW-12	5-Jun-03	5446.09		13.72			5432.37	7.1	5.20	0.98	64.6	P
MW-12	20-Jan-04	5446.09	14.06	14.19	0.13	5432.00	5431.81					No Sample
MW-12	25-May-04	5446.09	13.73	13.76	0.03	5432.35	5432.31					MP
MW-12	28-Jul-04	5446.09	14.04	14.20	0.16	5432.01	5431.77					No Sample
MW-12	30-Dec-04	5446.09	14.14	14.89	0.75	5431.78	5430.65					MP
MW-12	31-Mar-05	5446.09	13.99	13.86	1.16	5433.13	5431.38	No Water Quality Parameters / FP				
MW-12	19-Sep-05	5446.09	14.15	14.85	0.70	5431.78	5430.73	No Water Quality Parameters / FP				
MW-12	05-Jan-06	5446.09	14.06	14.58	0.52	5431.91	5431.13	NM	NM	NM	NM	No Purge
MW-12	28-Jun-06	5446.09	13.94	14.12	0.18	5432.11	5431.84	NM	NM	NM	NM	No Purge
MW-12	02-Jan-07	5446.09	13.94	14.12	0.18	5432.11	5431.84	NM	NM	NM	NM	No Sample
MW-12	19-Dec-07	5446.09	14.21	15.05	0.84	5431.69	5430.43	Not Sampled - NAPL Present				
MW-13	26-Jul-02	5452.12		17.54			5434.58	7.2	5.51	0.47	66	P
MW-13	03-Dec-02	5452.12		17.51			5434.61	7.3	3.09	0.98	51.6	P
MW-13	05-Jun-03	5452.12		17.06			5435.06	7.3	4.11	0.91	62.4	P
MW-13	20-Jan-04	5452.12		17.52			5434.60	7.3	2.39	1.48	48.5	P
MW-13	25-May-04	5452.12		17.20			5434.92	7.3	4.13	0.65	63.7	3
MW-13	28-Jul-04	5452.12		17.65			5434.47	7.6	5.79		68	B
MW-13	30-Dec-04	5452.12		17.66			5434.46					MP
MW-13	31-Mar-05	5452.12		17.34			5434.78	7	3.485	0.64	57.9	MP
MW-13	19-Sep-05	5452.12		17.78			5434.34	7.3	4.929	0.26	61.8	
MW-13	03-Jan-06	5452.12		17.54			5434.58	7.4	4.309	0.34	17.9	3
MW-13	02-Jan-07	5452.12		17.38			5434.74	NM	NM	NM	NM	No Sample
MW-13	19-Dec-07	5452.12		17.83			5434.29	NM	NM	NM	NM	No Sample
MW-14	01-Feb-02	5446.93		12.22			5434.71					No Sample
MW-14	29-Jul-02	5446.93	12.39	13.29	0.90	5434.34	5432.98					No Sample
MW-14	06-Jun-03	5446.93		11.95			5434.98					No Sample

TABLE 1
SUMMARY OF GROUNDWATER MEASUREMENTS AND WATER QUALITY DATA
Thriftway Refinery, Bloomfield, New Mexico

Well ID	Date	T.O.C. (ft amsl)	Depth to Product (ft)	Depth to Water (ft)	NAPL Thickness (ft)	Corrected GW Elev. (ft)*	GW Elev. (ft amsl)	pH	Conductivity (mS)	Dissolved Oxygen (mg/L)	Temp. (°C)	Purge Volume (gallons)
MW-14	21-Jan-04	5446.93		12.40			5434.53					No Sample
MW-14	25-May-04	5446.93		12.14			5434.79					No Sample
MW-14	28-Jul-04	5446.93		NS			NS					No Sample
MW-14	03-Jan-05	5446.93		12.51			5434.42					No Sample
MW-14	08-Apr-05	5446.93		12.18			5434.75					No Sample
MW-14	19-Sep-05	5446.93		12.65			5434.28	NM	NM	NM	NM	No Sample
MW-14	03-Jan-06	5446.93		12.40			5434.53	7.5	3.853	0.6	18	3
MW-14	28-Jun-06	5446.93		12.26			5434.67	6.6	4.340	0.54	17.2	3
MW-14	28-Dec-06	5446.93		12.21			5434.72	7.0	8.089	0.02	13.9	3
MW-14	03-Jul-07	5446.93		12.50			5434.43	7.2	3.819	1.76	16.8	2
MW-14	19-Dec-07	5446.93		12.72			5434.21	7.26	5.658	1.82	15.69	0.5
MW-15	03-May-01	5449.28		11.89			5437.39	7.3	2.21	4.2	53.8	1.4
MW-15	31-Jan-02	5449.28		12.49			5436.79					
MW-15	26-Jul-02	5449.28		12.69			5436.59	7.7	2.69	1.04	78.4	P
MW-15	03-Dec-02	5449.28		12.69			5436.59	7.6	3.55	1.50	53.9	P
MW-15	05-Jun-03	5449.28		12.26			5437.02	7.7	4.3	1.60	61.5	P
MW-15	20-Jan-04	5449.28		12.71			5436.57	7.3	2.17	1.91	48.2	P
MW-15	25-May-04	5449.28		12.49			5436.79	7.5	2.87	2.19	62.8	3
MW-15	28-Jul-04	5449.28		12.93			5436.35	7.48	4.4		60.8	B
MW-15	29-Dec-04	5449.28		12.58			5436.70					MP
MW-15	31-Mar-05	5449.28		12.31			5436.97	7.2	3.112	1.43	53.9	MP
MW-15	19-Sep-05	5449.28		12.98			5436.30	7.1	2.877	0.63	62.7	
MW-15	3-Jan-06	5449.28		12.48			5436.80	7.5	2.271	1.09	12.2	3
MW-15	02-Jan-07	5449.28		12.34			5436.94	NM	NM	NM	NM	No Sample
MW-15	19-Dec-07	5449.28	Unable to Open Well									
MW-16	1-Feb-02	5442.63		5.78			5436.85					No Sample

TABLE 1
SUMMARY OF GROUNDWATER MEASUREMENTS AND WATER QUALITY DATA
Thriftway Refinery, Bloomfield, New Mexico

Well ID	Date	T.O.C. (ft amsl)	Depth to Product (ft)	Depth to Water (ft)	NAPL Thickness (ft)	Corrected GW Elev. (ft)*	GW Elev. (ft amsl)	pH	Conductivity (mS)	Dissolved Oxygen (mg/L)	Temp. (°C)	Purge Volume (gallons)
MW-16	26-Jul-02	5442.63	Well Destroyed									
MW-16	19-Dec-07	5442.63		8.84			5433.79	NM	NM	NM	NM	No Sample
MW-17	1-Feb-02	5435.20		5.78			5429.42					No Sample
MW-17	29-Jul-02	5435.20		5.96			5429.24					No Sample
MW-17	6-Jun-03	5435.20		5.62			5429.58					No Sample
MW-17	21-Jan-04	5435.20		5.85			5429.35					No Sample
MW-17	26-May-04	5435.20		5.69			5429.51					No Sample
MW-17	28-Jul-04	5435.20	5.99	6.07	0.08	5429.19	5429.07					No Sample
MW-17	03-Jan-05	5435.20		5.83			5429.37					No Sample
MW-17	31-Mar-05	5435.20		5.43			5429.77					No Sample
MW-17	19-Sep-05	5435.20		5.90			5429.30	NM	NM	NM	NM	No Sample
MW-17	05-Jan-06	5435.20		5.76			5429.44	NM	NM	NM	NM	No Sample
MW-17	27-Jun-06	5435.20		5.91			5429.29	6.6	4.548	0.03	19.8	3
MW-17	28-Dec-06	5435.20		5.64			5429.56	6.8	9.582	0.05	11.7	3
MW-17	03-Jul-07	5435.20	5.77	5.88	0.11	5429.41	5429.32	NM	NM	NM	NM	No Sample
MW-17	19-Dec-07	5435.20	5.92	6.11	0.19	5429.24	5429.09	Not Sampled - NAPL Present				
MW-18	02-May-01	5428.95		4.32			5424.63	7.1	1.46	4.26	64.22	5.2
MW-18	31-Jul-01	5428.95		4.84			5424.11	7.9	1.44	12.55	67.46	5
MW-18	30-Jan-02	5428.95		4.61			5424.34					
MW-18	25-Jul-02	5428.95		4.79			5424.16	3.91	3.91	0.33	72.02	P
MW-18	20-Nov-02	5428.95		4.27			5424.68	2.97	1.17		58.5	P
MW-18	05-Jun-03	5428.95		4.24			5424.71	7.8	3.28	0.86	62.0	B
MW-18	19-Jan-04	5428.95		4.62			5424.33	7.7	2.58	0.56	51.1	P
MW-18	25-May-04	5428.95		4.28			5424.67	7.7	3.55		64.9	4
MW-18	27-Jul-04	5428.95		5.54			5423.41	7.7	4.46		77.2	B
MW-18	28-Dec-04	5428.95		4.47			5424.48					MP

TABLE 1
SUMMARY OF GROUNDWATER MEASUREMENTS AND WATER QUALITY DATA
Thriftway Refinery, Bloomfield, New Mexico

Well ID	Date	T.O.C. (ft amsl)	Depth to Product (ft)	Depth to Water (ft)	NAPL Thickness (ft)	Corrected GW Elev. (ft)*	GW Elev. (ft amsl)	pH	Conductivity (mS)	Dissolved Oxygen (mg/L)	Temp. (°C)	Purge Volume (gallons)
MW-18	31-Mar-05	5428.95		3.57			5425.38	7.2	2.823	0.75	58.2	MP
MW-18	19-Sep-05	5428.95		4.38			5424.57	7.3	4.223	0.62	69.0	
MW-18	4-Jan-06	5428.95		4.10			5424.85	7.6	3.206	0.48	10.4	1.5
MW-18	27-Jun-06	5428.95		4.63			5424.32	6.9	4.169	0.35	17.0	3
MW-18	28-Dec-06	5428.95		3.83			5425.12	7.3	9.169	1.33	10.8	3
MW-18	3-Jul-07	5428.95		3.76			5425.19	7.45	5.295	1.68	16.9	2
MW-18	18-Dec-07	5428.95		3.93			5425.02	7.66	6.236	1.56	13.94	1.25
MW-19	31-Jan-02	5428.69		5.87			5422.82					
MW-19	25-Jul-02	5428.69		4.35			5424.34	7.1	5.74	1.01	74.9	P
MW-19	20-Nov-02	5428.69		3.75			5424.94	7.2	1.41	1.22	56.9	P
MW-19	5-Jun-03	5428.69		3.90			5424.79	7.3	3.51	1.34	61.0	B
MW-19	19-Jan-04	5428.69		4.09			5424.60	7.4	0.29	2.89	46.6	P
MW-19	25-May-04	5428.69		3.90			5424.79	7.0	2.24	0.35	61.9	0.5
MW-19	27-Jul-04	5428.69		4.31			5424.38	7.1	5.14		71.1	B
MW-19	28-Dec-04	5428.69		4.04			5424.65	7.3				MP
MW-19	31-Mar-05	5428.69		3.60			5425.09	6.9	2.091	1.5	54.7	MP
MW-19	19-Sep-05	5428.69		3.96			5424.73	7.1	4.125	0.4	68.1	
MW-19	4-Jan-06	5428.69		3.81			5424.88	7.1	3.338	0.4	10.6	1.5
MW-19	02-Jan-07	5428.69		3.69			5425.00	NM	NM	NM	NM	No Sample
MW-19	19-Dec-07	5428.69		3.82			5424.87	NM	NM	NM	NM	No Sample
MW-20	31-Jan-02	5430.45		6.04			5424.41					P
MW-20	26-Jul-02	5430.45		6.31			5424.14	7.2	2.95	1.22	79.6	P
MW-20	20-Nov-02	5430.45		5.85			5424.60	7.1	1.9	0.30	55.0	P
MW-20	5-Jun-03	5430.45		5.89			5424.56	7.1	3.43	1.58	58.1	
MW-20	20-Jan-04	5430.45		6.08			5424.37	7.5	0.35	3.23	51.8	P
MW-20	25-May-04	5430.45		5.90			5424.55	7.1	4.01	1.2	72.3	1.5

TABLE 1
SUMMARY OF GROUNDWATER MEASUREMENTS AND WATER QUALITY DATA
Thriftway Refinery, Bloomfield, New Mexico

Well ID	Date	T.O.C. (ft amsl)	Depth to Product (ft)	Depth to Water (ft)	NAPL Thickness (ft)	Corrected GW Elev. (ft)*	GW Elev. (ft amsl)	pH	Conductivity (mS)	Dissolved Oxygen (mg/L)	Temp. (°C)	Purge Volume (gallons)
MW-20	27-Jul-04	5430.45		6.29			5424.16	7.0	5.12		66.1	B
MW-20	29-Dec-04	5430.45		6.07			5424.38					MP
MW-20	1-Apr-05	5430.45		5.69			5424.76	6.5	2.378	0.55	54.4	
MW-20	19-Sep-05	5430.45		6.02			5424.43	7.0	3.466	0.37	66.1	
MW-20	4-Jan-06	5430.45		5.85			5424.60	7.0	3.47	0.6	12.3	3
MW-20	28-Jun-06	5430.45		6.18			5424.27	6.7	4.979	0.34	17.8	3
MW-20	28-Dec-06	5430.45		5.50			5424.95	7.0	8.505	0.51	8.9	3
MW-20	2-Jul-07	5430.45		5.75			5424.70	7.0	4.841	1.32	16.09	2.6
MW-20	18-Dec-07	5430.45		5.89			5424.56	7.05	5.621	2.89	12.10	1.25
MW-21	30-Jan-02	5428.62		3.41			5425.21					P
MW-21	26-Jul-02	5428.62		4.15			5424.47					
MW-21	22-Nov-02	5428.62		3.51			5425.11	7.1	7.58	0.55	55.0	P
MW-21	5-Jun-03	5428.62		3.21			5425.41	7.2	7.79	0.95	65.4	
MW-21	20-Jan-04	5428.62		3.57			5425.05	7.4	0.31	3.40	46.7	P
MW-21	25-May-04	5428.62		3.49			5425.13	7.2	7.56	0.49	64.5	1.5
MW-21	28-Jul-04	5428.62		4.12			5424.50	7.3	11.42		67.1	B
MW-21	29-Dec-04	5428.62		3.36			5425.26					MP
MW-21	1-Apr-05	5428.62		2.77			5425.85	6.7	5.747	0.28	50.9	
MW-21	19-Sep-05	5428.62		3.84			5424.78	7.2	8.598	0.39	67.8	
MW-21	4-Jan-06	5428.62		3.27			5425.35	7.1	6.118	0.77	11.9	3
MW-21	28-Jun-06	5428.62		3.81			5424.81	6.8	9.223	0.32	19.8	3
MW-21	02-Jan-07	5428.62		3.23			5425.39	6.7	9.393	0.9	8.2	3
MW-21	02-Jul-07	5428.62		3.54			5425.08	7.0	9.066	0.86	18.74	2.7
MW-21	18-Dec-07	5428.62		3.54			5425.08	7.12	8.043	0.62	12.90	3.25
MW-22	2-May-01	5430.75		4.01			5426.74	6.9	2	3.57	65.1	5.2
MW-22	31-Jul-01	5430.75		5.25			5425.50	6.1	2.8	16.1	74.1	5

TABLE 1
SUMMARY OF GROUNDWATER MEASUREMENTS AND WATER QUALITY DATA
Thriftway Refinery, Bloomfield, New Mexico

Well ID	Date	T.O.C. (ft amsl)	Depth to Product (ft)	Depth to Water (ft)	NAPL Thickness (ft)	Corrected GW Elev. (ft)*	GW Elev. (ft amsl)	pH	Conductivity (mS)	Dissolved Oxygen (mg/L)	Temp. (°C)	Purge Volume (gallons)
MW-22	31-Jan-02	5430.75		4.55			5426.20					P
MW-22	26-Jul-02	5430.75		4.93			5425.82	7.3	7.9	1.24	73.0	P
MW-22	22-Nov-02	5430.75		4.21			5426.54	7.5	6.51	0.8	54.6	P
MW-22	5-Jun-03	5430.75		4.15			5426.60	7.3	4.75	0.6	61.5	B
MW-22	20-Jan-04	5430.75		4.49			5426.26	7.1	4.19	0.43	46.4	P
MW-22	25-May-04	5430.75		5.68			5425.07	7.2	6.95	0.16	63.3	1.5
MW-22	28-Jul-04	5430.75		5.29			5425.46	7.5	9.78		70.1	B
MW-22	29-Dec-04	5430.75		4.33			5426.42					MP
MW-22	1-Apr-05	5430.75		4.06			5426.69	6.9	5.531	0.34	49.6	
MW-22	19-Sep-05	5430.75		4.91			5425.84	7.2	8.496	0.28	66.8	
MW-22	4-Jan-06	5430.75		4.38			5426.37	7.3	6.476	0.04	10.3	2.5
MW-22	28-Jun-06	5430.75		4.08			5426.67	6.7	9.906	0.19	19.0	1.5
MW-22	02-Jan-07	5430.75		4.35			5426.40	7.0	12.72	3.00	7.9	
MW-22	02-Jul-07	5430.75		4.98			5425.77	7.2	10.50	0.15	18.0	1
MW-22	18-Dec-07	5430.75		4.70			5426.05	7.53	11.95	1.43	12.29	0.75
MW-23	1-Feb-02	5449.34	Dry	Dry								No Sample
MW-23	29-Jul-02	5449.34	Dry	Dry								No Sample
MW-23	6-Jun-03	5449.34	Dry	Dry								No Sample
MW-23	21-Jan-04	5449.34	Dry	Dry								No Sample
MW-23	26-May-04	5449.34	Dry	Dry								No Sample
MW-23	28-Jul-04	5449.34	Dry	Dry								No Sample
MW-23	03-Jan-05	5449.34	Dry	Dry								No Sample
MW-23	08-Apr-05	5449.34	Dry	Dry								No Sample
MW-23	19-Sep-05	5449.34	Dry	Dry								No Sample
MW-23	19-Dec-07	5449.34	Dry	Dry								No Sample
MW-24	01-Feb-02	5449.23		16.05			5433.18					No Sample

TABLE 1
SUMMARY OF GROUNDWATER MEASUREMENTS AND WATER QUALITY DATA
Thriftway Refinery, Bloomfield, New Mexico

Well ID	Date	T.O.C. (ft amsl)	Depth to Product (ft)	Depth to Water (ft)	NAPL Thickness (ft)	Corrected GW Elev. (ft)*	GW Elev. (ft amsl)	pH	Conductivity (mS)	Dissolved Oxygen (mg/L)	Temp. (°C)	Purge Volume (gallons)
MW-24	29-Jul-02	5449.23		15.37			5433.86					No Sample
MW-24	21-Jan-04	5449.23		16.22			5433.01					No Sample
MW-24	26-May-04	5449.23		15.75			5433.48					No Sample
MW-24	28-Jul-04	5449.23		16.22			5433.01					No Sample
MW-24	03-Jan-05	5449.23		16.42			5432.81					No Sample
MW-24	01-Apr-05	5449.23		16.01			5433.22					
MW-24	19-Sep-05	5449.23		16.49			5432.74	NM	NM	NM	NM	No Sample
MW-24	05-Jan-06	5449.23		16.41			5432.82	NM	NM	NM	NM	No Sample
MW-24	02-Jan-07	5449.23		16.17			5433.06	NM	NM	NM	NM	No Sample
MW-24	19-Dec-07	5449.23		16.75			5432.48	NM	NM	NM	NM	No Sample
MW-25	01-Feb-02	5448.74		15.33			5433.41					No Sample
MW-25	29-Jul-02	5448.74		16.15			5432.59					No Sample
MW-25	06-Jun-03	5448.74		15.50			5433.24					No Sample
MW-25	21-Jan-04	5448.74		15.70			5433.04					No Sample
MW-25	26-May-04	5448.74		15.63			5433.11					No Sample
MW-25	28-Jul-04	5448.74		15.59			5433.15					No Sample
MW-25	03-Jan-05	5448.74		15.90			5432.84					No Sample
MW-25	31-Mar-05	5448.74		15.83			5432.91					No Sample
MW-25	19-Sep-05	5448.74		15.75			5432.99	NM	NM	NM	NM	No Sample
MW-25	05-Jan-06	5448.74		15.85			5432.89	NM	NM	NM	NM	No Sample
MW-25	02-Jan-07	5448.74		15.80			5432.94	NM	NM	NM	NM	No Sample
MW-25	19-Dec-07	5448.74		16.08			5432.66	NM	NM	NM	NM	No Sample
MW-26		5447.26	DESTROYED									
MW-27	1-Feb-02	5449.01	Dry	Dry								
MW-27	29-Jul-02	5449.01	Dry	Dry								

TABLE 1
SUMMARY OF GROUNDWATER MEASUREMENTS AND WATER QUALITY DATA
Thriftway Refinery, Bloomfield, New Mexico

Well ID	Date	T.O.C. (ft amsl)	Depth to Product (ft)	Depth to Water (ft)	NAPL Thickness (ft)	Corrected GW Elev. (ft)*	GW Elev. (ft amsl)	pH	Conductivity (mS)	Dissolved Oxygen (mg/L)	Temp. (°C)	Purge Volume (gallons)
MW-27	6-Jun-03	5449.01	15.40	15.93	0.53	5433.49	5432.69					No Sample
MW-27	21-Jan-04	5449.01	Dry	Dry								No Sample
MW-27	26-May-04	5449.01	Dry	Dry								No Sample
MW-27	28-Jul-04	5449.01	Dry	Dry								No Sample
MW-27	03-Jan-05	5449.01	Dry	Dry								No Sample
MW-27	08-Apr-05	5449.01	Dry	Dry								No Sample
MW-27	19-Sep-05	5449.01	Dry	Dry								No Sample
MW-27	19-Dec-07	5449.01	Dry	Dry								No Sample
MW-28	01-Feb-02	5449.07		15.95			5433.12					No Sample
MW-28	29-Jul-02	5449.07		15.97			5433.10					No Sample
MW-28	06-Jun-03	5449.07	15.77	15.8	0.03	5433.29	5433.25					No Sample
MW-28	21-Jan-04	5449.07	16.94	16.96	0.02	5432.13	5432.10					No Sample
MW-28	26-May-04	5449.07	15.56	15.96	0.40	5433.42	5432.82					No Sample
MW-28	28-Jul-04	5449.07	Dry	DRY								No Sample
MW-28	03-Jan-05	5449.07		16.01			5433.06					No Sample
MW-28	08-Apr-05	5449.07	Dry	Dry								No Sample
MW-28	19-Sep-05	5449.07	Dry	Dry								No Sample
MW-28	05-Jan-06	5449.07	Dry	Dry								No Sample
MW-28	02-Jan-07	5449.07		16.01			5433.06	NM	NM	NM	NM	No Sample
MW-28	19-Dec-07	5449.07	16.00	16.01	0.01	5433.07	5433.05	Not Sampled - NAPL Present				
MW-29	02-Feb-02	5447.94		15.19			5432.75					No Sample
MW-29	29-Jul-02	5447.94		15.30			5432.64					No Sample
MW-29	06-Jun-03	5447.94	15.77	15.80	0.03	5432.16	5432.12					No Sample
MW-29	21-Jan-04	5447.94	15.28	16.05	0.77	5432.49	5431.33					No Sample
MW-29	26-May-04	5447.94	14.91	15.09	0.18	5432.99	5432.72					No Sample
MW-29	28-Jul-04	5447.94	15.29	15.75	0.46	5432.55	5431.85					No Sample

TABLE 1
SUMMARY OF GROUNDWATER MEASUREMENTS AND WATER QUALITY DATA
Thriftway Refinery, Bloomfield, New Mexico

Well ID	Date	T.O.C. (ft amsl)	Depth to Product (ft)	Depth to Water (ft)	NAPL Thickness (ft)	Corrected GW Elev. (ft)*	GW Elev. (ft amsl)	pH	Conductivity (mS)	Dissolved Oxygen (mg/L)	Temp. (°C)	Purge Volume (gallons)
MW-29	03-Jan-05	5447.94	15.34	16.31	0.97	5432.38	5430.92					No Sample
MW-29	01-Apr-05	5447.94	15.07	15.44	0.37	5432.79	5432.23					No Sample
MW-29	19-Sep-05	5447.94	15.37	16.20	0.83	5432.39	5431.13	NM	NM	NM	NM	No Sample
MW-29	05-Jan-06	5447.94	15.42	16.00	0.58	5432.39	5431.52	NM	NM	NM	NM	No Purge
MW-29	28-Jun-06	5447.94	15.1	15.15	0.05	5432.83	5432.75	NM	NM	NM	NM	No Purge
MW-29	02-Jan-07	5447.94	15.16	15.72	0.56	5432.66	5431.81	NM	NM	NM	NM	No Sample
MW-29	19-Dec-07	5447.94	15.51	16.31	0.80	5432.25	5431.05	Not Sampled - NAPL Present				
RW-24	01-Feb-02	5447.73		16.17			5431.56					No Sample
RW-24	29-Jul-02	5447.73		15.78			5431.95					No Sample
RW-24	06-Jun-03	5447.73		15.40			5432.33					No Sample
RW-24	21-Jan-04	5447.73	15.77	16.54	0.77	5431.79	5430.63					No Sample
RW-24	26-May-04	5447.73	15.50	15.50	0.00	5432.23	5432.23					No Sample
RW-24	28-Jul-04	5447.73	15.70	16.35	0.65	5431.89	5430.91					No Sample
RW-24	03-Jan-05	5447.73	15.85	16.90	1.05	5431.65	5430.06					No Sample
RW-24	31-Mar-05	5447.73	15.63	15.75	0.12	5432.07	5431.89					No Sample
RW-24	19-Sep-05	5447.73	15.81	16.90	1.09	5431.68	5430.04	NM	NM	NM	NM	No Sample
RW-24	05-Jan-06	5447.73	15.82	16.58	0.76	5431.74	5430.60	7	5.176	0.1	19	
RW-24	28-Jun-06	5447.73	15.65	15.91	0.26	5432.02	5431.63	NM	NM	NM	NM	No Sample
RW-24	02-Jan-07	5447.73	15.66	16.25	0.59	5431.94	5431.05	NM	NM	NM	NM	No Sample
RW-24	19-Dec-07	5447.73	15.88	17.20	1.32	5431.56	5429.57	Not Sampled - NAPL Present				
RW-25	01-Feb-02	5448.68		16.45			5432.23					No Sample
RW-25	29-Jul-02	5448.68		16.55			5432.13					No Sample
RW-25	06-Jun-03	5448.68		16.09			5432.59					No Sample
RW-25	21-Jan-04	5448.68	16.51	16.83	0.32	5432.10	5431.62					No Sample
RW-25	26-May-04	5448.68	16.23	16.25	0.02	5432.45	5432.42					No Sample
RW-25	28-Jul-04	5448.68	16.50	16.52	0.02	5432.18	5432.15					No Sample

TABLE 1
SUMMARY OF GROUNDWATER MEASUREMENTS AND WATER QUALITY DATA
Thriftway Refinery, Bloomfield, New Mexico

Well ID	Date	T.O.C. (ft amsl)	Depth to Product (ft)	Depth to Water (ft)	NAPL Thickness (ft)	Corrected GW Elev. (ft)*	GW Elev. (ft amsl)	pH	Conductivity (mS)	Dissolved Oxygen (mg/L)	Temp. (°C)	Purge Volume (gallons)
RW-25	03-Jan-05	5448.68	16.63	17.65	1.02	5431.82	5430.29					No Sample
RW-25	31-Mar-05	5448.68	16.27	16.7	0.43	5432.31	5431.67					No Sample
RW-25	19-Sep-05	5448.68	16.55	17.54	0.99	5431.91	5430.42	NM	NM	NM	NM	No Sample
RW-25	05-Jan-06	5448.68	16.45	17.37	0.92	5432.03	5430.64	7	3.501	0.15	14	
RW-25	02-Jan-07	5448.68	16.35	16.85	0.50	5432.22	5431.47	NM	NM	NM	NM	No Sample
RW-25	19-Dec-07	5448.68	16.62	17.82	1.20	5431.79	5429.99	Not Sampled - NAPL Present				
RW-26	01-Feb-02	5443.98		14.65			5429.33					No Sample
RW-26	29-Jul-02	5443.98	14.11	14.11	0.88	5430.55	5429.23					No Sample
RW-26	21-Jan-04	5443.98	14.24	14.54	0.30	5429.67	5429.22					No Sample
RW-26	26-May-04	5443.98		13.85			5430.13					No Sample
RW-26	28-Jul-04	5443.98	14.24	14.29	0.05	5429.73	5429.65					No Sample
RW-26	03-Jan-05	5443.98	14.35	14.90	0.55	5429.51	5428.68					No Sample
RW-26	31-Mar-05	5443.98		14.03			5429.95					No Sample
RW-26	19-Sep-05	5443.98	14.43	14.62	0.19	5429.51	5429.22	NM	NM	NM	NM	No Sample
RW-26	05-Jan-06	5443.98	14.36	14.54	0.18	5429.58	5429.31	6.9	4.898	0.2	18.9	
RW-26	28-Jun-06	5443.98		14.08			5429.90	6.5	3.895	0.04	18.5	3
RW-26	02-Jan-07	5443.98	14.17	14.18	0.01	5429.81	5429.79	NM	NM	NM	NM	No Sample
RW-26	03-Jul-07	5443.98		14.25			5429.73	7.0	5.031	0.27	17.9	21
RW-26	19-Dec-07	5443.98	14.56	15.24	0.68	5429.27	5428.24	Not Sampled - NAPL Present				
T-17-1	01-Feb-02	5452.41		17.60			5434.81					No Sample
T-17-1	29-Jul-02	5452.41		17.73			5434.68					No Sample
T-17-1	06-Jun-03	5452.41		17.22			5435.19					No Sample
T-17-1	21-Jan-04	5452.41		17.79			5434.62					No Sample
T-17-1	26-May-04	5452.41		17.42			5434.99					No Sample
T-17-1	29-Jul-04	5452.41		18.09			5434.32					No Sample
T-17-1	03-Jan-05	5452.41		17.96			5434.45					No Sample

TABLE 1
SUMMARY OF GROUNDWATER MEASUREMENTS AND WATER QUALITY DATA
Thriftway Refinery, Bloomfield, New Mexico

Well ID	Date	T.O.C. (ft amsl)	Depth to Product (ft)	Depth to Water (ft)	NAPL Thickness (ft)	Corrected GW Elev. (ft)*	GW Elev. (ft amsl)	pH	Conductivity (mS)	Dissolved Oxygen (mg/L)	Temp. (°C)	Purge Volume (gallons)
T-17-1	08-Apr-05	5452.41		17.61			5434.80					No Sample
T-17-1	19-Sep-05	5452.41		17.97			5434.44	NM	NM	NM	NM	No Sample
T-17-1	03-Jan-06	5452.41		17.9			5434.51	NM	NM	NM	NM	No Sample
T-17-1	02-Jan-07	5452.41	DRY	DRY			DRY	NM	NM	NM	NM	No Sample
T-17-1	19-Dec-07	5452.41	DRY	DRY			DRY	NM	NM	NM	NM	No Sample

NOTES: NM - Not Measured
P - Purged 3 Well Volumes
MP - Micro-Purge
B - Sample Collected with Disposable Bailer
A.S. INF - Airstripper Influent
A.S. EFF - Airstripper Effluent

TABLE 2
GROUNDWATER ANALYTICALS
(BTEX, MTBE, AND TOTAL PETROLEUM HYDROCARBONS)
PER EPA METHOD 8021/8015M
Thriftway Refinery, Bloomfield, New Mexico

Well	*Date*	*Benzene* (µg/L)	*Toluene* (µg/L)	*Ethyl-benzene* (µg/L)	*Xylenes* (µg/L)	*MTBE* (µg/L)	*GRO C6-C10* (mg/L)	*DRO C10-C22* (mg/L)
NM WQCC STANDARD		**10**	**750**	**750**	**620**	**100**	**NE**	**NE**
A.S. INF	30-May-01	**940**	79	290	**920**	**200**	NA	
A.S. INF	31-Jul-01	**1600**	210	520	**1610**	**250**	NA	
A.S. INF	1-Nov-01	**1200**	430	430	**1290**	**270**	NA	
A.S. INF	4-Dec-01	**520**	240	430	**1130**	NA	NA	
A.S. INF	31-Jan-02	**520**	120	360	**850**	**200**	NA	
A.S. INF	28-Feb-02	**890**	90	370	**1030**	**150**	NA	
A.S. INF	29-Mar-02	**690**	51	300	**879**	**130**	NA	
A.S. INF	26-Apr-02	**950**	81	310	**899**	**310**	NA	
A.S. INF	22-May-02	**900**	63	290	**817**	**270**	NA	
A.S. INF	24-Jun-02	**770**	200	350	158	**200**	NA	
A.S. INF	27-Aug-02	**1500**	120	370	**800**	**170**	NA	
A.S. INF	30-Sep-02	**1200**	**2200**	**990**	**850**	**110**	NA	
A.S. INF	29-Oct-02	**310**	59	220	380	82	NA	
A.S. INF	29-Nov-02	**340**	150	260	470	86	NA	
A.S. INF	30-Dec-02	**290**	280	244	430	**120**	NA	
A.S. INF	3-Feb-03	**390**	75	190	220	**120**	NA	
A.S. INF	10-Mar-03	**430**	**2200**	590	**1800**	**110**	NA	
A.S. INF	2-Apr-03	**540**	82	290	580	**120**	NA	
A.S. INF	29-Apr-03	**530**	62	240	560	**130**	NA	
A.S. INF	5-Jun-03	**380**	71	320	**630**	**110**	NA	
A.S. INF	30-Jun-03	**510**	310	290	550	**140**	NA	
A.S. INF	15-Aug-03	**40**	29	120	190	<25	NA	
A.S. INF	2-Oct-03	**370**	19	270	340	80	NA	
A.S. INF	4-Nov-03	**190**	11	90	72	81	NA	
A.S. INF	23-Dec-03	**610**	**1200**	450	**950**	**140**	NA	
A.S. INF	20-Jan-04	**300**	510	340	**790**	88	NA	
A.S. INF	27-Feb-04	**630**	700	270	**620**	**110**	7.6	
A.S. INF	31-Mar-04	**610**	220	260	410	**130**	6.1	
A.S. INF	28-Apr-04	**440**	700	340	**880**	82	8.2	
A.S. INF	25-May-04	**640**	150	270	380	**130**	5.9	
A.S. INF	30-Jun-04	**370**	59	210	220	**140**	3.8	
A.S. INF	29-Jul-04	**420**	170	350	540	**110**	6.8	
A.S. INF	31-Aug-04	**550**	390	250	310	95	4.9	
A.S. INF	29-Sep-04	**240**	120	190	150	49	3.2	
A.S. INF	30-Nov-04	**98**	120	150	170	57	2.7	
A.S. INF	30-Dec-04	**81**	44	120	170	78	2.5	

TABLE 2
GROUNDWATER ANALYTICALS
(BTEX, MTBE, AND TOTAL PETROLEUM HYDROCARBONS)
PER EPA METHOD 8021/8015M
Thriftway Refinery, Bloomfield, New Mexico

Well	*Date*	*Benzene* (µg/L)	*Toluene* (µg/L)	*Ethyl-benzene* (µg/L)	*Xylenes* (µg/L)	*MTBE* (µg/L)	*GRO C6-C10* (mg/L)	*DRO C10-C22* (mg/L)
NM WQCC STANDARD		**10**	**750**	**750**	**620**	**100**	**NE**	**NE**
A.S. INF	31-Jan-05	**1100**	**1700**	260	600	**120**	9.1	
A.S. INF	8-Apr-05	**2800**	**11000**	**1700**	**5100**	<25	37	
A.S. INF	20-May-05	**360**	**1200**	300	**790**	85	6.9	
A.S. INF	27-Jul-05	**810**	**1900**	**1800**	**5200**	**140**	40	
A.S. INF	19-Sep-05	**64**	260	370	**1200**	62	6.3	
A.S. INF	31-Oct-05	**190**	**1800**	480	**1600**	<25	9.5	
A.S. INF	5-Jan-06	**57**	320	270	**720**	39	3.9	1.7
A.S. INF	24-Mar-06	**57**	28	93	320	**120**	3.2	NS
A.S. INF	19-Apr-06	**21**	14	96	270	<25	2.7	NS
A.S. INF	19-May-06	**69**	<5.0	73	210	**110**	4.5	NS
A.S. INF	28-Jun-06	**40**	1.1	16	23	38	0.54	NS
A.S. INF	31-Jul-06	**95**	<5.0	120	150	79	6.4	NS
A.S. INF	30-Aug-06	**280**	<5.0	92	32	**150**	1.7	NS
A.S. INF	28-Sep-06	**170**	<5.0	92	120	**140**	1.8	NS
A.S. INF	30-Nov-06	**29**	<5.0	49	20	<25	0.96	NS
A.S. INF	2-Jan-07	**38**	<2.5	35	11	36	1.3	<1.0
A.S. EFF	30-May-01	<0.50	<0.50	<0.50	<1.50	5.6	NA	
A.S. EFF	31-Jul-01	0.9	<0.50	<0.50	1.1	<1.00	NA	
A.S. EFF	1-Nov-01	4.7	10	3.9	18.5	21	NA	
A.S. EFF	4-Dec-01	<0.50	<0.50	0.6	<1.50		NA	
A.S. EFF	31-Jan-02	0.8	5.1	1.8	8.5	2.3	NA	
A.S. EFF	29-Mar-02	1.6	ND	ND	ND	6.3	NA	
A.S. EFF	26-Apr-02	0.7	1	ND	ND	14	NA	
A.S. EFF	22-May-02	2.9	5.5	0.9	3.7	97	NA	
A.S. EFF	24-Jun-02	0.6	0.5	2.1	4	24	NA	
A.S. EFF	27-Aug-02	0.6	0.8	ND	1.3	16	NA	
A.S. EFF	30-Sep-02	ND	0.6	0.6	1.1	7.5	NA	
A.S. EFF	29-Oct-02	ND	ND	ND	ND	ND	NA	
A.S. EFF	29-Nov-02	ND	ND	ND	ND	ND	NA	
A.S. EFF	30-Dec-02	ND	2.2	1.3	4.9	ND	NA	
A.S. EFF	4-Feb-03	ND	ND	ND	1.8	ND	NA	
A.S. EFF	10-Mar-03	1	5.9	2.3	8.2	5.1	NA	
A.S. EFF	2-Apr-03	ND	ND	0.8	2.3	ND	NA	
A.S. EFF	29-Apr-03	ND	ND	ND	1.4	ND	NA	
A.S. EFF	5-Jun-03	<0.6	<0.50	0.6	1.4	ND	NA	

TABLE 2
GROUNDWATER ANALYTICALS
(BTEX, MTBE, AND TOTAL PETROLEUM HYDROCARBONS)
PER EPA METHOD 8021/8015M
Thriftway Refinery, Bloomfield, New Mexico

Well	Date	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Xylenes (µg/L)	MTBE (µg/L)	GRO C6-C10 (mg/L)	DRO C10-C22 (mg/L)
NM WQCC STANDARD		**10**	**750**	**750**	**620**	**100**	**NE**	**NE**
A.S. EFF	30-Jun-03	ND	1.3	1.1	4	ND	NA	
A.S. EFF	15-Aug-03	ND	ND	ND	ND	ND	NA	
A.S. EFF	2-Oct-03	ND	ND	ND	ND	ND	NA	
A.S. EFF	4-Nov-03	ND	ND	ND	ND	ND	NA	
A.S. EFF	23-Dec-04	0.9	5.3	1.5	5.4	3.1	NA	
A.S. EFF	20-Jan-04	0.9	3.3	1.4	4.8	2.9	NA	
A.S. EFF	27-Feb-04	<0.5	0.8	<0.5	1.7	<2.5	<0.10	
A.S. EFF	31-Mar-04	2.2	2.4	1.1	3.5	<2.5	<0.10	
A.S. EFF	28-Apr-04	<0.5	0.6	<0.5	1.6	<2.5	<0.10	
A.S. EFF	25-May-04	1.5	4.6	1.3	4.4	<2.5	0.12	
A.S. EFF	30-Jun-04	0.7	0.6	0.7	1.8	<2.5	<0.10	
A.S. EFF	29-Jul-04	<0.5	<0.5	0.5	<1.0	<2.5	<0.10	
A.S. EFF	31-Aug-04	0.9	1.1	<0.5	1.0	<2.5	<0.10	
A.S. EFF	29-Sep-04	<0.5	<0.5	<0.5	<1.0	<2.5	<0.10	
A.S. EFF	30-Nov-04	0.5	5.4	3.0	7.8	<2.5	<0.10	
A.S. EFF	30-Dec-04	<0.5	1.0	0.6	2.4	2.6	<0.10	
A.S. EFF	31-Jan-05	1.1	1.9	<0.5	1.7	<2.5	<0.10	
A.S. EFF	8-Apr-05	4.9	30	8.3	36	2.5	0.25	
A.S. EFF	20-May-05	0.6	2.0	0.5	2.7	<2.5	<0.10	
A.S. EFF	27-Jul-05	<0.5	<0.5	<0.5	<1.0	<2.5	<0.10	
A.S. EFF	19-Sep-05	<0.5	1.0	1.6	7.6	<2.5	<0.10	
A.S. EFF	31-Oct-05	<0.5	2.1	0.6	2.6	<2.5	<0.10	
A.S. EFF	5-Jan-06	<0.5	3.5	2.2	8.1	1.9	<0.10	<1.0
A.S. EFF	24-Mar-06	<1.0	<1.0	<1.0	<4.0	10	0.10	NS
A.S. EFF	19-Apr-06	<0.5	<1.0	<0.5	<2.0	<2.5	<0.10	NS
A.S. EFF	19-May-06	<0.5	<0.5	<0.5	<2.0	6.8	0.18	NS
A.S. EFF	28-Jun-06	<0.5	<0.5	<0.5	<2.0	20	<0.10	NS
A.S. EFF	31-Jul-06	<2.5	<2.5	7.2	21	<13	2.7	NS
A.S. EFF	30-Aug-06	2.4	0.60	1.9	<2.0	40	0.18	NS
A.S. EFF	28-Sep-06	<0.5	<0.5	2.2	7.8	27	0.58	NS
A.S. EFF	30-Nov-06	<0.5	<0.5	<0.5	<2.0	<2.5	<0.10	NS
A.S. EFF	2-Jan-07	<0.5	<0.5	<0.5	<2.0	<2.5	<0.10	<1.0
MW-1	4-Feb-02	Not Sampled/ Free Product						
MW-1	3-Jan-06	**19**	<0.5	<0.5	<2.0	3.3	0.11	<1.0
MW-1	28-Jun-06	7.4	<0.5	<0.5	<2.0	<2.5	0.10	<2.5

TABLE 2
GROUNDWATER ANALYTICALS
(BTEX, MTBE, AND TOTAL PETROLEUM HYDROCARBONS)
PER EPA METHOD 8021/8015M
Thriftway Refinery, Bloomfield, New Mexico

Well	*Date*	*Benzene* (µg/L)	*Toluene* (µg/L)	*Ethyl-benzene* (µg/L)	*Xylenes* (µg/L)	*MTBE* (µg/L)	*GRO C6-C10* (mg/L)	*DRO C10-C22* (mg/L)
NM WQCC STANDARD		**10**	**750**	**750**	**620**	**100**	**NE**	**NE**
MW-1	28-Dec-06	**4700**	2.3	110	27	16	14	<1.0
MW-1	5-Jul-07	**47**	<0.5	<0.5	<2.0	4.6*	0.13	<2.0
MW-1	18-Dec-07	**17**	<2.5	<2.5	<10	<13	<0.50	<2.0
MW-2	5-Jan-06	**690**	<10	360	**1300**	39	13	120
MW-2	28-Jun-06	**360**	<2.5	150	45	50	2.9	210
MW-2	5-Jul-07	**370**	140	140	260	<50.0	21	36.8
MW-2	19-Dec-07	**730**	13	150	78	67	4.3	395
MW-3	5-Jan-06	**870**	<25	**1300**	**5500**	**150**	**110**	72
MW-3	2-Jan-07	**640**	9.0	110	170	**120**	3.4	3.9
MW-4	25-Jul-02	7.9	ND	0.9	0.6	31	NA	
MW-4	26-Nov-02	6.1	ND	ND	1.1	18	NA	
MW-4	5-Jun-03	6.6	ND	ND	ND	18	NA	
MW-4	3-Nov-03	2.1	ND	ND	ND	17	NA	
MW-4	19-Jan-04	2.2	0.6	<0.5	1.3	27	NA	
MW-4	25-May-04	3.9	<0.5	<0.5	1.8	26	0.20	
MW-4	27-Jul-04	2.0	<0.5	<0.5	<1.0	15	0.12	
MW-4	28-Dec-04	1.5	<0.5	<0.5	<1.0	11	<0.10	
MW-4	19-Sep-05	1.2	<0.5	<0.5	<1.0	20	0.11	
MW-4	4-Jan-06	0.7	<0.5	<0.5	<2.0	22	<0.10	<1.0
MW-5	30-Jan-02	5.1	<0.5	<0.5	<1.50	43	NA	
MW-5	25-Jul-02	4.7	ND	ND	ND	51	NA	
MW-5	26-Nov-02	5.1	ND	ND	ND	47	NA	
MW-5	5-Jun-03	1.5	ND	ND	ND	25	NA	
MW-5	3-Nov-03	ND	ND	ND	ND	26	NA	
MW-5	19-Jan-04	3.8	0.9	<0.5	1.4	44	NA	
MW-5	25-May-04	1.8	0.5	<0.5	<1.0	36	0.14	
MW-5	27-Jul-04	<0.5	<0.5	<0.5	<1.0	29	<0.10	
MW-5	28-Dec-04	<0.5	<0.5	<0.5	<1.0	27	<0.10	
MW-5	27-Jun-06	1.5	<0.5	<0.5	<2.0	37	<0.10	<2.5
MW-5	28-Dec-06	<0.5	<0.5	<0.5	<2.0	37	<0.10	<1.0
MW-5	5-Jul-07	2.4	<0.5	0.8	<2.0	28*	0.14	<2.0
MW-6	30-Jan-02	<0.5	<0.5	<0.5	<1.5	2.5	NA	
MW-6	26-Jul-02	3.4	0.7	0.5	ND	23	NA	
MW-6	26-Nov-02	ND	ND	ND	ND	30	NA	
MW-6	5-Jun-03	0.8	ND	ND	ND	11	NA	
MW-6	3-Nov-03	ND	ND	ND	ND	30	NA	
MW-6	19-Jan-04	<0.5	0.7	<0.5	<1.0	9.2	NA	

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Thriftway Refinery, Bloomfield, New Mexico

Well	*Date*	*Benzene* (µg/L)	*Toluene* (µg/L)	*Ethyl-benzene* (µg/L)	*Xylenes* (µg/L)	*MTBE* (µg/L)	*GRO C6-C10* (mg/L)	*DRO C10-C22* (mg/L)
NM WQCC STANDARD		**10**	**750**	**750**	**620**	**100**	**NE**	**NE**
MW-6	25-May-04	<0.5	1.0	<0.5	<1.0	28	0.11	
MW-6	27-Jul-04	0.8	<0.5	<0.5	1.1	61	0.21	
MW-6	28-Dec-04	<0.5	<0.5	<0.5	<1.0	19	<0.10	
MW-6	19-Sep-05	1.9	<0.5	0.5	<1.0	66	0.22	
MW-6	4-Jan-06	<0.5	<0.5	<0.5	<2.0	11	<0.10	<1.0
MW-7	19-Jan-04	<0.5	<0.5	<0.5	1.6	**210**	NA	
MW-7	25-May-04	<0.5	<0.5	<0.5	<1.0	**190**	0.25	
MW-7	27-Jul-04	<0.5	<0.5	<0.5	1.3	**190**	0.27	
MW-7	29-Dec-04	<0.5	<0.5	<0.5	<1.0	**150**	0.14	
MW-7	19-Sep-05	<0.5	<0.5	<0.5	<1.0	**140**	0.14	
MW-7	4-Jan-06	1.9	<0.5	1.7	2.1	**120**	0.16	<1.0
MW-8	30-Jan-02	<0.5	<0.5	<0.5	<1.5	<1.0	NA	
MW-8	26-Jul-02	ND	ND	ND	ND	1.4	NA	
MW-8	26-Nov-02	0.9	ND	ND	ND	**230**	NA	
MW-8	5-Jun-03	1.3	ND	ND	ND	**190**	NA	
MW-8	4-Nov-03	ND	ND	ND	ND	**170**	NA	
MW-8	Well Not Found							
MW-8	1/4/06	<0.5	<0.5	<0.5	<2.0	**136**	0.10	<1.0
MW-9	1-30-02	5.5	1.6	1.7	<1.5	26	NA	
MW-9	11-26-02	ND	ND	ND	ND	ND	NA	
MW-9	6-05-03	ND	ND	ND	ND	ND	NA	
MW-9	11-04-03	ND	ND	ND	ND	ND	NA	
MW-9	19-Jan-04	<0.5	<0.5	<0.5	<1.0	<2.5	NA	
MW-9	25-May-04	<0.5	<0.5	<0.5	<1.0	<2.5	<0.10	
MW-9	28-Jul-04	<0.5	<0.5	<0.5	1.0	<2.5	<0.10	
MW-9	29-Dec-04	<0.5	<0.5	<0.5	<1.0	<2.5	<0.10	
MW-9	19-Sep-05	<0.5	<0.5	<0.5	<1.0	<2.5	<0.10	
MW-9	4-Jan-06	<0.5	<0.5	<0.5	<2.0	<0.5	<0.10	<1.0
MW-10	26-Jul-02	ND	ND	ND	ND	ND	NA	
MW-10	26-Nov-02	ND	ND	ND	ND	ND	NA	
MW-10	5-Jun-03	ND	ND	ND	ND	ND	NA	
MW-10	4-Nov-03	ND	ND	ND	ND	ND	NA	
MW-10	19-Jan-04	<0.5	<0.5	<0.5	<1.0	<2.5	NA	
MW-10	25-May-04	<0.5	<0.5	<0.5	<1.0	<2.5	<0.10	
MW-10	28-Jul-04	<0.5	<0.5	<0.5	<1.0	<2.5	<0.10	
MW-10	29-Dec-04	<0.5	1.6	0.6	3.1	<2.5	<0.10	
MW-10	19-Sep-05	<0.5	<0.5	<0.5	<1.0	<2.5	<0.10	
MW-10	3-Jan-06	<0.5	<0.5	<0.5	<2.0	<0.5	<0.10	<1.0

TABLE 2
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(BTEX, MTBE, AND TOTAL PETROLEUM HYDROCARBONS)
PER EPA METHOD 8021/8015M
Thriftway Refinery, Bloomfield, New Mexico

Well	*Date*	*Benzene* (µg/L)	*Toluene* (µg/L)	*Ethyl-benzene* (µg/L)	*Xylenes* (µg/L)	*MTBE* (µg/L)	*GRO C6-C10* (mg/L)	*DRO C10-C22* (mg/L)
NM WQCC STANDARD		**10**	**750**	**750**	**620**	**100**	**NE**	**NE**
MW-10	28-Jun-06	<0.5	<0.5	<0.5	<2.0	<2.5	<0.10	<2.5
MW-10	28-Dec-06	<0.5	<0.5	<0.5	<2.0	<2.5	<0.10	<1.0
MW-10	3-Jul-07	1.6	<0.5	1.1	2.2	<2.5	0.31	<2.0
MW-10	18-Dec-07	0.5	<0.5	<0.5	<2.0	<2.5	<0.10	<2.0
MW-11	30-Jan-02	<0.5	<0.5	<0.5	<1.5	<1.0	NA	
MW-11	26-Jul-02	ND	ND	ND	ND	ND	NA	
MW-11	26-Nov-02	ND	0.6	ND	ND	ND	NA	
MW-11	5-Jun-03	ND	ND	ND	ND	ND	NA	
MW-11	4-Nov-03	ND	ND	ND	ND	ND	NA	
MW-11	20-Jan-04	<0.5	<0.5	<0.5	<1.0	<2.5	NA	
MW-11	25-May-04	<0.5	1.6	0.7	4.1	<2.5	0.12	
MW-11	28-Jul-04	<0.5	1.9	0.9	3.3	<2.5	<0.10	
MW-11	29-Dec-04	<0.5	<0.5	<0.5	<1.0	<2.5	<0.10	
MW-12	30-Jan-02	**28**	1.8	54	104.6	**110**	NA	
MW-12	26-Jul-02	**43**	1.7	59	115.1	**140**	NA	
MW-12	3-Dec-02	**12**	ND	24	35	**120**	NA	
MW-12	5-Jun-03	**30**	1.1	29	39	88	NA	
MW-12	20-Jan-04	**17**	<2.5	34	43	**100**	NA	
MW-12	25-May-04	**49**	2.4	46	63	62	0.88	
MW-12	30-Dec-04	7.0	0.7	35	74	87	0.69	
MW-12	5-Jan-06	6.4	<5.0	32	71	54	<1.0	570
MW-13	30-Jan-02	<0.5	<0.5	<0.5	<1.5	<1.0	NA	
MW-13	26-Jul-02	ND	ND	ND	ND	ND	NA	
MW-13	3-Dec-02	ND	ND	ND	ND	ND	NA	
MW-13	5-Jun-03	ND	ND	ND	ND	ND	NA	
MW-13	4-Nov-03	ND	ND	ND	ND	ND	NA	
MW-13	20-Jan-04	<0.5	<0.5	<0.5	<1.0	<2.5	NA	
MW-13	28-Jul-04	<0.5	<0.5	<0.5	<1.0	<2.5	<0.10	
MW-13	30-Dec-04	<0.5	<0.5	<0.5	<1.0	<2.5	<0.10	
MW-13	19-Sep-05	0.6	1.6	<0.5	<1.0	<2.5	0.20	
MW-13	3-Jan-06	<0.5	<0.5	<0.5	<2.0	<0.5	<0.10	<1.0
MW-14	25-May-04	<0.5	<0.5	<0.5	<1.0	<2.5	<0.10	
MW-14	3-Jan-06	**44**	3.9	50	<10	12	1.1	1.1
MW-14	28-Jun-06	**110**	<0.5	77	3.6	<2.5	0.96	<2.5
MW-14	28-Dec-06	**160**	7.9	94	7.6	<2.5	1.4	<1.0
MW-14	5-Jul-07	**20**	4.4	17	6.1	2.7*	0.92	<2.0
MW-14	19-Dec-07	**16**	3.3	15	<4.0	6.7	0.65	18

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PER EPA METHOD 8021/8015M
Thriftway Refinery, Bloomfield, New Mexico

Well	*Date*	*Benzene* (µg/L)	*Toluene* (µg/L)	*Ethyl-benzene* (µg/L)	*Xylenes* (µg/L)	*MTBE* (µg/L)	*GRO C6-C10* (mg/L)	*DRO C10-C22* (mg/L)
NM WQCC STANDARD		**10**	**750**	**750**	**620**	**100**	**NE**	**NE**
MW-15	30-Jan-02	<0.5	<0.5	<0.5	<1.5	<1.0	NA	
MW-15	26-Jul-02	ND	ND	ND	ND	ND	NA	
MW-15	3-Dec-02	ND	ND	ND	ND	ND	NA	
MW-15	5-Jun-03	ND	ND	ND	ND	ND	NA	
MW-15	4-Nov-03	ND	ND	ND	ND	ND	NA	
MW-15	20-Jan-04	<0.5	<0.5	<0.5	<1.0	<2.5	NA	
MW-15	25-May-04	<0.5	<0.5	<0.5	<1.0	<2.5	<0.10	
MW-15	28-Jul-04	<0.5	<0.5	<0.5	<1.0	<2.5	<0.10	
MW-15	29-Dec-04	<0.5	0.6	<0.5	<1.0	<2.5	<0.10	
MW-15	19-Sep-05	<0.5	<0.5	<0.5	<1.0	<2.5	<0.10	
MW-15	3-Jan-06	<0.5	<0.5	<0.5	<2.0	<0.5	<0.10	<1.0
MW-17	5-Jan-06	**620**	72	120	**900**	29	8.5	8.2
MW-17	27-Jun-06	**1200**	15	77	97	<25	3.2	3.8
MW-17	28-Dec-06	**150**	14	18	150	37	2.0	<1.0
MW-18	30-Jan-02	1.0	<0.5	<0.5	<1.5	18	NA	
MW-18	25-Jul-02	6.9	ND	1.1	0.7	36	NA	
MW-18	26-Nov-02	5	ND	ND	ND	33	NA	
MW-18	5-Jun-03	2.9	ND	ND	ND	16	NA	
MW-18	3-Nov-03	ND	ND	ND	ND	15	NA	
MW-18	19-Jan-04	0.7	<0.5	<0.5	<1.0	18	NA	
MW-18	25-May-04	2.6	<0.5	<0.5	1.2	32	0.16	
MW-18	27-Jul-04	<0.5	<0.5	<0.5	<1.0	<2.5	<0.10	
MW-18	28-Dec-04	<0.5	<0.5	<0.5	<1.0	18	<0.10	
MW-18	19-Sep-05	3.8	<0.5	<0.5	2.0	54	0.23	
MW-18	4-Jan-06	0.7	1.3	0.6	2.7	47	0.10	<1.0
MW-18	27-Jun-06	2.5	<0.5	<0.5	<2.0	83	0.11	19
MW-18	28-Dec-06	<0.5	<0.5	<0.5	<2.0	54	<0.10	<1.0
MW-18	5-Jul-07	2.4	1.3	1.1	3.1	32*	0.36	<2.0
MW-18	18-Dec-07	0.6	<0.5	<0.5	<2.0	82	<0.10	<2.0
MW-19	30-Jan-02	0.6	0.9	0.8	<1.5	**530**	NA	
MW-19	25-Jul-02	ND	ND	0.9	ND	**610**	NA	
MW-19	26-Nov-02	ND	ND	ND	ND	**310**	NA	
MW-19	5-Jun-03	3.2	ND	ND	ND	**420**	NA	
MW-19	3-Nov-03	ND	ND	ND	ND	**520**	NA	
MW-19	19-Jan-04	0.6	<0.5	<0.5	1.7	**310**	NA	
MW-19	25-May-04	<0.5	<0.5	<0.5	<1.0	**180**	0.25	
MW-19	27-Jul-04	<0.5	<0.5	<0.5	1.2	**210**	0.30	
MW-19	28-Dec-04	<0.5	0.6	<0.5	3.0	**250**	0.40	
MW-19	19-Sep-05	<0.5	<0.5	<0.5	2.0	**120**	0.21	

TABLE 2
GROUNDWATER ANALYTICALS
(BTEX, MTBE, AND TOTAL PETROLEUM HYDROCARBONS)
PER EPA METHOD 8021/8015M
Thriftway Refinery, Bloomfield, New Mexico

Well	*Date*	*Benzene* (µg/L)	*Toluene* (µg/L)	*Ethyl-benzene* (µg/L)	*Xylenes* (µg/L)	*MTBE* (µg/L)	*GRO C6-C10* (mg/L)	*DRO C10-C22* (mg/L)
NM WQCC STANDARD		**10**	**750**	**750**	**620**	**100**	**NE**	**NE**
MW-19	4-Jan-06	<0.5	<0.5	<0.5	<2.0	**260**	0.21	<1.0
MW-20	30-Jan-02	1.6	3.7	6.3	1.2	**670**	NA	
MW-20	26-Jul-02	ND	ND	ND	ND	**950**	NA	
MW-20	26-Nov-02	1.6	ND	ND	2	**350**	NA	
MW-20	5-Jun-03	7	ND	7.1	7.2	**630**	NA	
MW-20	4-Nov-03	3.2	ND	ND	5.1	**480**	NA	
MW-20	19-Jan-04	2.8	<0.5	1.4	3.3	**680**	NA	
MW-20	25-May-04	1.9	<0.5	3.3	7.6	**400**	0.82	
MW-20	27-Jul-04	2.1	<0.5	<0.5	2.3	**590**	0.91	
MW-20	29-Dec-04	2.0	<0.5	<0.5	7.2	**300**	0.89	
MW-20	19-Sep-05	<2.5	<2.5	<2.5	5.4	**160**	1.2	
MW-20	4-Jan-06	<0.5	<0.5	<0.5	<2.0	**400**	0.50	<1.0
MW-20	28-Jun-06	0.6	<0.5	<0.5	<2.0	**310**	0.23	3.2
MW-20	28-Dec-06	<5.0	20	<5.0	<20	**170**	1.6	<1.0
MW-20	3-Jul-07	<1.0	4.0	1.7	<4.0	**180***	0.34	<2.0
MW-20	18-Dec-07	<0.5	8.3	<0.5	3.6	**360**	0.52	<2.0
MW-21	30-Jan-02	<0.5	<0.5	<0.5	<1.5	44	NA	
MW-21	26-Jul-02	ND	ND	ND	ND	34	NA	
MW-21	26-Nov-02	1.4	ND	ND	ND	34	NA	
MW-21	5-Jun-03	ND	ND	ND	ND	14	NA	
MW-21	4-Nov-03	ND	ND	ND	ND	25	NA	
MW-21	19-Jan-04	<0.5	<0.5	<0.5	<1.0	<2.5	NA	
MW-21	25-May-04	<0.5	<0.5	<0.5	<1.0	18	0.11	
MW-21	28-Jul-04	<0.5	<0.5	<0.5	<1.0	24	<0.10	
MW-21	29-Dec-04	<0.5	<0.5	<0.5	<1.0	25	<0.10	
MW-21	19-Sep-05	<0.5	<0.5	<0.5	<1.0	29	<0.10	
MW-21	4-Jan-06	<0.5	<0.5	<0.5	<2.0	24	<0.10	<1.0
MW-21	28-Jun-06	2.9	<0.5	<0.5	<2.0	17	<0.10	<2.5
MW-21	2-Jan-07	<0.5	<0.5	<0.5	<2.0	29	<0.10	<1.0
MW-21	3-Jul-07	<0.5	<0.5	<0.5	<2.0	39*	<0.10	<2.0
MW-21	18-Dec-07	<0.5	<0.5	<0.5	<2.0	79	<0.10	<2.0
MW-22	30-Jan-02	<0.5	<0.5	<0.5	<1.5	12	NA	
MW-22	26-Jul-02	ND	ND	ND	ND	14	NA	
MW-22	26-Nov-02	ND	ND	ND	ND	14	NA	
MW-22	5-Jun-03	ND	ND	ND	ND	ND	NA	
MW-22	4-Nov-03	ND	ND	ND	ND	11	NA	
MW-22	19-Jan-04	<0.5	<0.5	<0.5	<1.0	13	NA	
MW-22	25-May-04	<0.5	<0.5	<0.5	<1.0	13	0.11	
MW-22	28-Jul-04	<0.5	<0.5	<0.5	<1.0	14	<0.10	

TABLE 2
GROUNDWATER ANALYTICALS
(BTEX, MTBE, AND TOTAL PETROLEUM HYDROCARBONS)
PER EPA METHOD 8021/8015M
Thriftway Refinery, Bloomfield, New Mexico

Well	*Date*	*Benzene* (µg/L)	*Toluene* (µg/L)	*Ethyl-benzene* (µg/L)	*Xylenes* (µg/L)	*MTBE* (µg/L)	*GRO C6-C10* (mg/L)	*DRO C10-C22* (mg/L)
NM WQCC STANDARD		**10**	**750**	**750**	**620**	**100**	**NE**	**NE**
MW-22	29-Dec-04	<0.5	<0.5	<0.5	<1.0	11	<0.10	
MW-22	19-Sep-05	<0.5	<0.5	<0.5	<1.0	11	<0.10	
MW-22	4-Jan-06	<0.5	<0.5	<0.5	<2.0	11	<0.10	<1.0
MW-22	28-Jun-06	<0.5	<0.5	<0.5	<2.0	8.6	<0.10	<2.5
MW-22	2-Jan-07	<0.5	<0.5	<0.5	<2.0	14	<0.10	<1.0
MW-22	3-Jul-07	<0.5	<0.5	<0.5	<2.0	13*	<0.10	<2.0
MW-22	18-Dec-07	<0.5	<0.5	<0.5	<2.0	17	<0.10	<2.0
MW-24	5-Jan-06	**1600**	88	82	**650**	**1400**	5.0	820
MW-29	5-Jan-06	**3000**	**1700**	340	**2700**	**1500**	**23**	19
RW-24	5-Jan-06	**920**	<10	140	580	**450**	<10	3.2
RW-25	5-Jan-06	**2500**	**1200**	350	**2600**	**320**	16	71
RW-26	5-Jan-06	**2100**	**130**	290	**1700**	**79**	40	250
RW-26	28-Jun-06	**1300**	36	64	**1000**	**330**	6.2	9.6
RW-26	5-Jul-07	**1000**	27	78	420	66*	5.6	6.2

Notes:

<	**Analyte not detected above listed method limit**
NA	**Not analyzed**
NE	**Not established**
µg/L	**Micrograms per liter (ppb)**
mg/L	**Milligrams per liter (ppm)**
A.S. INF	**Airstripper Influent**
A.S. EFF	**Airstripper Effluent**
*	**CCV was less than established limits. Results may be biased low.**

TABLE 3
SUMMARY OF GROUNDWATER POLYNUCLEAR AROMATIC HYDROCARBONS PER EPA METHOD 8270 SIMS
Thriftway Refinery, Bloomfield, New Mexico

Sample ID	Sample Date	1-Methyl naphthalene (µg/L)	2-Methyl naphthalene (µg/L)	Naphthalene (µg/L)	Acenaphthene (µg/L)	Acenaphthylene (µg/L)	Anthracene (µg/L)	Benzo(a) anthracene (µg/L)	Benzo(a) pyrene (µg/L)	Benzo(b) fluoranthene (µg/L)	Benzo(g,h,i) perylene (µg/L)	Benzo(k) fluoranthene (µg/L)	Chrysene (µg/L)	Dibenz(a,h) anthracene (µg/L)	Fluoranthene (µg/L)	Fluorene (µg/L)	Indeno(1,2,3-cd) pyrene (µg/L)	Phenanthrene (µg/L)	Pyrene (µg/L)
NM WQCC Standard		30			NE	NE	NE	NE	0.7	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
A.S. INF	20-Jan-04	**280**	**290**	**540**	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
A.S. INF	30-Dec-04	**40**	**32**	**30**	0.56	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	3.2	<0.40	2.3	<0.40
A.S. INF	5-Jan-06	3.84	2.98	8.53	0.58	0.3	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	1.97	<0.20	0.88	0.38
A.S. INF	2-Jan-07	9.25	1.95	3.73	0.66	0.33	<0.20	0.30	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	2.46	<0.20	1.1	<0.20
A.S. EFF	20-Jan-04	3.2	3	4.7	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	1.5	<0.40	2.1	<0.40
A.S. EFF	30-Dec-04	3.6	2.2	2.2	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	1.8	<0.40	1.9	<0.40
A.S. EFF	5-Jan-06	0.49	0.37	1.32	0.25	<0.20	<0.20	0.38	0.55	<0.20	0.61	<0.20	<0.20	<0.20	<0.20	0.93	0.56	0.8	<0.20
A.S. EFF	2-Jan-07	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
MW-1	3-Jan-06	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
MW-1	10-Jan-07	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
MW-1	18-Dec-07	<0.70	<0.70	<0.70	<0.70	<0.70	<0.70	<0.70	<0.70	<0.70	<1.0	<0.70	<0.70	<1.0	<0.70	<0.70	<1.0	<0.70	5.5
MW-2	5-Jan-06	**10,800**	**11,600**	**6780**	1240	379	136	197	**278**	<120	<120	<120	900	<120	206	3620	<120	4950	1050
MW-2	18-Dec-07	**22**	**210**	**40**	<3.5	<3.5	<3.5	<3.5	<3.5	<3.5	<5.0	<3.5	<3.5	<5.0	<3.5	58	<5.0	120	<3.5
MW-3	5-Jan-06	**667**	**684**	**534**	94.7	28.2	10.5	13.6	**14.8**	<5.0	<5.0	<5.0	32.6	<5.0	14.2	221	<5.0	243	60.5
MW-3	2-Jan-07	**30.6**	26.1	**32.3**	3.97	2.09	<0.20	0.65	<0.20	<0.20	<0.20	<0.20	2.73	<0.20	0.96	16	<0.20	5.48	3.85
MW-4	19-Jan-04	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
MW-4	28-Dec-04	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
MW-4	4-Jan-06	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
MW-5	19-Jan-04	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
MW-5	28-Dec-04	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
MW-5	10-Jan-07	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
MW-6	19-Jan-04	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40

TABLE 3
SUMMARY OF GROUNDWATER POLYNUCLEAR AROMATIC HYDROCARBONS PER EPA METHOD 8270 SIMS
Thriftway Refinery, Bloomfield, New Mexico

Sample ID	Sample Date	1-Methyl naphthalene (µg/L)	2-Methyl naphthalene (µg/L)	Naphthalene (µg/L)	Acenaphthene (µg/L)	Acenaphthylene (µg/L)	Anthracene (µg/L)	Benzo(a) anthracene (µg/L)	Benzo(a) pyrene (µg/L)	Benzo(b) fluoranthene (µg/L)	Benzo(g,h,i) perylene (µg/L)	Benzo(k) fluoranthene (µg/L)	Chrysene (µg/L)	Dibenz(a,h) anthracene (µg/L)	Fluoranthene (µg/L)	Fluorene (µg/L)	Indeno(1,2,3-cd) pyrene (µg/L)	Phenanthrene (µg/L)	Pyrene (µg/L)
NM WQCC Standard		*30*			*NE*	*NE*	*NE*	*NE*	*0.7*	*NE*	*NE*	*NE*	*NE*	*NE*	*NE*	*NE*	*NE*	*NE*	*NE*
MW-6	28-Dec-04	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
MW-6	4-Jan-06	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
MW-7	19-Jan-04	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
MW-7	29-Dec-04	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
MW-7	4-Jan-06	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
MW-8	4-Jan-06	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
MW-9	19-Jan-04	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
MW-9	29-Dec-04	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
MW-9	4-Jan-06	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
MW-10	19-Jan-04	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
MW-10	29-Dec-04	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
MW-10	3-Jan-06	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
MW-10	10-Jan-07	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
MW-10	18-Dec-07	<0.70	<0.70	<0.70	<0.70	<0.70	<0.70	<0.70	<0.70	<0.70	<1.0	<0.70	<0.70	<1.0	<0.70	<0.70	<1.0	<0.70	<0.70
MW-11	20-Jan-04	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
MW-11	29-Dec-04	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
MW-12	20-Jan-04	**140**	**170**	**77**	2.8	4.7	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	0.68	14	<0.40	38	1
MW-12	30-Dec-04	**3,500**	**3,700**	**730**	41	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	15	<0.40	8	360	<0.40	650	<0.40
MW-12	5-Jan-06	**1,400**	**1,300**	**683**	152	45	25.1	10.9	**25.2**	<10	<10	<10	32.4	<10	17.2	384	<10	461	63.1
MW-13	20-Jan-04	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
MW-13	30-Dec-04	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
MW-13	3-Jan-06	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20

TABLE 3
SUMMARY OF GROUNDWATER POLYNUCLEAR AROMATIC HYDROCARBONS PER EPA METHOD 8270 SIMS
Thriftway Refinery, Bloomfield, New Mexico

Sample ID	Sample Date	1-Methyl naphthalene (µg/L)	2-Methyl naphthalene (µg/L)	Naphthalene (µg/L)	Acenaphthene (µg/L)	Acenaphthylene (µg/L)	Anthracene (µg/L)	Benzo(a) anthracene (µg/L)	Benzo(a) pyrene (µg/L)	Benzo(b) fluroanthene (µg/L)	Benzo(g,h,i) perylene (µg/L)	Benzo(k) fluoranthene (µg/L)	Chrysene (µg/L)	Dibenz(a,h) anthracene (µg/L)	Fluoranthene (µg/L)	Fluorene (µg/L)	Indeno(1,2,3-cd) pyrene (µg/L)	Phenanthrene (µg/L)	Pyrene (µg/L)
NM WQCC Standard		30			NE	NE	NE	NE	0.7	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
MW-14	3-Jan-06	<0.20	<0.20	0.32	0.21	<0.20	<0.20	0.35	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0.25	<0.20	<0.20	<0.20
MW-14	10-Jan-07	0.93	<0.20	0.51	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0.38	<0.20	<0.20	<0.20
MW-14	18-Dec-07	<0.70	<0.70	<0.70	<0.70	<0.70	<0.70	<0.70	<0.70	<0.70	<1.0	<0.70	<0.70	<1.0	<0.70	<0.70	<1.0	<0.70	<0.70
MW-15	20-Jan-04	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
MW-15	29-Dec-04	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
MW-15	3-Jan-06	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
MW-17	5-Jan-06	**48.4**	**53.5**	**31.1**	5	2.12	1.76	1.59	<1.0	<1.0	<1.0	<1.0	2.1	<1.0	1.26	14.7	<1.0	15.6	3.54
MW-17	10-Jan-07	16.6	8.57	16.5	0.43	0.35	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	3.45	<0.20	1.97	<0.20
MW-18	19-Jan-04	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
MW-18	28-Dec-04	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
MW-18	4-Jan-06	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0.60	<0.20	<0.20	0.40	<0.20	<0.20	0.90
MW-18	10-Jan-07	<0.20	<0.20	<0.20	<0.20	0.92	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0.59	<0.20	<0.20	0.45
MW-18	18-Dec-07	<0.70	<0.70	<0.70	<0.70	<0.70	<0.70	<0.70	<0.70	<0.70	<1.0	<0.70	<0.70	<1.0	<0.70	<0.70	<1.0	<0.70	4.0
MW-19	19-Jan-04	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
MW-19	28-Dec-04	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
MW-19	4-Jan-06	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
MW-20	20-Jan-04	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
MW-20	29-Dec-04	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
MW-20	4-Jan-06	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0.33	<0.20	<0.20	<0.20
MW-20	10-Jan-07	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0.76	<0.20	<0.20	<0.20

TABLE 3
SUMMARY OF GROUNDWATER POLYNUCLEAR AROMATIC HYDROCARBONS PER EPA METHOD 8270 SIMS
Thriftway Refinery, Bloomfield, New Mexico

Sample ID	Sample Date	1-Methyl naphthalene (µg/L)	2-Methyl naphthalene (µg/L)	Naphthalene (µg/L)	Acenaphthene (µg/L)	Acenaphthylene (µg/L)	Anthracene (µg/L)	Benzo(a) anthracene (µg/L)	Benzo(a) pyrene (µg/L)	Benzo(b) fluroanthene (µg/L)	Benzo(g,h,i) perylene (µg/L)	Benzo(k) fluoranthene (µg/L)	Chrysene (µg/L)	Dibenz(a,h) anthracene (µg/L)	Fluoranthene (µg/L)	Fluorene (µg/L)	Indeno(1,2,3-cd) pyrene (µg/L)	Phenanthrene (µg/L)	Pyrene (µg/L)
NM WQCC Standard		30			NE	NE	NE	NE	0.7	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
MW-20	18-Dec-07	<0.70	<0.70	<0.70	<0.70	<0.70	<0.70	<0.70	<0.70	<0.70	<1.0	<0.70	<0.70	<1.0	<0.70	<0.70	<1.0	<0.70	<0.70
MW-21	20-Jan-04	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
MW-21	29-Dec-04	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
MW-21	4-Jan-06	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
MW-21	2-Jan-07	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
MW-21	18-Dec-07	<0.70	<0.70	<0.70	<0.70	<0.70	<0.70	<0.70	<0.70	<0.70	<1.0	<0.70	<0.70	<1.0	<0.70	<0.70	<1.0	<0.70	<0.70
MW-22	20-Jan-04	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
MW-22	29-Dec-04	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
MW-22	4-Jan-06	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
MW-22	2-Jan-07	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
MW-22	18-Dec-07	<0.70	<0.70	<0.70	<0.70	<0.70	<0.70	<0.70	<0.70	<0.70	<1.0	<0.70	<0.70	<1.0	<0.70	<0.70	<1.0	<0.70	<0.70
MW-24	5-Jan-06	**761**	**734**	**616**	105	25.9	14.6	<5.0	**12.4**	<5.0	<5.0	<5.0	19.2	<5.0	14.8	251	<5.0	318	13.8
MW-29	5-Jan-06	**465**	**493**	**462**	34.6	12.6	7.06	7.7	**11.9**	<5.0	<5.0	<5.0	8.54	<5.0	<5.0	72.1	<5.0	80.8	13.8
RW-24	5-Jan-06	**79.6**	**38.4**	**58.9**	4.93	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	3.09	<2.0	2.89	10.7	<2.0	12.5	4.06
RW-25	5-Jan-06	**1,270**	**1,280**	**870**	129	38.4	18.4	14.5	**24.8**	<10	<10	<10	34.8	<10	14.2	297	<10	345	46.7
RW-26	5-Jan-06	**1,520**	**1,350**	**855**	192	48.1	14.7	14.9	**22.9**	<10	<10	<10	24.1	<10	16.9	441	<10	466	58.6

Notes:

<	Analyte not detected above listed method limit
NE	Not established
µg/L	Micrograms per liter (ppb)
A.S. INF	Airstripper Influent
A.S. EFF	Airstripper Effluent

TABLE 4
SUMMARY OF GROUNDWATER RCRA 8 METALS PER EPA METHOD 6010B 7470A
Thriftway Refinery, Bloomfield, New Mexico

Sample ID	Sample Date	Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Lead (mg/L)	Selenium (mg/L)	Silver (mg/L)	Mercury (mg/L)
	NM WQCC STANDARD	0.10	1.0	0.01	0.05	0.05	0.05	0.05	0.002
A.S. INF	20-Jan-04	<0.0050	0.059	<0.0050	0.0050	<0.0050	<0.010	<0.0050	<0.00020
A.S. INF	30-Dec-05	<0.0050	0.043	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<0.00020
A.S. INF	5-Jan-06	0.0038	0.049	<0.0010	0.0078	0.0012	<0.002	<0.001	<0.00020
A.S. INF	2-Jan-07	0.0017	0.055	<0.0010	0.0136	<0.0010	<0.0020	0.0020	<0.00020
A.S. EFF	20-Jan-04	<0.0050	0.059	<0.0050	0.0180	**0.23**	<0.010	<0.0050	<0.00020
A.S. EFF	30-Dec-05	<0.0050	0.043	<0.0050	<0.0050	**0.18**	<0.010	<0.0050	<0.00020
A.S. EFF	5-Jan-06	0.0066	0.047	0.0012	0.0037	**0.37**	0.015	<0.001	<0.00020
A.S. EFF	2-Jan-07	0.0019	0.044	<0.0010	0.0153	0.0021	<0.0020	0.0020	<0.00020
MW-1	3-Jan-06	0.003	0.137	<0.0010	0.0043	0.0037	0.011	<0.0010	<0.00020
MW-1	28-Dec-06	<0.0010	0.042	<0.0010	0.00469	<0.0010	<0.0020	0.00198	<0.00020
MW-1	18-Dec-07	0.00177	0.0259	<0.00100	0.00159	0.00182	0.00721	<0.000500	<0.0000170
MW-2	5-Jan-06	0.002	**1.120**	<0.0010	0.0152	0.0294	0.009	<0.0010	<0.00020
MW-2	19-Dec-07	0.00148	0.833	<0.00100	0.00238	0.00194	0.00620	<0.000500	<0.0000170
MW-3	5-Jan-06	0.114	**3.67**	<0.0010	0.0119	0.0402	0.008	<0.0010	<0.00020
MW-3	2-Jan-07	0.098	**3.78**	<0.0010	0.016	0.0029	<0.0020	0.0042	<0.00020
MW-4	19-Jan-04	0.015	0.170	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<0.00020
MW-4	28-Dec-04	**0.12**	0.070	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<0.00020
MW-4	4-Jan-06	0.045	0.224	<0.0010	0.0168	0.0091	0.016	<0.0010	<0.00020
MW-5	19-Jan-04	<0.0050	0.038	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<0.00020
MW-5	28-Dec-04	<0.0050	0.077	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<0.00020
MW-5	28-Dec-06	0.0040	0.15	<0.0010	0.013	0.0039	<0.0020	0.0027	<0.00020
MW-6	19-Jan-04	<0.0050	0.018	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<0.00020
MW-6	28-Dec-04	<0.0050	0.015	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<0.00020
MW-6	4-Jan-06	0.001	0.028	<0.0010	0.015	<0.0010	0.023	<0.0010	<0.00020
MW-7	19-Jan-04	**0.14**	**2.0**	<0.0050	0.012	0.015	<0.010	<0.0050	<0.00020
MW-7	29-Dec-04	0.01	0.083	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<0.00020
MW-7	4-Jan-06	**0.314**	**3.160**	<0.0010	0.035	0.044	0.014	<0.0010	<0.00020
MW-8	4-Jan-06	0.018	0.042	<0.0010	0.014	0.005	0.007	<0.0010	<0.00020
MW-9	19-Jan-04	0.008	0.23	<0.0050	0.016	0.010	<0.010	<0.0050	<0.00020

TABLE 4
SUMMARY OF GROUNDWATER RCRA 8 METALS PER EPA METHOD 6010B 7470A
Thriftway Refinery, Bloomfield, New Mexico

Sample ID	Sample Date	Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Lead (mg/L)	Selenium (mg/L)	Silver (mg/L)	Mercury (mg/L)
	NM WQCC STANDARD	0.10	1.0	0.01	0.05	0.05	0.05	0.05	0.002
MW-9	29-Dec-04	<0.0050	0.013	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<0.00020
MW-9	4-Jan-06	0.004	0.036	<0.0010	0.007	0.002	0.008	<0.0010	<0.00020
MW-10	19-Jan-04	<0.0050	0.038	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<0.00020
MW-10	29-Dec-04	<0.0050	0.024	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<0.00020
MW-10	3-Jan-06	0.006	0.144	<0.0010	0.008	0.002	0.025	<0.0010	<0.00020
MW-10	28-Dec-06	0.00116	0.0219	<0.0010	0.00388	<0.0010	<0.0020	0.00084	<0.00020
MW-10	18-Dec-07	0.00233	0.0259	<0.00100	0.00204	<0.0010	0.0158	<0.000500	<0.0000170
MW-11	20-Jan-04	**0.14**	**2.4**	<0.0050	**0.12**	**0.094**	<0.010	<0.0050	<0.00020
MW-11	29-Dec-04	0.0090	0.098	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<0.00020
MW-12	20-Jan-04	0.017	0.18	<0.0050	0.030	0.013	<0.010	<0.0050	<0.00020
MW-12	30-Dec-04	0.012	0.18	<0.0050	0.029	0.010	<0.010	<0.0050	<0.00020
MW-12	5-Jan-06	0.004	0.11	<0.0010	0.014	0.028	0.021	<0.0010	<0.00020
MW-13	20-Jan-04	<0.0050	<0.010	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<0.00020
MW-13	30-Dec-04	<0.0050	0.021	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<0.00020
MW-13	3-Jan-06	<0.0010	0.014	<0.0010	0.003	<0.0010	0.023	<0.0010	<0.00020
MW-14	3-Jan-06	0.011	0.114	<0.0010	0.008	0.014	0.019	<0.0010	<0.00020
MW-14	28-Dec-06	<0.0010	0.0148	<0.0010	0.00821	<0.00100	0.00403	0.00190	<0.00020
MW-14	19-Dec-07	0.00232	0.00982	<0.00100	0.00191	0.00154	0.00843	<0.000500	<0.0000170
MW-15	20-Jan-04	0.0050	0.320	<0.0050	0.020	0.010	<0.010	<0.0050	<0.00020
MW-15	29-Dec-04	<0.0050	0.046	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<0.00020
MW-15	3-Jan-06	0.005	0.127	<0.0010	0.008	0.008	0.025	<0.0010	<0.00020
MW-17	5-Jan-06	0.006	0.107	<0.0010	0.013	0.008	0.008	<0.0010	<0.00020
MW-17	28-Dec-06	0.0037	0.241	<0.0010	0.0058	0.0065	0.0030	0.0043	<0.00020
MW-18	19-Jan-04	**1.0**	**1.2**	<0.0050	**0.11**	**0.13**	<0.010	<0.0050	0.00028
MW-18	28-Dec-04	**0.28**	0.12	<0.0050	0.0060	<0.0050	<0.010	<0.0050	<0.00020
MW-18	4-Jan-06	0.094	0.06	<0.0010	0.017	0.007	0.018	<0.0010	<0.00020
MW-18	28-Dec-06	0.092	0.065	<0.0010	0.011	0.0020	<0.0020	0.0029	<0.00020
MW-18	18-Dec-07	**0.108**	0.0372	<0.00100	0.00246	0.00163	0.0120	<0.000500	<0.0000170
MW-19	19-Jan-04	0.0070	0.058	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<0.00020
MW-19	28-Dec-04	<0.0050	0.058	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<0.00020

TABLE 4
SUMMARY OF GROUNDWATER RCRA 8 METALS PER EPA METHOD 6010B 7470A
Thriftway Refinery, Bloomfield, New Mexico

Sample ID	Sample Date	Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Lead (mg/L)	Selenium (mg/L)	Silver (mg/L)	Mercury (mg/L)
	NM WQCC STANDARD	***0.10***	***1.0***	***0.01***	***0.05***	***0.05***	***0.05***	***0.05***	***0.002***
MW-19	4-Jan-06	0.019	0.164	<0.0010	0.023	0.012	0.017	<0.0010	<0.00020
MW-20	19-Jan-04	0.08	0.51	<0.0050	0.066	**0.075**	<0.010	<0.0050	0.00026
MW-20	29-Dec-04	0.01	0.055	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<0.00020
MW-20	4-Jan-06	0.016	0.061	<0.0010	0.023	0.004	0.010	<0.0010	<0.00020
MW-20	28-Dec-06	0.0017	0.030	<0.0010	0.0078	<0.0010	<0.0020	0.0023	<0.00020
MW-20	18-Dec-07	0.0159	0.0300	<0.00100	0.00255	0.00364	0.00754	<0.000500	<0.0000170
MW-21	19-Jan-04	0.038	0.091	<0.0050	0.013	0.010	<0.010	<0.0050	<0.00020
MW-21	29-Dec-04	**0.13**	0.065	<0.0050	0.0060	0.0060	<0.010	<0.0050	<0.00020
MW-21	4-Jan-06	0.046	0.053	<0.0010	0.013	0.0093	0.025	<0.0010	<0.00020
MW-21	2-Jan-07	0.040	0.016	<0.0010	0.0040	<0.001	<0.0020	0.0021	<0.00020
MW-21	18-Dec-07	0.0208	0.0109	<0.00100	0.00192	0.00139	0.0112	<0.000500	<0.0000170
MW-22	20-Jan-04	0.016	0.036	<0.0050	0.054	**0.65**	<0.010	<0.0050	<0.00020
MW-22	29-Dec-04	0.006	0.017	<0.0050	<0.0050	**0.20**	<0.010	<0.0050	<0.00020
MW-22	4-Jan-06	0.015	0.186	0.004	0.022	**0.75**	<0.002	<0.001	<0.00020
MW-22	2-Jan-07	0.0021	0.0109	<0.0010	0.0082	0.049	0.013	0.0030	<0.00020
MW-22	18-Dec-07	0.00314	0.00669	<0.00100	0.00134	0.0140	0.0166	<0.000500	<0.0000170
MW-24	5-Jan-06	0.009	0.101	<0.0010	0.011	0.04	0.018	<0.0010	<0.00020
MW-29	5-Jan-06	0.010	0.294	<0.0010	0.011	**0.38**	0.015	<0.0010	<0.00020
RW-24	5-Jan-06	NA	NA	NA	NA	NA	NA	NA	NA
RW-25	5-Jan-06	0.006	0.027	<0.0010	0.009	**0.07**	0.014	<0.0010	<0.00020
RW-26	5-Jan-06	0.005	0.535	<0.0010	0.006	0.03	0.014	<0.0010	<0.00020

Notes:

<	**Analyte not detected above listed method limit**
NA	**Not analyzed**
NE	**Not established**
µg/L	**Micrograms per liter (ppb)**
mg/L	**Milligrams per liter (ppm)**
A.S. INF	**Airstripper Influent**
A.S. EFF	**Airstripper Effluent**

TABLE 5
SUMMARY OF GROUNDWATER DISSOLVED METALS, CHLORIDES, SULFATE, SPECIFIC CONDUCTANCE, HARDNESS, TDS
Thriftway Refinery, Bloomfield, New Mexico

Sample ID	Sample Date	Ca (mg/L)	Mg (mg/L)	K (mg/L)	Na (mg/L)	Bromide (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Sulfate as SO4 (mg/L)	Specific Conductance (mS)	Hardness as $CaCO_3$ (mg/L)	Total Dissolved Solids (mg/L)
Sample Method		*6010B*	*6010B*	*6010B*	*6010B*	*300.0*	*4500E*	*340.2*	*375.4*	*120.1*	*6010B*	*160.1*
NM WQCC STANDARDS		*NE*	*NE*	*NE*	*NE*	*NE*	*250*	*1.6*	*600*	*NE*	*NE*	*1,000*
MW-1	10-Jan-07	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	**3,360**
MW-1	18-Dec-07	448	38.8	3.00	438	<0.0400	35.7	0.805	**1,910**	NM	1,280	**3,600**
MW-2	5-Jan-06	51.8	12.4	2.7	715	<5.0	59.7	0.45	<5.0	2,760	1,620	**1,720**
MW-2	18-Dec-07	47.1	11.0	2.47	597	0.332	70.2	0.306	68.4	NM	163	**1,900**
MW-3	5-Jan-06	256	45	11.3	805	<10	**795**	0.55	25	4,130	1,440	**2,340**
MW-3	2-Jan-07	192	33	9.5	577	<1.00	**589**	0.57	15	NM	740	**2,340**
MW-4	19-Jan-04	270	32	6.7	800	<0.20	93	0.41	**1,300**	3,400	750	**2,500**
MW-4	30-Dec-04	180	22	6.2	490	0.20	94	0.49	**970**	3,200	540	**2,300**
MW-4	4-Jan-06	368	41	12.3	620	<10	143	0.40	**1,400**	3,830	2,120	**2,700**
MW-5	19-Jan-04	65	17	7.7	1,300	<0.20	160	0.59	**1,900**	4,900	260	**3,400**
MW-5	30-Dec-04	67	19	8.8	1,100	0.35	140	0.57	**1,700**	5,800	260	**3,800**
MW-5	28-Dec-06	91	26	8.8	1,130	<1.00	<175	0.72	**1,780**	NM	360	NM
MW-5	10-Jan-07	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	**4,030**
MW-6	19-Jan-04	190	32	6.9	960	<0.20	71	0.50	**1,600**	4,200	540	**3,000**
MW-6	30-Dec-04	190	32	9.6	860	0.31	100	0.54	**1,600**	4,800	610	**3,500**
MW-6	4-Jan-06	211	37	12.2	1,030	<10	131	0.43	**1,830**	4,750	1,050	**3,110**
MW-7	19-Jan-04	340	44	8.3	1,100	<0.20	**330**	0.48	**2,400**	5,500	990	**4,000**
MW-7	29-Dec-04	330	44	10	900	0.36	**420**	0.49	**2,000**	5,600	1,100	**4,500**
MW-7	4-Jan-06	459	69	16	1,140	<10	**488**	0.41	**2,450**	5,740	3,350	**4,200**

TABLE 5
SUMMARY OF GROUNDWATER DISSOLVED METALS, CHLORIDES, SULFATE, SPECIFIC CONDUCTANCE, HARDNESS, TDS
Thriftway Refinery, Bloomfield, New Mexico

Sample ID	Sample Date	Ca (mg/L)	Mg (mg/L)	K (mg/L)	Na (mg/L)	Bromide (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Sulfate as SO4 (mg/L)	Specific Conductance (mS)	Hardness as $CaCO_3$ (mg/L)	Total Dissolved Solids (mg/L)
Sample Method		6010B	6010B	6010B	6010B	300.0	4500E	340.2	375.4	120.1	6010B	160.1
NM WQCC STANDARDS		NE	NE	NE	NE	NE	250	1.6	600	NE	NE	1,000
MW-8	4-Jan-06	545	78	17	993	<10	230	0.386	**2,520**	5,690	1,960	**4,180**
MW-9	19-Jan-04	410	61	6	1,500	0.31	86	0.73	**4,000**	7,000	1,200	**5,700**
MW-9	29-Dec-04	420	64	6.6	1,400	0.64	100	0.76	**3,600**	7,000	1,300	**6,200**
MW-9	4-Jan-06	456	78	13.1	1,840	<10	175	0.867	**3,800**	8,100	1,500	**5,770**
MW-10	19-Jan-04	380	50	6	1,400	0.47	150	0.68	**3,500**	6,300	1,000	**5,200**
MW-10	29-Dec-04	340	53	5.6	1,100	0.99	160	0.71	**2,800**	5,700	1,100	**5,000**
MW-10	3-Jan-06	517	77.3	10.4	1530.0	<10	188	0.807	**3,820**	6,360	2,020	**5,320**
MW-10	28-Dec-06	365	53.3	12.2	950	1.11	<175	0.846	**2,920**	NM	1,120	NM
MW-10	10-Jan-07	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	**4,270**
MW-10	18-Dec-07	291	34.1	3.96	1,000	0.725	98.6	0.895	**2,850**	NM	867	**5,500**
MW-11	20-Jan-04	150	15	<5.0	480	0.41	90	0.54	**2,800**	5,200	1,200	**3,900**
MW-11	29-Dec-04	250	21	8.3	950	0.57	92	0.62	**2,300**	4,900	720	**4,000**
MW-12	20-Jan-04	420	78	6.5	1,500	0.24	92	1.4	**3,700**	7,100	1,300	**5,600**
MW-12	30-Dec-04	410	81	8.0	1,300	0.24	88	**1.9**	**3,500**	7,100	1,200	**6,100**
MW-12	5-Jan-06	398	76.7	10.8	1,660	<10	78.4	1.3	**3,400**	6,940	1,770	**5,160**
MW-13	20-Jan-04	390	57	7.0	1,000	<0.20	**710**	0.94	**3,800**	6,400	1,200	**5,000**
MW-13	30-Dec-04	480	63	9.5	1,100	0.21	70	1.3	**3,100**	6,100	1,400	**5,400**
MW-13	3-Jan-06	470	64.4	8.9	1,200	<10	64.7	1.1	39.3	6,190	1,490	**4,830**

TABLE 5
SUMMARY OF GROUNDWATER DISSOLVED METALS, CHLORIDES, SULFATE, SPECIFIC CONDUCTANCE, HARDNESS, TDS
Thriftway Refinery, Bloomfield, New Mexico

Sample ID	Sample Date	Ca (mg/L)	Mg (mg/L)	K (mg/L)	Na (mg/L)	Bromide (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Sulfate as SO4 (mg/L)	Specific Conductance (mS)	Hardness as $CaCO_3$ (mg/L)	Total Dissolved Solids (mg/L)
Sample Method		*6010B*	*6010B*	*6010B*	*6010B*	*300.0*	*4500E*	*340.2*	*375.4*	*120.1*	*6010B*	*160.1*
NM WQCC STANDARDS		*NE*	*NE*	*NE*	*NE*	*NE*	*250*	*1.6*	*600*	*NE*	*NE*	*1,000*
MW-14	3-Jan-06	485	53.2	11.1	909	<10	32.9	0.896	**3,150**	5,540	2,280	**4,400**
MW-14	28-Dec-06	450	47.7	11.8	731	<1.00	<150	0.879	**2,740**	NM	1,260	NM
MW-14	10-Jan-07	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	**4,300**
MW-14	19-Dec-07	415	45.5	3.23	865	<0.0400	59.6	0.895	**2,640**	NM	1,220	**5,000**
MW-18	10-Jan-07	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	**4,310**
MW-18	18-Dec-07	218	89.2	6.18	1,010	<0.0400	98.6	<0.200	**1,520**	NM	913	**5,000**
MW-20	10-Jan-07	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	**4,270**
MW-20	18-Dec-07	450	57.3	4.29	757	0.319	99.9	0.433	**2,020**	NM	1,360	**5,000**
MW-21	2-Jan-07	440	82.5	14.8	1,700	<1.00	**487**	0.41	**4,260**	NM	1,400	**7,380**
MW-21	18-Dec-07	361	60.6	5.38	1,240	<0.0400	98.7	0.389	**3,140**	NM	1,150	**6,300**
MW-22	2-Jan-07	304	77.7	13.8	2,430	1.32	**265**	<0.200	**5,790**	NM	1,200	**9,560**
MW-22	18-Dec-07	349	70.3	7.05	2,340	0.700	98.6	0.346	**5,610**	NM	1,160	**10,000**

TABLE 6
SUMMARY OF GROUNDWATER CARBON DIOXIDE AND FORMS OF ALKALINITY
Thriftway Refinery, Bloomfield, New Mexico

Sample ID	Sample Date	pH	Bi-carbonate (mg/L as $CaCO_3$)	Free Carbon Dioxide (mg/L as $CaCO_3$)	Carbonate (mg/L as $CaCO_3$)	Hydroxide (mg/L as $CaCO_3$)	Total Carbon Dioxide (mg/L as $CaCO_3$)	Alkalinity as $CaCO_3$ (mg/L)
Sample Method		150.1	4500D	4500D	4500D	4500D	4500D	2320B
A.S. INF	20-Jan-04	6.9	570	70	1.0	<1.0	570	570
A.S. INF	30-Dec-04	7.0	840	120	1.0	<1.0	860	840
A.S. INF	5-Jan-06	7.5	650	NA	1.7	NA	NA	652
A.S. INF	2-Jan-07	7.1	617	NA	<0.50	NA	NA	617
A.S. EFF	20-Jan-04	2.3	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
A.S. EFF	30-Dec-04	2.4	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
A.S. EFF	5-Jan-06	2.1	<1.0	NA	<1.0	NA	NA	<1.0
A.S. EFF	2-Jan-07	8.0	449	NA	<0.50	NA	NA	449
MW-1	3-Jan-06	7.3	187	NA	<1.0	NA	NA	187
MW-1	28-Dec-06	7.2	312	NA	<0.50	NA	NA	312
MW-1	18-Dec-07	7.26	275	NA	<0.100	NA	NA	275
MW-2	5-Jan-06	7.3	1130	NA	2.8	NA	NA	1130
MW-2	18-Dec-07	7.29	1490	NA	1.43	NA	NA	1500
MW-3	5-Jan-06	7.2	818	NA	1.3	NA	NA	819
MW-3	2-Jan-07	7.0	985	NA	<0.50	NA	NA	985
MW-4	19-Jan-04	7.2	540	47	1.0	<1.0	520	540
MW-4	28-Dec-04	7.5	530	56	1.0	<1.0	520	530
MW-4	4-Jan-06	7.2	460	NA	1.2	NA	NA	462
MW-5	19-Jan-04	7.8	700	18	5.0	<1.0	630	700
MW-5	28-Dec-04	8.0	720	22	4.0	<1.0	650	720
MW-5	28-Dec-06	7.3	590	NA	5.2	NA	NA	595
MW-6	19-Jan-04	7.5	760	30	4.0	<1.0	700	760
MW-6	28-Dec-04	7.5	770	40	3.0	<1.0	720	770
MW-6	4-Jan-06	7.7	486	NA	1.8	NA	NA	488
MW-7	19-Jan-04	7.0	610	68	1	<1.0	610	610
MW-7	29-Dec-04	7.0	590	110	1.0	<1.0	630	590
MW-7	4-Jan-06	7.1	647	NA	<1.0	NA	NA	647
MW-8	4-Jan-06	7.0	444	NA	<1.0	NA	NA	444

TABLE 6
SUMMARY OF GROUNDWATER CARBON DIOXIDE AND FORMS OF ALKALINITY
Thriftway Refinery, Bloomfield, New Mexico

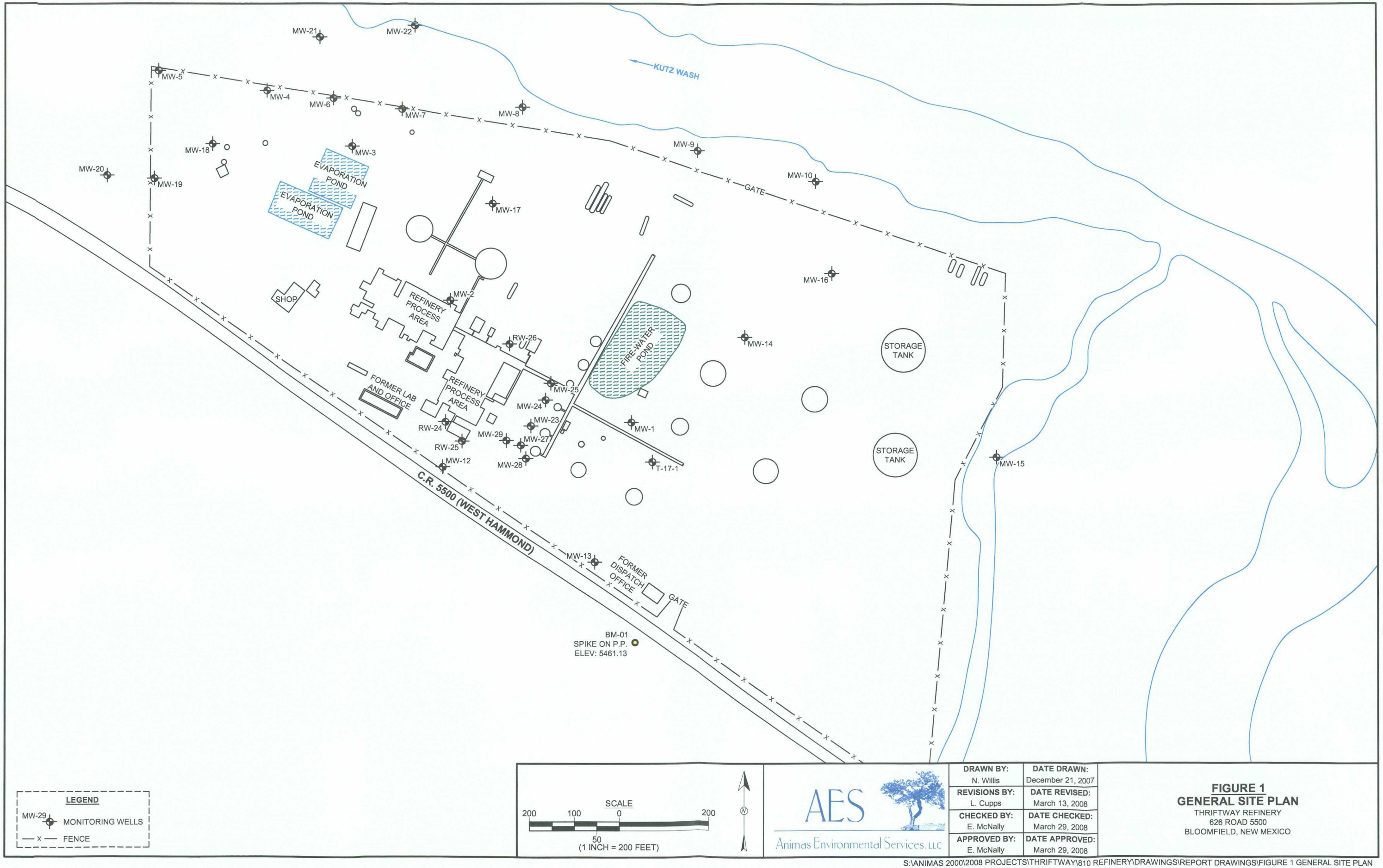
Sample ID	Sample Date	pH	Bi-carbonate (mg/L as $CaCO_3$)	Free Carbon Dioxide (mg/L as $CaCO_3$)	Carbonate (mg/L as $CaCO_3$)	Hydroxide (mg/L as $CaCO_3$)	Total Carbon Dioxide (mg/L as $CaCO_3$)	Alkalinity as $CaCO_3$ (mg/L)
Sample Method		150.1	4500D	4500D	4500D	4500D	4500D	2320B
MW-9	19-Jan-04	7.4	300	13	1	<1.0	280	300
MW-9	29-Dec-04	7.3	310	26	1.0	<1.0	300	310
MW-9	4-Jan-06	7.8	276	NA	1.1	NA	NA	277
MW-10	19-Jan-04	7.4	250	14	1.0	<1.0	230	250
MW-10	29-Dec-04	7.4	240	20	1.0	<1.0	230	240
MW-10	3-Jan-06	7.4	174	NA	<1.0	NA	NA	174
MW-10	28-Dec-06	7.4	239	NA	<0.500	NA	NA	240
MW-10	18-Dec-07	7.64	253	NA	1.42	NA	NA	254
MW-11	20-Jan-04	7.6	560	23	3	<1.0	520	560
MW-11	29-Dec-04	7.5	240	20	1.0	<1.0	230	240
MW-12	20-Jan-04	7.2	660	26	3	<1.0	610	660
MW-12	30-Dec-04	7.0	570	57	1.0	<1.0	560	570
MW-12	5-Jan-06	7.5	816	NA	1.8	NA	NA	818
MW-13	20-Jan-04	7.2	250	9	1	<1.0	230	250
MW-13	30-Dec-04	6.0	300	25	1.0	<1.0	290	300
MW-13	3-Jan-06	7.3	212	NA	<1.0	NA	NA	212
MW-14	3-Jan-06	7.3	297	NA	<1.0	NA	NA	298
MW-14	28-Dec-06	7.0	290	NA	<0.500	NA	NA	290
MW-14	18-Dec-07	7.26	395	NA	<0.100	NA	NA	396
MW-15	20-Jan-04	7.4	190	12	1	<1.0	180	190
MW-15	29-Dec-04	7.3	170	18	<1.0	<1.0	170	170
MW-15	3-Jan-06	7.6	131	NA	<1.0	NA	NA	131
MW-17	5-Jan-06	7.0	478	NA	<1.0	NA	NA	478
MW-17	28-Dec-06	6.8	599	NA	1.1	NA	NA	600
MW-18	19-Jan-04	7.5	1,100	46	5.0	<1.0	1,000	1100
MW-18	28-Dec-04	7.8	990	34	6.0	<1.0	910	1000
MW-18	4-Jan-06	7.6	<1.0	NA	<1.0	NA	NA	<1.0
MW-18	28-Dec-06	7.3	861	NA	7.3	NA	NA	868
MW-18	18-Dec-07	7.66	992	NA	3.1	NA	NA	995

TABLE 6
SUMMARY OF GROUNDWATER CARBON DIOXIDE AND FORMS OF ALKALINITY
Thriftway Refinery, Bloomfield, New Mexico

Sample ID	Sample Date	pH	Bi-carbonate (mg/L as $CaCO_3$)	Free Carbon Dioxide (mg/L as $CaCO_3$)	Carbonate (mg/L as $CaCO_3$)	Hydroxide (mg/L as $CaCO_3$)	Total Carbon Dioxide (mg/L as $CaCO_3$)	Alkalinity as $CaCO_3$ (mg/L)
Sample Method		150.1	4500D	4500D	4500D	4500D	4500D	2320B
MW-19	19-Jan-04	7.1	830	76	2	<1.0	810	830
MW-19	28-Dec-04	7.3	790	120	1.0	<1.0	820	790
MW-19	4-Jan-06	7.4	<1.0	NA	<1.0	NA	NA	<1.0
MW-20	19-Jan-04	7.2	900	94	2	<1.0	890	900
MW-20	29-Dec-04	6.8	870	130	1	<1.0	900	870
MW-20	4-Jan-06	7.0	679	NA	1.1	NA	NA	680
MW-20	28-Dec-06	7.0	804	NA	3.7	NA	NA	808
MW-20	18-Dec-07	7.05	814	NA	<0.100	NA	NA	815
MW-21	20-Jan-04	7.0	630	60	1	<1.0	610	630
MW-21	29-Dec-04	7.1	610	84	1.0	<1.0	620	610
MW-21	4-Jan-06	7.1	420	NA	1.0	NA	NA	421
MW-21	2-Jan-07	6.7	528	NA	2.0	NA	NA	530
MW-21	18-Dec-07	7.12	622	NA	<0.100	NA	NA	623
MW-22	20-Jan-04	6.9	440	67	1	<1.0	450	440
MW-22	29-Dec-04	7.0	410	78	<1.0	<1.0	440	410
MW-22	4-Jan-06	7.1	359	NA	<1.0	NA	NA	359
MW-22	2-Jan-07	7.0	252	NA	<0.50	NA	NA	253
MW-22	18-Dec-07	7.53	523	NA	2.48	NA	NA	526
MW-24	5-Jan-06	7.4	1060	NA	1.05	NA	NA	1060
MW-29	5-Jan-06	7.1	NA	NA	NA	NA	NA	NA
RW-24	5-Jan-06	NA	NA	NA	NA	NA	NA	NA
RW-25	5-Jan-06	7.0	681	NA	1	NA	NA	682
RW-26	5-Jan-06	7.2	715	NA	<1.0	NA	NA	716

Notes:

<	Analyte not detected above listed method limit
NA	Not analyzed
NE	Not established
µg/L	Micrograms per liter (ppb)
mg/L	Milligrams per liter (ppm)
A.S. INF	Airstripper Influent
A.S. EFF	Airstripper Effluent



AES
Animas Environmental Services, LLC

DRAWN BY:	DATE DRAWN:
N. Willis	December 21, 2007
REVISIONS BY:	DATE REVISED:
L. Cupps	March 13, 2008
CHECKED BY:	DATE CHECKED:
E. McNally	March 29, 2008
APPROVED BY:	DATE APPROVED:
E. McNally	March 29, 2008

FIGURE 1
GENERAL SITE PLAN
THRIFTWAY REFINERY
626 ROAD 5500
BLOOMFIELD, NEW MEXICO

S:\ANIMAS 2000\2008 PROJECTS\THRIFTWAY\810 REFINERY\DRAWINGS\REPORT DRAWINGS\FIGURE 1 GENERAL SITE PLAN

MW-21
5425.08

MW-22
5425.77

MW-5
5423.90

MW-4
NM

MW-6
NM

MW-7
NM

MW-8
NM

MW-9
NM

MW-10
5432.18

KUTZ WASH

MW-20
5424.70

MW-18
5425.19

MW-19
NM

MW-3
NM

EVAPORATION POND

EVAPORATION POND

MW-17
5429.41

GATE

SHOP

MW-2
5431.14

REFINERY PROCESS AREA

RW-26
5429.73

MW-16
NM

MW-14
5434.43

FIRE WATER POND

STORAGE TANK

FORMER LAB AND OFFICE

REFINERY PROCESS AREA

MW-25
NM

MW-24
NM

MW-23
NM

MW-29
NM

RW-24
NM

RW-25
NM

MW-27
NM

MW-28
NM

MW-12
NM

MW-1
5433.81

T-17-1
NM

STORAGE TANK

MW-15
NM

C.R. 5500 (WEST HAMMOND)

MW-13
NM

FORMER DISPATCH OFFICE

GATE

BM-01
SPIKE ON P.P.
ELEV: 5461.13

GROUNDWATER GRADIENT

GROUNDWATER GRADIENT
CALCULATED BETWEEN
MW-14 AND MW-21 IS 0.008 FT/FT

LEGEND

- GROUNDWATER MONITORING WELL
- 5427.5 — GROUNDWATER CONTOUR IN FEET (AMSL)
- 5431.14 — GROUNDWATER ELEVATION IN FEET (AMSL)
- NM — NOT MEASURED

NOTES

1. *MISSING OR DESTROYED MONITORING WELLS NOT SHOWN*
2. *SMALL STORAGE TANKS NOT SHOWN*
3. *ALL GROUNDWATER MEASUREMENTS WERE COLLECTED ON JULY 2 - 5, 2007.*

SCALE
200 100 0 200
50
(1 INCH = 200 FEET)

N

AES
Animas Environmental Services, LLC

DRAWN BY: N. Willis	DATE DRAWN: December 27, 2007
REVISIONS BY: L. Cupps	DATE REVISED: March 29, 2008
CHECKED BY: E. McNally	DATE CHECKED: March 29, 2008
APPROVED BY: E. McNally	DATE APPROVED: March 29, 2008

FIGURE 2
GROUNDWATER ELEVATION CONTOURS
JULY 2007
THRIFTWAY REFINERY
626 ROAD 5500
BLOOMFIELD, NEW MEXICO

S:\ANIMAS 2000\2008 PROJECTS\THRIFTWAY\810 REFINERY\DRAWINGS\REPORT DRAWINGS\FIGURE 2 GW ELEV 070307

MW-21
5425.08

MW-22
5426.05

MW-5
NM

MW-4
5425.15

MW-6
5426.22

MW-7
5426.85

MW-8
NM

MW-9
5430.83

MW-10
5432.62

MW-18
5425.02

MW-3
5427.11

MW-20
5424.56

MW-19
5424.87

EVAPORATION POND

EVAPORATION POND

MW-17
5429.24

KUTZ WASH

SHOP

REFINERY PROCESS AREA

MW-2
5430.56

RW-26
5429.27

FORMER LAB AND OFFICE

REFINERY PROCESS AREA

FIRE-WATER POND

MW-25
5432.66

MW-24
5432.48

MW-23
DRY

RW-24
5431.56

MW-29
5432.25

MW-27
DRY

RW-25
5431.79

MW-12
5431.69

MW-28
5433.07

MW-1
5433.41

T-17-1
DRY

MW-16
5433.79

MW-14
5434.21

STORAGE TANK

STORAGE TANK

ARROYO

MW-15
NM

C.R. 5500 (WEST HAMMOND)

GROUNDWATER GRADIENT
0.007 FT/FT BETWEEN
MW-1 AND MW-18

MW-13
5434.29

FORMER DISPATCH OFFICE

GATE

BM-01
SPIKE ON P.P.
ELEV: 5461.13

LEGEND

- MW-29 — MONITORING WELLS
- x — FENCE
- 5434 — GROUNDWATER ELEVATION CONTOUR 12/19/07

NOTE: RW-26 NOT INCLUDED IN GROUNDWATER ELEVATION CONTOURS

SCALE
200 100 0 200
50
(1 INCH = 200 FEET)

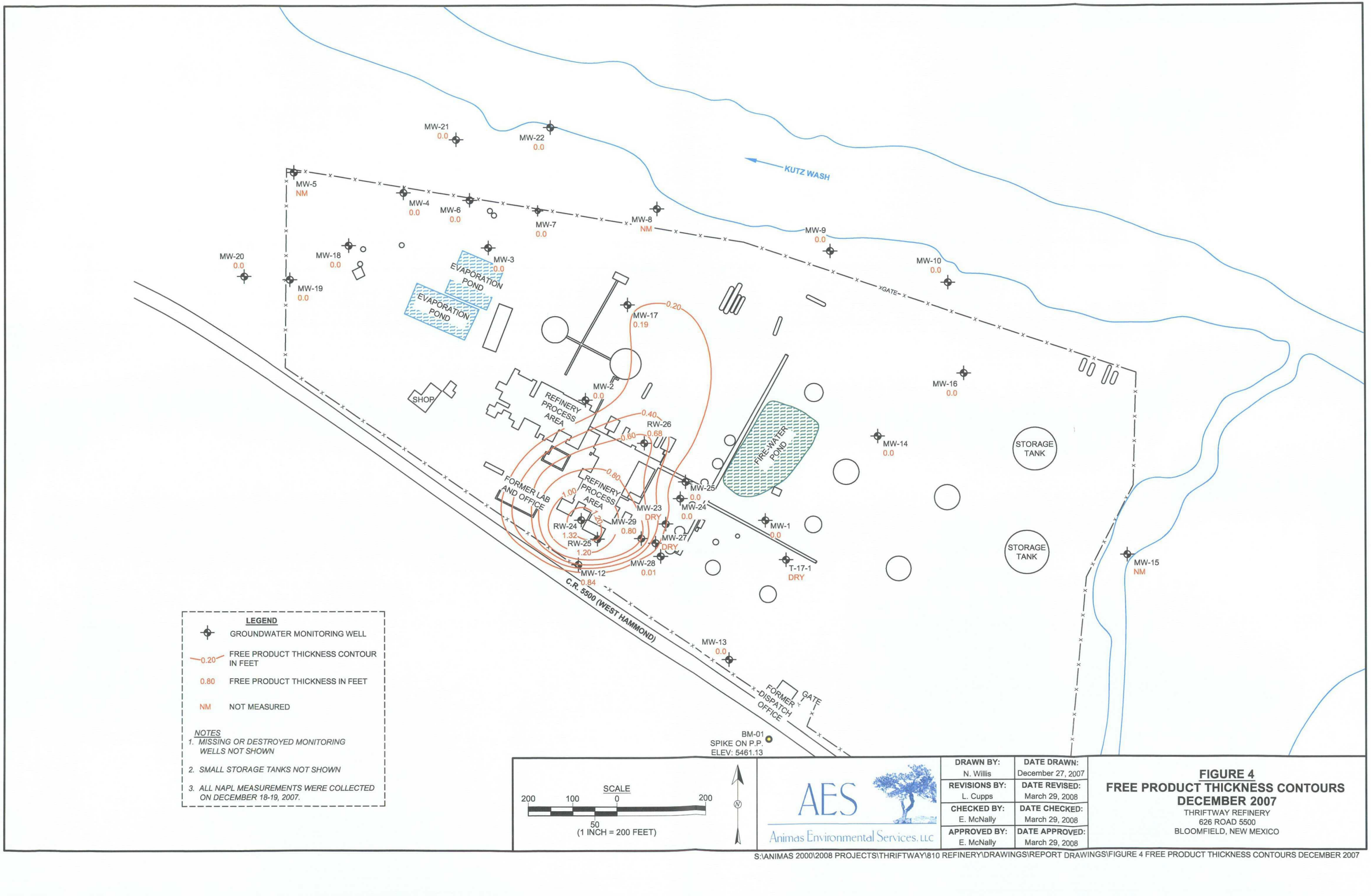
N

AES
Animas Environmental Services, LLC

DRAWN BY: N. Willis	DATE DRAWN: December 21, 2007
REVISIONS BY: L. Cupps	DATE REVISED: March 29, 2008
CHECKED BY: E. McNally	DATE CHECKED: March 29, 2008
APPROVED BY: E. McNally	DATE APPROVED: March 29, 2008

FIGURE 3
GROUNDWATER ELEVATION CONTOURS
DECEMBER 2007
THRIFTWAY COMPANY REFINERY
COUNTY ROAD 5500
BLOOMFIELD, SAN JUAN COUNTY, NEW MEXICO

S:\ANIMAS 2000\2008 PROJECTS\THRIFTWAY\810 REFINERY\DRAWINGS\REPORT DRAWINGS\FIGURE 3 GW ELEV 121807



LEGEND

- GROUNDWATER MONITORING WELL
- 0.20 — FREE PRODUCT THICKNESS CONTOUR IN FEET
- 0.80 — FREE PRODUCT THICKNESS IN FEET
- NM — NOT MEASURED

NOTES

1. *MISSING OR DESTROYED MONITORING WELLS NOT SHOWN*
2. *SMALL STORAGE TANKS NOT SHOWN*
3. *ALL NAPL MEASUREMENTS WERE COLLECTED ON DECEMBER 18-19, 2007.*

SCALE
200 100 0 200
50
(1 INCH = 200 FEET)

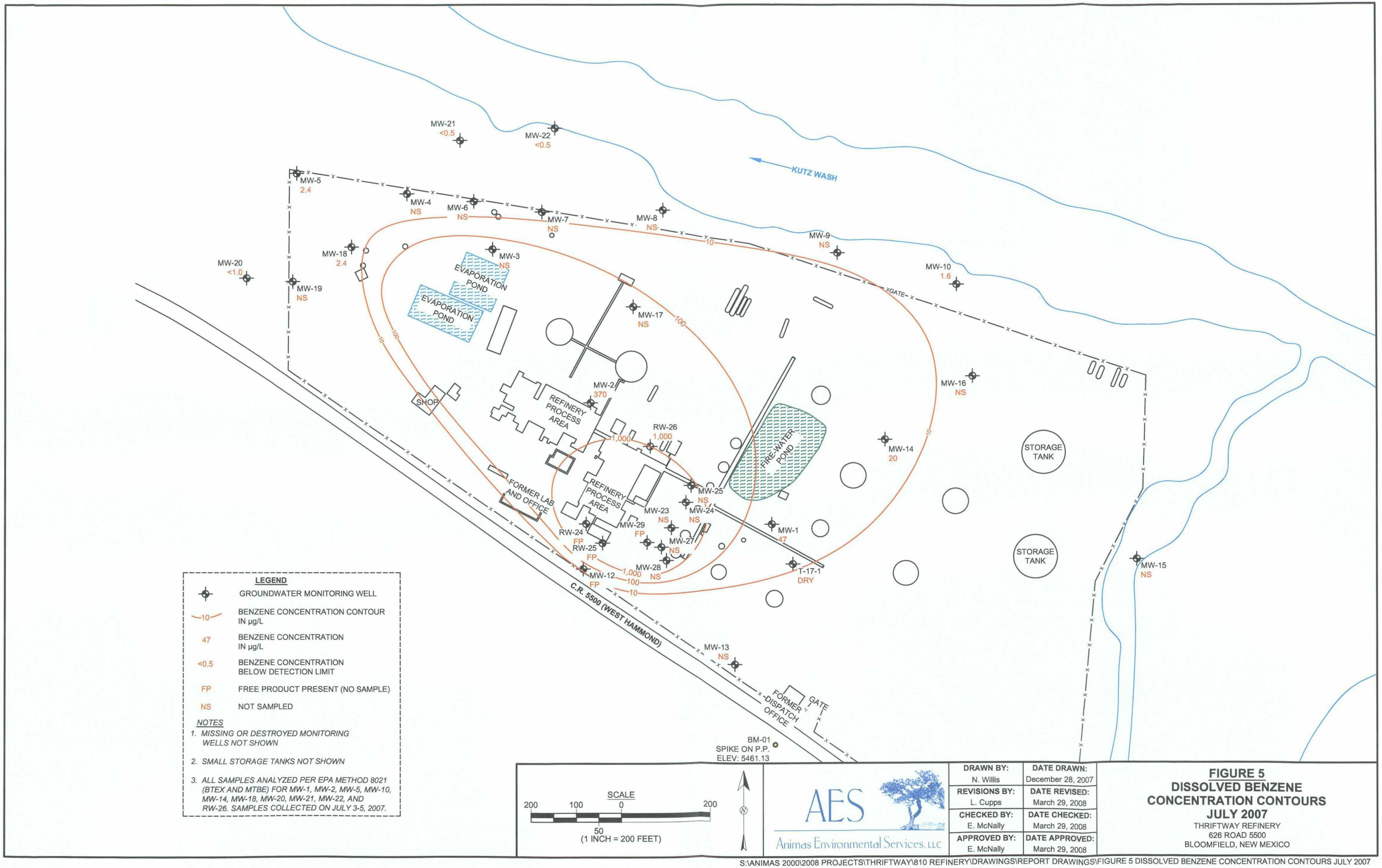
N

AES
Animas Environmental Services, LLC

DRAWN BY: N. Willis	DATE DRAWN: December 27, 2007
REVISIONS BY: L. Cupps	DATE REVISED: March 29, 2008
CHECKED BY: E. McNally	DATE CHECKED: March 29, 2008
APPROVED BY: E. McNally	DATE APPROVED: March 29, 2008

FIGURE 4
FREE PRODUCT THICKNESS CONTOURS DECEMBER 2007
THRIFTWAY REFINERY
626 ROAD 5500
BLOOMFIELD, NEW MEXICO

S:\ANIMAS 2000\2008 PROJECTS\THRIFTWAY\810 REFINERY\DRAWINGS\REPORT DRAWINGS\FIGURE 4 FREE PRODUCT THICKNESS CONTOURS DECEMBER 2007



LEGEND

- GROUNDWATER MONITORING WELL
- 10 — BENZENE CONCENTRATION CONTOUR IN µg/L
- 47 — BENZENE CONCENTRATION IN µg/L
- <0.5 — BENZENE CONCENTRATION BELOW DETECTION LIMIT
- FP — FREE PRODUCT PRESENT (NO SAMPLE)
- NS — NOT SAMPLED

NOTES

1. *MISSING OR DESTROYED MONITORING WELLS NOT SHOWN*
2. *SMALL STORAGE TANKS NOT SHOWN*
3. *ALL SAMPLES ANALYZED PER EPA METHOD 8021 (BTEX AND MTBE) FOR MW-1, MW-2, MW-5, MW-10, MW-14, MW-18, MW-20, MW-21, MW-22, AND RW-26. SAMPLES COLLECTED ON JULY 3-5, 2007.*

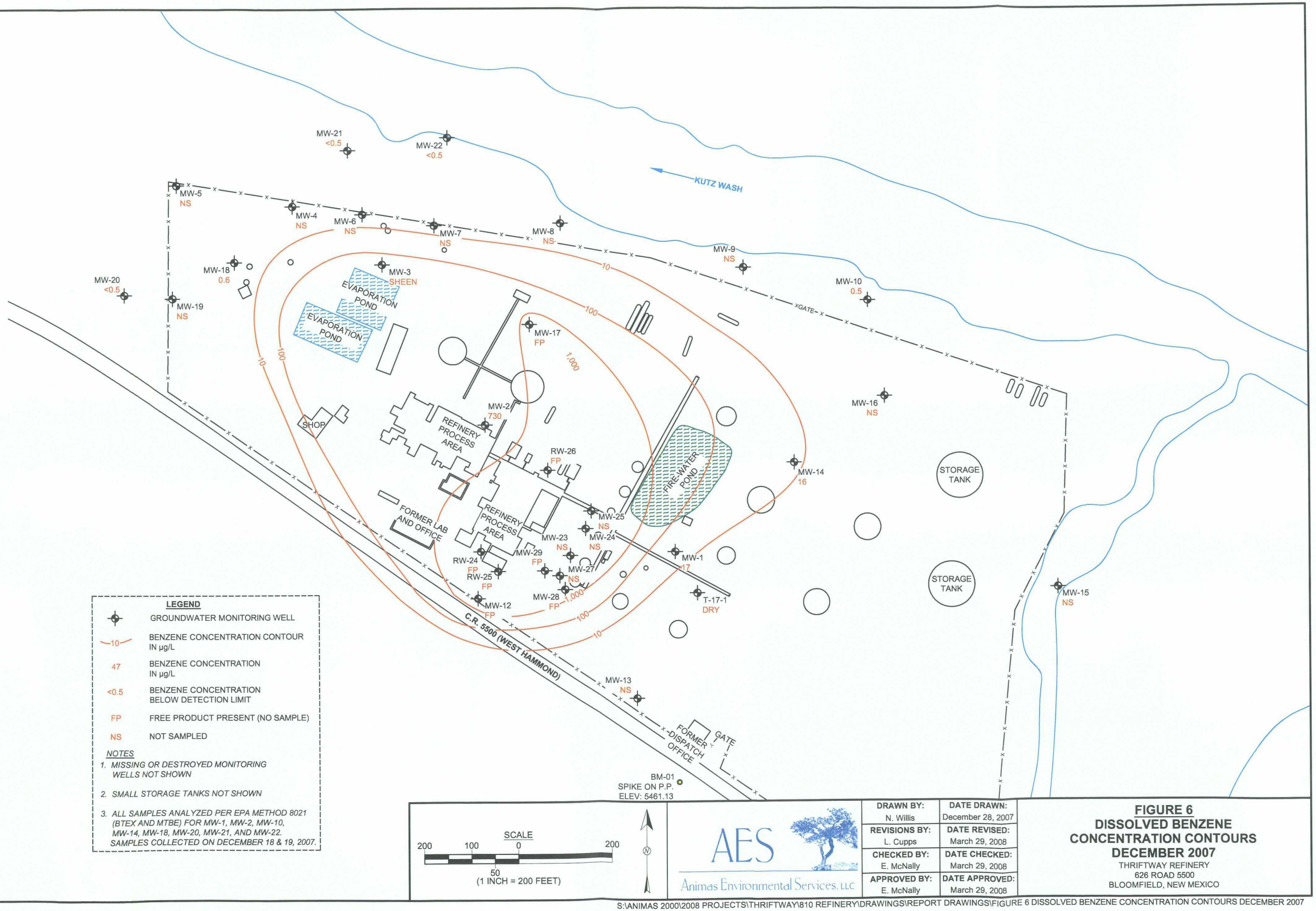
SCALE
200 100 0 200
50
(1 INCH = 200 FEET)

Animas Environmental Services, LLC

DRAWN BY: N. Willis	DATE DRAWN: December 28, 2007
REVISIONS BY: L. Cupps	DATE REVISED: March 29, 2008
CHECKED BY: E. McNally	DATE CHECKED: March 29, 2008
APPROVED BY: E. McNally	DATE APPROVED: March 29, 2008

FIGURE 5
DISSOLVED BENZENE CONCENTRATION CONTOURS JULY 2007
THRIFTWAY REFINERY
626 ROAD 5500
BLOOMFIELD, NEW MEXICO

S:\ANIMAS 2000\2008 PROJECTS\THRIFTWAY\810 REFINERY\DRAWINGS\REPORT DRAWINGS\FIGURE 5 DISSOLVED BENZENE CONCENTRATION CONTOURS JULY 2007



LEGEND

- GROUNDWATER MONITORING WELL
- 10 — BENZENE CONCENTRATION CONTOUR IN µg/L
- 47 — BENZENE CONCENTRATION IN µg/L
- <0.5 — BENZENE CONCENTRATION BELOW DETECTION LIMIT
- FP — FREE PRODUCT PRESENT (NO SAMPLE)
- NS — NOT SAMPLED

NOTES

1. *MISSING OR DESTROYED MONITORING WELLS NOT SHOWN*
2. *SMALL STORAGE TANKS NOT SHOWN*
3. *ALL SAMPLES ANALYZED PER EPA METHOD 8021 (BTEX AND MTBE) FOR MW-1, MW-2, MW-10, MW-14, MW-18, MW-20, MW-21, AND MW-22. SAMPLES COLLECTED ON DECEMBER 18 & 19, 2007.*

SCALE
200 100 0 200
50
(1 INCH = 200 FEET)

N

Animas Environmental Services, LLC

DRAWN BY: N. Willis	DATE DRAWN: December 28, 2007
REVISIONS BY: L. Cupps	DATE REVISED: March 29, 2008
CHECKED BY: E. McNally	DATE CHECKED: March 29, 2008
APPROVED BY: E. McNally	DATE APPROVED: March 29, 2008

FIGURE 6
DISSOLVED BENZENE CONCENTRATION CONTOURS DECEMBER 2007

THRIFTWAY REFINERY
626 ROAD 5500
BLOOMFIELD, NEW MEXICO

S:\ANIMAS 2000\2008 PROJECTS\THRIFTWAY\810 REFINERY\DRAWINGS\REPORT DRAWINGS\FIGURE 6 DISSOLVED BENZENE CONCENTRATION CONTOURS DECEMBER 2007

DEPTH TO GROUNDWATER MEASUREMENT FORM

Animas Environmental Services
624 E. Comanche, Farmington NM 87401
Tel. (505) 564-2281 Fax (505) 324-2022

Project: Annual Sampling
Site: Thriftway Refinery 810
Location: 626 CR 5500, Bloomfield, New Mexico
Tech: Nathan Willis & Chad Dawson

Project No.: AES 050204
Date: 12-18-07 & 12-19-07
Time: 0934
Form: 1 of 1

Well I.D.	Time	Depth to NAPL (ft.)	Depth to Water (ft.)	NAPL Thickness (ft.)	Notes / Observations
T-17-1	1420	—	—	—	Dry
T-17-2	—	—	—	—	unable to locate
T-17-3	—	—	—	—	unable to locate
MW-1	1614	~~15.67~~	15.67	—	
MW-2	1016	—	12.07	—	
MW-3	1105	—	4.32	—	Sheen present
MW-4	1435	—	4.97	—	
MW-5	—	—	—	—	Filled with Roots
MW-6	1439	—	4.48	—	4" well
MW-7	1444	—	8.43	—	
MW-8	—	—	—	—	Filled with Roots
MW-9	1400	—	5.86	—	TD = 16.28
MW-10	1422	—	5.16	—	TD = 15.15
MW-11	—	—	—	—	Destroyed
MW-12	0925	14.21	15.05	0.84	
MW-13	1456	—	17.83	—	
MW-14	0939	—	12.72		
MW-15	—	—	—	—	Unable to open
MW-16	1307	—	8.84	—	
MW-17	1054	5.92	6.11	0.19	
MW-18	1528	—	3.93	—	
MW-19	1515	—	3.82	—	
MW-20	0935	—	5.89	—	
MW-21	1030	—	3.54	—	
MW-22	1107	—	4.70		
MW-23	~~H~~12	—	—	—	Dry.
MW-24	1415	—	16.75	—	
MW-25	1417	—	16.08	—	
MW-26	—	—	—	—	unable to locate
MW-27	1407	—	—	—	Dry & Vapors.
MW-28	1408	16.00	16.01	0.01	TD = ~~16.14~~ 16.14
MW-29	1134	15.51	16.31	0.80	
RW-24	1125	15.88	17.20	1.32	
RW-25	1127	16.62	17.87	1.20	
RW-26	1122	14.56	15.24	0.78	

Wells measured with KECK water level or KECK interface tape, decontaminated between each well measurement.

MONITORING WELL SAMPLING RECORD

Monitor Well No: MW-1

Animas Environmental Services
624 E. Comanche, Farmington NM 87401
Tel. (505) 564-2281 Fax (505) 324-2022

Site: Thriftway Refinery 810
Location: 626 CR 5500, Bloomfield, NM
Project: Annual Sampling
Sampling Technician: Nathan & Chad
Purge / No Purge:
Well Diameter (in): 2"
Initial D.T.W. (ft): 15.67 **Time:** 1614 *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): **Time:** *(taken prior to purging well)*
Final D.T.W. (ft): **Time:** *(taken after sample collection)*

Project No.: AES 050204
Date: 12-18-07
Arrival Time: 1612
Air Temp: 45°
T.O.C. Elev. (ft): 5449.08
Total Well Depth (ft): 21.12

Water Quality Parameters - Recorded During Well Purging

Time	Temp (deg C)	Conductivity (µS) (mS)	DO (mg/L)	pH	ORP (mV)	PURGED VOLUME (see reverse for calc.)	Notes/Observations
1620	15.32	4.102	0.65	7.26	-78.6	0.25	
1623						SC	

Analytical Parameters (include analysis method and number and type of sample containers)

BTEX/MTBE and GRO/DRO -EPA 8021/8015 **(4) 40mL VOAs w/ HCl**; PAHs -EPA 8270 SIMs **(1) 1L Amber**;
Total RCRA Metals & Hardness **(1) 500mL HDPE w/ HNO3**; Dissolved Ca, Mg, K, Na **(1) 125mL HDPE w/ HNO3**;
Alk, Br, Cl, F, SO4 **(1) 500mL HDPE**; TDS **(1) 500mL HDPE**

Disposal of Purged Water:
Collected Samples Stored on Ice in Cooler:
Chain of Custody Record Complete:
Analytical Laboratory: Pinnacle Laboratories, Albuquerque, NM & Hall Environmental Analytical Laboratory, Albuquerque, NM
Equipment Used During Sampling: Keck Water Level, YSI Water Quality Meter, and New Disposable Bailer

Notes/Comments

revised: 05/23/07

If it is necessary to calculate the volume of the monitoring well to determine what volume of groundwater will need to be purged from the well prior to collecting the samples, use the following equation:

Well Volume = (h)(cf)

where:

h = height of water column (feet)
cf = gallons/foot based on well diameter shown below

The gallons/foot for common size monitoring wells are as follows:

Well Diameter (inches)	2"	3"	4"	6"	
Volume (gallons/foot)	0.1632	0.3672	0.6528	1.4688	

The well volume is typically tripled to determine the volume to be purged.

Show purge volume calculation below:

$WV = (21.12 - 15.67)(0.1632) = 0.89 = 3$ gal

MONITORING WELL SAMPLING RECORD

Monitor Well No: MW-2

Animas Environmental Services
624 E. Comanche, Farmington NM 87401
Tel. (505) 564-2281 Fax (505) 324-2022

Site: Thriftway Refinery 810
Location: 626 CR 5500, Bloomfield, NM
Project: Annual Sampling
Sampling Technician: Nathan & Chad
Purge / No Purge:
Well Diameter (in): 2"
Initial D.T.W. (ft): 12.09 **Time:** 1016 *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): **Time:** *(taken prior to purging well)*
Final D.T.W. (ft): **Time:** *(taken after sample collection)*

Project No.: AES 050204
Date: 12-19-07
Arrival Time: 1015
Air Temp: 35°
T.O.C. Elev. (ft): 5442.65
Total Well Depth (ft): 19.31

Water Quality Parameters - Recorded During Well Purging

Time	Temp (deg C)	Conductivity (µS) (mS)	DO (mg/L)	pH	ORP (mV)	PURGED VOLUME (see reverse for calc.)	Notes/Observations
1026	15.45	2.949	0.45	7.29	-231.2	0.25	
1030						SC	

Analytical Parameters (include analysis method and number and type of sample containers)

BTEX/MTBE and GRO/DRO -EPA 8021/8015 **(4) 40mL VOAs w/ HCl**; PAHs -EPA 8270 SIMs **(1) 1L Amber**;
Total RCRA Metals & Hardness **(1) 500mL HDPE w/ HNO3**; Dissolved Ca, Mg, K, Na **(1) 125mL HDPE w/ HNO3**;
Alk, Br, Cl, F, SO4 **(1) 500mL HDPE**; TDS **(1) 500mL HDPE**

Disposal of Purged Water:
Collected Samples Stored on Ice in Cooler:
Chain of Custody Record Complete:
Analytical Laboratory: Pinnacle Laboratories, Albuquerque, NM & Hall Environmental Analytical Laboratory, Albuquerque, NM
Equipment Used During Sampling: Keck Water Level, YSI Water Quality Meter, and New Disposable Bailer

Notes/Comments

If it is necessary to calculate the volume of the monitoring well to determine what volume of groundwater will need to be purged from the well prior to collecting the samples, use the following equation:

Well Volume = (h)(cf)

where:

h = height of water column (feet)
cf = gallons/foot based on well diameter shown below

The gallons/foot for common size monitoring wells are as follows:

Well Diameter (inches)	2"	3"	4"	6"	
Volume (gallons/foot)	0.1632	0.3672	0.6528	1.4688	

The well volume is typically tripled to determine the volume to be purged.

Show purge volume calculation below:

MONITORING WELL SAMPLING RECORD

Monitor Well No: MW-3

Animas Environmental Services
624 E. Comanche, Farmington NM 87401
Tel. (505) 564-2281 Fax (505) 324-2022

Site: Thriftway Refinery 810
Location: 626 CR 5500, Bloomfield, NM
Project: Annual Sampling
Sampling Technician: Nathan & Chad
Purge / No Purge:
Well Diameter (in): 2"
Initial D.T.W. (ft): 4.32 **Time:** 1105 *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): **Time:** *(taken prior to purging well)*
Final D.T.W. (ft): **Time:** *(taken after sample collection)*

Project No.: AES 050204
Date: 12-19-07
Arrival Time: 1104
Air Temp: 36°
T.O.C. Elev. (ft): 5431.43
Total Well Depth (ft):

Water Quality Parameters - Recorded During Well Purging

Time	Temp (deg C)	Conductivity (µS) (mS)	DO (mg/L)	pH	ORP (mV)	PURGED VOLUME (see reverse for calc.)	Notes/Observations

No Sample
Sheen

Analytical Parameters (include analysis method and number and type of sample containers)

BTEX/MTBE and GRO/DRO -EPA 8021/8015 **(4) 40mL VOAs w/ HCl**; PAHs -EPA 8270 SIMs **(1) 1L Amber**;
Total RCRA Metals & Hardness **(1) 500mL HDPE w/ HNO3**; Dissolved Ca, Mg, K, Na **(1) 125mL HDPE w/ HNO3**;
Alk, Br, Cl, F, SO4 **(1) 500mL HDPE**; TDS **(1) 500mL HDPE**

Disposal of Purged Water:
Collected Samples Stored on Ice in Cooler:
Chain of Custody Record Complete:
Analytical Laboratory: Pinnacle Laboratories, Albuquerque, NM & Hall Environmental Analytical Laboratory, Albuquerque, NM
Equipment Used During Sampling: Keck Water Level, YSI Water Quality Meter, and New Disposable Bailer

Notes/Comments

If it is necessary to calculate the volume of the monitoring well to determine what volume of groundwater will need to be purged from the well prior to collecting the samples, use the following equation:

Well Volume = (h)(cf)

where:

h = height of water column (feet)
cf = gallons/foot based on well diameter shown below

The gallons/foot for common size monitoring wells are as follows:

Well Diameter (inches)	2"	3"	4"	6"	
Volume (gallons/foot)	0.1632	0.3672	0.6528	1.4688	

The well volume is typically tripled to determine the volume to be purged.

Show purge volume calculation below:

MONITORING WELL SAMPLING RECORD

Monitor Well No: MW-5

Animas Environmental Services
624 E. Comanche, Farmington NM 87401
Tel. (505) 564-2281 Fax (505) 324-2022

Site: Thriftway Refinery 810
Location: 626 CR 5500, Bloomfield, NM
Project: Annual Sampling
Sampling Technician: Nathan & Chad
Purge / No Purge: Purge
Well Diameter (in): 2"
Initial D.T.W. (ft): _____ **Time:** _____ *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): _____ **Time:** _____ *(taken prior to purging well)*
Final D.T.W. (ft): _____ **Time:** _____ *(taken after sample collection)*

Project No.: AES 050204
Date: 12-18-07
Arrival Time: 1512
Air Temp: 45°
T.O.C. Elev. (ft): 5428.97
Total Well Depth (ft):

Water Quality Parameters - Recorded During Well Purging

Time	Temp (deg C)	Conductivity (µS) (mS)	DO (mg/L)	pH	ORP (mV)	PURGED VOLUME (see reverse for calc.)	Notes/Observations
		Sample					
	NO	Filled w/					
			Roots				

Analytical Parameters (include analysis method and number and type of sample containers)

BTEX/MTBE and GRO/DRO -EPA 8021/8015 **(4) 40mL VOAs w/ HCl**; PAHs -EPA 8270 SIMs **(1) 1L Amber**;
Total RCRA Metals & Hardness **(1) 500mL HDPE w/ HNO3**; Dissolved Ca, Mg, K, Na **(1) 125mL HDPE w/ HNO3**;
Alk, Br, Cl, F, SO4 **(1) 500mL HDPE**; TDS **(1) 500mL HDPE**

Disposal of Purged Water:
Collected Samples Stored on Ice in Cooler:
Chain of Custody Record Complete:
Analytical Laboratory: Pinnacle Laboratories, Albuquerque, NM & Hall Environmental Analytical Laboratory, Albuquerque, NM
Equipment Used During Sampling: Keck Water Level, YSI Water Quality Meter, and New Disposable Bailer

Notes/Comments Attempted to clear of Roots, was unsuccessful.

revised: 05/23/07

If it is necessary to calculate the volume of the monitoring well to determine what volume of groundwater will need to be purged from the well prior to collecting the samples, use the following equation:

Well Volume = (h)(cf)

where:

h = height of water column (feet)
cf = gallons/foot based on well diameter shown below

The gallons/foot for common size monitoring wells are as follows:

Well Diameter (inches)	2"	3"	4"	6"	
Volume (gallons/foot)	0.1632	0.3672	0.6528	1.4688	

The well volume is typically tripled to determine the volume to be purged.

Show purge volume calculation below:

MONITORING WELL SAMPLING RECORD

Monitor Well No: **MW-10**

Animas Environmental Services
624 E. Comanche, Farmington NM 87401
Tel. (505) 564-2281 Fax (505) 324-2022

Site: Thriftway Refinery 810
Location: 626 CR 5500, Bloomfield, NM
Project: Annual Sampling
Sampling Technician: Nathan + Chad
Purge / No Purge: Purge
Well Diameter (in): 2"
Initial D.T.W. (ft): 5.16 **Time:** 1422 *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): 5.16 **Time:** 1426 *(taken prior to purging well)*
Final D.T.W. (ft): **Time:** *(taken after sample collection)*

Project No.: AES 050204
Date: 12-18-07
Arrival Time: 1422
Air Temp: 45°
T.O.C. Elev. (ft): 5437.78
Total Well Depth (ft): 15.15

Water Quality Parameters - Recorded During Well Purging

Time	Temp (deg C)	Conductivity (µS) (mS)	DO (mg/L)	pH	ORP (mV)	PURGED VOLUME (see reverse for calc.)	Notes/Observations
1430	12.51	6.060	2.05	7.73	44.0	0.25	
1433	14.13	6.105	1.57	7.67	35.4	1.0	
1435	14.02	6.252	1.19	7.64	26.0	0.75	
1440						SC	

Analytical Parameters (include analysis method and number and type of sample containers)

BTEX/MTBE and GRO/DRO -EPA 8021/8015 **(4) 40mL VOAs w/ HCl**; PAHs -EPA 8270 SIMs **(1) 1L Amber**;
Total RCRA Metals & Hardness **(1) 500mL HDPE w/ HNO3**; Dissolved Ca, Mg, K, Na **(1) 125mL HDPE w/ HNO3**;
Alk, Br, Cl, F, SO4 **(1) 500mL HDPE**; TDS **(1) 500mL HDPE**

Disposal of Purged Water:
Collected Samples Stored on Ice in Cooler:
Chain of Custody Record Complete:
Analytical Laboratory: Pinnacle Laboratories, Albuquerque, NM & Hall Environmental Analytical Laboratory, Albuquerque, NM
Equipment Used During Sampling: Keck Water Level, YSI Water Quality Meter, and New Disposable Bailer

Notes/Comments

revised: 05/23/07

If it is necessary to calculate the volume of the monitoring well to determine what volume of groundwater will need to be purged from the well prior to collecting the samples, use the following equation:

Well Volume = (h)(cf)

where:

h = height of water column (feet)
cf = gallons/foot based on well diameter shown below

The gallons/foot for common size monitoring wells are as follows:

Well Diameter (inches)	2"	3"	4"	6"	
Volume (gallons/foot)	0.1632	0.3672	0.6528	1.4688	

The well volume is typically tripled to determine the volume to be purged.

Show purge volume calculation below:

MW - (15.15 - 5.16)(0.1632) = 1.63 = 4 gal

MONITORING WELL SAMPLING RECORD

Monitor Well No: **MW-12**

Animas Environmental Services
624 E. Comanche, Farmington NM 87401
Tel. (505) 564-2281 Fax (505) 324-2022

Site: Thriftway Refinery 810
Location: 626 CR 5500, Bloomfield, NM
Project: Annual Sampling
Sampling Technician: Nathan & Chad
Purge / No Purge:
Well Diameter (in): 2"
Initial D.T.W. (ft): NAPL 14.21 **Time:** 0925 *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): water 15.05 **Time:** *(taken prior to purging well)*
Final D.T.W. (ft): **Time:** *(taken after sample collection)*

Project No.: AES 050204
Date: 12-19-07
Arrival Time: 0925
Air Temp: 34°
T.O.C. Elev. (ft): 5446.09
Total Well Depth (ft):

Water Quality Parameters - Recorded During Well Purging

Time	Temp (deg C)	Conductivity (µS) (mS)	DO (mg/L)	pH	ORP (mV)	PURGED VOLUME (see reverse for calc.)	Notes/Observations
		No Sample					
		NAPL					

Analytical Parameters (include analysis method and number and type of sample containers)

BTEX/MTBE and GRO/DRO -EPA 8021/8015 **(4) 40mL VOAs w/ HCl**; PAHs -EPA 8270 SIMs **(1) 1L Amber**;
Total RCRA Metals & Hardness **(1) 500mL HDPE w/ HNO3**; Dissolved Ca, Mg, K, Na **(1) 125mL HDPE w/ HNO3**;
Alk, Br, Cl, F, SO4 **(1) 500mL HDPE**; TDS **(1) 500mL HDPE**

Disposal of Purged Water:
Collected Samples Stored on Ice in Cooler:
Chain of Custody Record Complete:
Analytical Laboratory: Pinnacle Laboratories, Albuquerque, NM & Hall Environmental Analytical Laboratory, Albuquerque, NM
Equipment Used During Sampling: Keck Water Level, YSI Water Quality Meter, and New Disposable Bailer

Notes/Comments

If it is necessary to calculate the volume of the monitoring well to determine what volume of groundwater will need to be purged from the well prior to collecting the samples, use the following equation:

Well Volume = (h)(cf)

where:

h = height of water column (feet)
cf = gallons/foot based on well diameter shown below

The gallons/foot for common size monitoring wells are as follows:

Well Diameter (inches)	2"	3"	4"	6"	
Volume (gallons/foot)	0.1632	0.3672	0.6528	1.4688	

The well volume is typically tripled to determine the volume to be purged.

Show purge volume calculation below:

MONITORING WELL SAMPLING RECORD

Monitor Well No: **MW-14**

Animas Environmental Services
624 E. Comanche, Farmington NM 87401
Tel. (505) 564-2281 Fax (505) 324-2022

Site: Thriftway Refinery 810
Location: 626 CR 5500, Bloomfield, NM
Project: Annual Sampling
Sampling Technician: Nathan + Chad
Purge / No Purge:
Well Diameter (in): 2"
Initial D.T.W. (ft): 12.72 **Time:** 0939 *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): **Time:** *(taken prior to purging well)*
Final D.T.W. (ft): **Time:** *(taken after sample collection)*

Project No.: AES 050204
Date: ~~0937~~ 12-19-07
Arrival Time: 0937
Air Temp: 34°
T.O.C. Elev. (ft): 5446.93
Total Well Depth (ft): 26.71

Water Quality Parameters - Recorded During Well Purging

Time	Temp (deg C)	Conductivity (µS) (mS)	DO (mg/L)	pH	ORP (mV)	PURGED VOLUME (see reverse for calc.)	Notes/Observations
0952	15.09	5.658	1.82	7.26	-54.0	0.5	
0955						5 C	

Analytical Parameters (include analysis method and number and type of sample containers)

BTEX/MTBE and GRO/DRO -EPA 8021/8015 **(4) 40mL VOAs w/ HCl**; PAHs -EPA 8270 SIMs **(1) 1L Amber**;
Total RCRA Metals & Hardness **(1) 500mL HDPE w/ HNO3**; Dissolved Ca, Mg, K, Na **(1) 125mL HDPE w/ HNO3**;
Alk, Br, Cl, F, SO4 **(1) 500mL HDPE**; TDS **(1) 500mL HDPE**

Disposal of Purged Water:
Collected Samples Stored on Ice in Cooler:
Chain of Custody Record Complete:
Analytical Laboratory: Pinnacle Laboratories, Albuquerque, NM & Hall Environmental Analytical Laboratory, Albuquerque, NM
Equipment Used During Sampling: Keck Water Level, YSI Water Quality Meter, and New Disposable Bailer

Notes/Comments

If it is necessary to calculate the volume of the monitoring well to determine what volume of groundwater will need to be purged from the well prior to collecting the samples, use the following equation:

Well Volume = (h)(cf)

where:

h = height of water column (feet)
cf = gallons/foot based on well diameter shown below

The gallons/foot for common size monitoring wells are as follows:

Well Diameter (inches)	2"	3"	4"	6"	
Volume (gallons/foot)	0.1632	0.3672	0.6528	1.4688	

The well volume is typically tripled to determine the volume to be purged.

Show purge volume calculation below:

$(21.71 - 12.72)(0.1632) = 1.47 \times 3 = 4.5$ gal

MONITORING WELL SAMPLING RECORD

Monitor Well No: MW-17

Animas Environmental Services
624 E. Comanche, Farmington NM 87401
Tel. (505) 564-2281 Fax (505) 324-2022

Site: Thriftway Refinery 810
Location: 626 CR 5500, Bloomfield, NM
Project: Annual Sampling
Sampling Technician: Nathan & Chad
Purge / No Purge:
Well Diameter (in): 2"
Initial D.T.W. (ft): 6.11 **Time:** 1054 *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): **Time:** *(taken prior to purging well)*
Final D.T.W. (ft): **Time:** *(taken after sample collection)*

Project No.: AES 050204
Date: 12-19-07
Arrival Time: 1050
Air Temp: 35°
T.O.C. Elev. (ft): 5435.20
Total Well Depth (ft): 17.64

Water Quality Parameters - Recorded During Well Purging

Time	Temp (deg C)	Conductivity (µS) (mS)	DO (mg/L)	pH	ORP (mV)	PURGED VOLUME (see reverse for calc.)	Notes/Observations

No Sample
NAPL

Analytical Parameters (include analysis method and number and type of sample containers)

BTEX/MTBE and GRO/DRO -EPA 8021/8015 **(4) 40mL VOAs w/ HCl**; PAHs -EPA 8270 SIMs **(1) 1L Amber**;
Total RCRA Metals & Hardness **(1) 500mL HDPE w/ HNO3**; Dissolved Ca, Mg, K, Na **(1) 125mL HDPE w/ HNO3**;
Alk, Br, Cl, F, SO4 **(1) 500mL HDPE**; TDS **(1) 500mL HDPE**

Disposal of Purged Water:
Collected Samples Stored on Ice in Cooler:
Chain of Custody Record Complete:
Analytical Laboratory: Pinnacle Laboratories, Albuquerque, NM & Hall Environmental Analytical Laboratory, Albuquerque, NM
Equipment Used During Sampling: Keck Water Level, YSI Water Quality Meter, and New Disposable Bailer

Notes/Comments

If it is necessary to calculate the volume of the monitoring well to determine what volume of groundwater will need to be purged from the well prior to collecting the samples, use the following equation:

Well Volume = (h)(cf)

where:

h = height of water column (feet)
cf = gallons/foot based on well diameter shown below

The gallons/foot for common size monitoring wells are as follows:

Well Diameter (inches)	2"	3"	4"	6"	
Volume (gallons/foot)	0.1632	0.3672	0.6528	1.4688	

The well volume is typically tripled to determine the volume to be purged.

Show purge volume calculation below:

MONITORING WELL SAMPLING RECORD

Monitor Well No: **MW-18**

Animas Environmental Services
624 E. Comanche, Farmington NM 87401
Tel. (505) 564-2281 Fax (505) 324-2022

Site: Thriftway Refinery 810
Location: 626 CR 5500, Bloomfield, NM
Project: Annual Sampling
Sampling Technician: Nathan & Chad
Purge / No Purge: Purge
Well Diameter (in): 2"
Initial D.T.W. (ft): 3.93 **Time:** 1528 *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): 3.93 **Time:** 1533 *(taken prior to purging well)*
Final D.T.W. (ft): **Time:** *(taken after sample collection)*

Project No.: AES 050204
Date: 12-18-07
Arrival Time: 1525
Air Temp: 65°
T.O.C. Elev. (ft): 5428.95
Total Well Depth (ft): 13.77

Water Quality Parameters - Recorded During Well Purging

Time	Temp (deg C)	Conductivity (µS) (mS)	DO (mg/L)	pH	ORP (mV)	PURGED VOLUME (see reverse for calc.)	Notes/Observations
1536	13.28	6.229	1.21	7.70	18.2	0.25	
1539	13.94	6.236	1.56	7.66	-39.2	1	
1544						SC	

Analytical Parameters (include analysis method and number and type of sample containers)

BTEX/MTBE and GRO/DRO -EPA 8021/8015 **(4) 40mL VOAs w/ HCl**; PAHs -EPA 8270 SIMs **(1) 1L Amber**;
Total RCRA Metals & Hardness **(1) 500mL HDPE w/ HNO3**; Dissolved Ca, Mg, K, Na **(1) 125mL HDPE w/ HNO3**;
Alk, Br, Cl, F, SO4 **(1) 500mL HDPE**; TDS **(1) 500mL HDPE**

Disposal of Purged Water:
Collected Samples Stored on Ice in Cooler:
Chain of Custody Record Complete:
Analytical Laboratory: Pinnacle Laboratories, Albuquerque, NM & Hall Environmental Analytical Laboratory, Albuquerque, NM
Equipment Used During Sampling: Keck Water Level, YSI Water Quality Meter, and New Disposable Bailer

Notes/Comments

If it is necessary to calculate the volume of the monitoring well to determine what volume of groundwater will need to be purged from the well prior to collecting the samples, use the following equation:

Well Volume = (h)(cf)

where:

h = height of water column (feet)
cf = gallons/foot based on well diameter shown below

The gallons/foot for common size monitoring wells are as follows:

Well Diameter (inches)	2"	3"	4"	6"	
Volume (gallons/foot)	0.1632	0.3672	0.6528	1.4688	

The well volume is typically tripled to determine the volume to be purged.

Show purge volume calculation below:

MW=(13.77-3.93)(0.1632) = 1.60 = 4 gal

MONITORING WELL SAMPLING RECORD

Monitor Well No: MW-20

Animas Environmental Services
624 E. Comanche, Farmington NM 87401
Tel. (505) 564-2281 Fax (505) 324-2022

Site: Thriftway Refinery 810 **Project No.:** AES 050204
Location: 626 CR 5500, Bloomfield, NM **Date:** 12-18-07
Project: Annual Sampling **Arrival Time:** 0934
Sampling Technician: Nathan Willis & Chad Dawson **Air Temp:** 32°
Purge / No Purge: Purge **T.O.C. Elev. (ft):** 5430.45
Well Diameter (in): 2" **Total Well Depth (ft):** 11.60
Initial D.T.W. (ft): 5.89 **Time:** 0935 *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): 5.89 **Time:** 0940 *(taken prior to purging well)*
Final D.T.W. (ft): **Time:** *(taken after sample collection)*

Water Quality Parameters - Recorded During Well Purging

Time	Temp (deg C)	Conductivity (µS) (mS)	DO (mg/L)	pH	ORP (mV)	PURGED VOLUME (see reverse for calc.)	Notes/Observations
0946	11.29	5.502	3.52	7.19	-85.8	0.25	
0949	12.10	5.621	2.89	7.05	-106.1	1	Low Yield
0952						SC	

Analytical Parameters (include analysis method and number and type of sample containers)

BTEX/MTBE and GRO/DRO -EPA 8021/8015 **(4) 40mL VOAs w/ HCl**; PAHs -EPA 8270 SIMs **(1) 1L Amber**;
Total RCRA Metals & Hardness **(1) 500mL HDPE w/ HNO3**; Dissolved Ca, Mg, K, Na **(1) 125mL HDPE w/ HNO3**;
Alk, Br, Cl, F, SO4 **(1) 500mL HDPE**; TDS **(1) 500mL HDPE**

Disposal of Purged Water:
Collected Samples Stored on Ice in Cooler:
Chain of Custody Record Complete:
Analytical Laboratory: Pinnacle Laboratories, Albuquerque, NM & Hall Environmental Analytical Laboratory, Albuquerque, NM
Equipment Used During Sampling: Keck Water Level, YSI Water Quality Meter, and New Disposable Bailer

Notes/Comments

If it is necessary to calculate the volume of the monitoring well to determine what volume of groundwater will need to be purged from the well prior to collecting the samples, use the following equation:

Well Volume = (h)(cf)

where:

h = height of water column (feet)
cf = gallons/foot based on well diameter shown below

The gallons/foot for common size monitoring wells are as follows:

Well Diameter (inches)	2"	3"	4"	6"	
Volume (gallons/foot)	0.1632	0.3672	0.6528	1.4688	

The well volume is typically tripled to determine the volume to be purged.

Show purge volume calculation below:

WV = (11.60 - 5.89) (0.1632) = 0.93 * 3 = 3 gal

MONITORING WELL SAMPLING RECORD

Monitor Well No: MW-21

Animas Environmental Services
624 E. Comanche, Farmington NM 87401
Tel. (505) 564-2281 Fax (505) 324-2022

Site: Thriftway Refinery 810
Location: 626 CR 5500, Bloomfield, NM
Project: Annual Sampling
Sampling Technician: Nathan & Chad
Purge / No Purge: Purge
Well Diameter (in): 2"
Initial D.T.W. (ft): 3.54 **Time:** ~~1030~~ 1030 *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): 3.54 **Time:** 1034 *(taken prior to purging well)*
Final D.T.W. (ft): **Time:** *(taken after sample collection)*

Project No.: AES 050204
Date: 12-18-07
Arrival Time: 1025
Air Temp: 36°
T.O.C. Elev. (ft): 5428.62
Total Well Depth (ft): 9.40

Water Quality Parameters - Recorded During Well Purging

Time	Temp (deg C)	Conductivity (µS) (mS)	DO (mg/L)	pH	ORP (mV)	PURGED VOLUME (see reverse for calc.)	Notes/Observations
1038	11.37	8.135	1.20	7.20	-76.8	0.25	
1040	12.37	8.080	0.68	7.14	-80.6	1.0	
1042	12.82	8.073	0.50	7.13	-80.3	1.0	
1044	12.90	8.043	0.62	7.12	-79.3	1.0	
1049						SC	

Analytical Parameters (include analysis method and number and type of sample containers)

BTEX/MTBE and GRO/DRO -EPA 8021/8015 **(4) 40mL VOAs w/ HCl**; PAHs -EPA 8270 SIMs **(1) 1L Amber**;
Total RCRA Metals & Hardness **(1) 500mL HDPE w/ HNO3**; Dissolved Ca, Mg, K, Na **(1) 125mL HDPE w/ HNO3**;
Alk, Br, Cl, F, SO4 **(1) 500mL HDPE**; TDS **(1) 500mL HDPE**

Disposal of Purged Water:
Collected Samples Stored on Ice in Cooler:
Chain of Custody Record Complete:
Analytical Laboratory: Pinnacle Laboratories, Albuquerque, NM & Hall Environmental Analytical Laboratory, Albuquerque, NM
Equipment Used During Sampling: Keck Water Level, YSI Water Quality Meter, and New Disposable Bailer

Notes/Comments

revised: 05/23/07

If it is necessary to calculate the volume of the monitoring well to determine what volume of groundwater will need to be purged from the well prior to collecting the samples, use the following equation:

Well Volume = (h)(cf)

where:

h = height of water column (feet)
cf = gallons/foot based on well diameter shown below

The gallons/foot for common size monitoring wells are as follows:

Well Diameter (inches)	2"	3"	4"	6"	
Volume (gallons/foot)	0.1632	0.3672	0.6528	1.4688	

The well volume is typically tripled to determine the volume to be purged.

Show purge volume calculation below:

$WV = (9.40 - 3.54)(0.1632) = 0.96 \times 3 = 3\,gal$

MONITORING WELL SAMPLING RECORD

Monitor Well No: MW-22

Animas Environmental Services
624 E. Comanche, Farmington NM 87401
Tel. (505) 564-2281 Fax (505) 324-2022

Site: Thriftway Refinery 810
Location: 626 CR 5500, Bloomfield, NM
Project: Annual Sampling
Sampling Technician: Nathan & Chad
Purge / No Purge:
Well Diameter (in): 2"

Project No.: AES 050204
Date: 12-18-07
Arrival Time: 1105
Air Temp: 40°
T.O.C. Elev. (ft): 5430.75
Total Well Depth (ft): 11.43

Initial D.T.W. (ft): 4.70 **Time:** 1107 *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): 4.70 **Time:** 1114 *(taken prior to purging well)*
Final D.T.W. (ft): **Time:** *(taken after sample collection)*

Water Quality Parameters - Recorded During Well Purging

Time	Temp (deg C)	Conductivity (µS) (mS)	DO (mg/L)	pH	ORP (mV)	PURGED VOLUME (see reverse for calc.)	Notes/Observations
1117	11.51	11.88	1.38	7.46	136.7	0.25	
1121	12.29	11.95	1.43	7.53	-135.5	0.5	Low Yeild
1335	—	—	—	—	—	SC	Let Recharge Before Sample

Analytical Parameters (include analysis method and number and type of sample containers)

BTEX/MTBE and GRO/DRO -EPA 8021/8015 **(4) 40mL VOAs w/ HCl**; PAHs -EPA 8270 SIMs **(1) 1L Amber**;
Total RCRA Metals & Hardness **(1) 500mL HDPE w/ HNO3**; Dissolved Ca, Mg, K, Na **(1) 125mL HDPE w/ HNO3**;
Alk, Br, Cl, F, SO4 **(1) 500mL HDPE**; TDS **(1) 500mL HDPE**

Disposal of Purged Water:
Collected Samples Stored on Ice in Cooler:
Chain of Custody Record Complete:
Analytical Laboratory: Pinnacle Laboratories, Albuquerque, NM & Hall Environmental Analytical Laboratory, Albuquerque, NM
Equipment Used During Sampling: Keck Water Level, YSI Water Quality Meter, and New Disposable Bailer

Notes/Comments

If it is necessary to calculate the volume of the monitoring well to determine what volume of groundwater will need to be purged from the well prior to collecting the samples, use the following equation:

Well Volume = (h)(cf)

where:

h = height of water column (feet)
cf = gallons/foot based on well diameter shown below

The gallons/foot for common size monitoring wells are as follows:

Well Diameter (inches)	2"	3"	4"	6"	
Volume (gallons/foot)	0.1632	0.3672	0.6528	1.4688	

The well volume is typically tripled to determine the volume to be purged.

Show purge volume calculation below:

WV = (11.43)(4.70)(0.1632) = 1.09 = 3 gal

MONITORING WELL SAMPLING RECORD

Monitor Well No: MW-29

Animas Environmental Services
624 E. Comanche, Farmington NM 87401
Tel. (505) 564-2281 Fax (505) 324-2022

Site: Thriftway Refinery 810
Location: 626 CR 5500, Bloomfield, NM
Project: Annual Sampling
Sampling Technician: Nathan & Chad
Purge / No Purge:
Well Diameter (in): 2"
Initial D.T.W. (ft): NAPL: 15.51 **Time:** 1134 *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): Water: 16.31 **Time:** *(taken prior to purging well)*
Final D.T.W. (ft): **Time:** *(taken after sample collection)*

Project No.: AES 050204
Date: 12-19-07
Arrival Time: 1130
Air Temp: 36°
T.O.C. Elev. (ft): 5447.94
Total Well Depth (ft):

Water Quality Parameters - Recorded During Well Purging

Time	Temp (deg C)	Conductivity (µS) (mS)	DO (mg/L)	pH	ORP (mV)	PURGED VOLUME (see reverse for calc.)	Notes/Observations
		No Sample					
		NAPL					

Analytical Parameters (include analysis method and number and type of sample containers)

BTEX/MTBE and GRO/DRO -EPA 8021/8015 **(4) 40mL VOAs w/ HCl**; PAHs -EPA 8270 SIMs **(1) 1L Amber**;
Total RCRA Metals & Hardness **(1) 500mL HDPE w/ HNO3**; Dissolved Ca, Mg, K, Na **(1) 125mL HDPE w/ HNO3**;
Alk, Br, Cl, F, SO4 **(1) 500mL HDPE**; TDS **(1) 500mL HDPE**

Disposal of Purged Water:
Collected Samples Stored on Ice in Cooler:
Chain of Custody Record Complete:
Analytical Laboratory: Pinnacle Laboratories, Albuquerque, NM & Hall Environmental Analytical Laboratory, Albuquerque, NM
Equipment Used During Sampling: Keck Water Level, YSI Water Quality Meter, and New Disposable Bailer

Notes/Comments

revised: 05/23/07

If it is necessary to calculate the volume of the monitoring well to determine what volume of groundwater will need to be purged from the well prior to collecting the samples, use the following equation:

Well Volume = (h)(cf)

where:

h = height of water column (feet)
cf = gallons/foot based on well diameter shown below

The gallons/foot for common size monitoring wells are as follows:

Well Diameter (inches)	2"	3"	4"	6"	
Volume (gallons/foot)	0.1632	0.3672	0.6528	1.4688	

The well volume is typically tripled to determine the volume to be purged.

Show purge volume calculation below:

MONITORING WELL SAMPLING RECORD

Monitor Well No: RW-24

Animas Environmental Services
624 E. Comanche, Farmington NM 87401
Tel. (505) 564-2281 Fax (505) 324-2022

Site: Thriftway Refinery 810
Location: 626 CR 5500, Bloomfield, NM
Project: Annual Sampling
Sampling Technician: Nathan & Chad
Purge / No Purge:
Well Diameter (in): 2"
Initial D.T.W. (ft): NAPL (15.88) **Time:** 17 *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): water **Time:** *(taken prior to purging well)*
Final D.T.W. (ft): **Time:** *(taken after sample collection)*

Project No.: AES 050204
Date: 12/19/07
Arrival Time:
Air Temp:
T.O.C. Elev. (ft): 5447.73
Total Well Depth (ft):

Water Quality Parameters - Recorded During Well Purging

Time	Temp (deg C)	Conductivity (µS) (mS)	DO (mg/L)	pH	ORP (mV)	PURGED VOLUME (see reverse for calc.)	Notes/Observations

NO Sample
NAPL

Analytical Parameters (include analysis method and number and type of sample containers)

BTEX/MTBE and GRO/DRO -EPA 8021/8015 **(4) 40mL VOAs w/ HCl**; PAHs -EPA 8270 SIMs **(1) 1L Amber**;
Total RCRA Metals & Hardness **(1) 500mL HDPE w/ HNO3**; Dissolved Ca, Mg, K, Na **(1) 125mL HDPE w/ HNO3**;
Alk, Br, Cl, F, SO4 **(1) 500mL HDPE**; TDS **(1) 500mL HDPE**

Disposal of Purged Water:
Collected Samples Stored on Ice in Cooler:
Chain of Custody Record Complete:
Analytical Laboratory: Pinnacle Laboratories, Albuquerque, NM & Hall Environmental Analytical Laboratory, Albuquerque, NM
Equipment Used During Sampling: Keck Water Level, YSI Water Quality Meter, and New Disposable Bailer

Notes/Comments

revised: 05/23/07

If it is necessary to calculate the volume of the monitoring well to determine what volume of groundwater will need to be purged from the well prior to collecting the samples, use the following equation:

Well Volume = (h)(cf)

where:

h = height of water column (feet)
cf = gallons/foot based on well diameter shown below

The gallons/foot for common size monitoring wells are as follows:

Well Diameter (inches)	2"	3"	4"	6"	
Volume (gallons/foot)	0.1632	0.3672	0.6528	1.4688	

The well volume is typically tripled to determine the volume to be purged.

Show purge volume calculation below:

MONITORING WELL SAMPLING RECORD

Monitor Well No: RW-26

Animas Environmental Services
624 E. Comanche, Farmington NM 87401
Tel. (505) 564-2281 Fax (505) 324-2022

Site: Thriftway Refinery 810
Location: 626 CR 5500, Bloomfield, NM
Project: Annual Sampling
Sampling Technician: Nathan & Chad
Purge / No Purge:
Well Diameter (in): 4"

Project No.: AES 050204
Date: 12-19-07
Arrival Time: 1120
Air Temp: 36°
T.O.C. Elev. (ft): 5443.98
Total Well Depth (ft):

Initial D.T.W. (ft): _____ **Time:** _____ *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): _____ **Time:** _____ *(taken prior to purging well)*
Final D.T.W. (ft): _____ **Time:** _____ *(taken after sample collection)*

Water Quality Parameters - Recorded During Well Purging

Time	Temp (deg C)	Conductivity (µS) (mS)	DO (mg/L)	pH	ORP (mV)	PURGED VOLUME (see reverse for calc.)	Notes/Observations

No Sample NAPL

Analytical Parameters (include analysis method and number and type of sample containers)

BTEX/MTBE and GRO/DRO -EPA 8021/8015 **(4) 40mL VOAs w/ HCl**; PAHs -EPA 8270 SIMs **(1) 1L Amber**;
Total RCRA Metals & Hardness **(1) 500mL HDPE w/ HNO3**; Dissolved Ca, Mg, K, Na **(1) 125mL HDPE w/ HNO3**;
Alk, Br, Cl, F, SO4 **(1) 500mL HDPE**; TDS **(1) 500mL HDPE**

Disposal of Purged Water:
Collected Samples Stored on Ice in Cooler:
Chain of Custody Record Complete:
Analytical Laboratory: Pinnacle Laboratories, Albuquerque, NM & Hall Environmental Analytical Laboratory, Albuquerque, NM
Equipment Used During Sampling: Keck Water Level, YSI Water Quality Meter, and New Disposable Bailer

Notes/Comments

If it is necessary to calculate the volume of the monitoring well to determine what volume of groundwater will need to be purged from the well prior to collecting the samples, use the following equation:

Well Volume = (h)(cf)

where:

h = height of water column (feet)
cf = gallons/foot based on well diameter shown below

The gallons/foot for common size monitoring wells are as follows:

Well Diameter (inches)	2"	3"	4"	6"	
Volume (gallons/foot)	0.1632	0.3672	0.6528	1.4688	

The well volume is typically tripled to determine the volume to be purged.

Show purge volume calculation below:

MONITORING WELL SAMPLING RECORD

Monitor Well No: MW-1

Animas Environmental Services
624 E. Comanche, Farmington NM 87401
Tel. (505) 564-2281 Fax (505) 324-2022

Site:	Thriftway Refinery 810	**Project No.:**	AES 050204
Location:	626 CR 5500, Bloomfield, NM	**Date:**	7-3-07 (7-5-07)
Project:	Annual Sampling	**Arrival Time:**	0915
Sampling Technician:	Mike Beauparlant	**Air Temp:**	Hot 1.1.
Purge / No Purge:		**T.O.C. Elev. (ft):**	5449.08
Well Diameter (in):		**Total Well Depth (ft):**	21'
Initial D.T.W. (ft):	15.25'	**Time:**	0930 *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft):	15.27'	**Time:**	0951 (7-5) *(taken prior to purging well)*
Final D.T.W. (ft):	15.29'	**Time:**	1010 *(taken after sample collection)*

Water Quality Parameters - Recorded During Well Purging

Time	Temp (deg C)	Conductivity (µS) (mS)	DO (mg/L)	pH	ORP (mV)	PURGED VOLUME (see reverse for calc.)	Notes/Observations
1000	16.8	3.137	2.00	7.1	-106.9	1.0	
1007	17.2	3.253	1.28	7.2	-91.3	2.8	
						(2.86 Gal)	
						(4.26 Gal.)	

Analytical Parameters (include analysis method and number and type of sample containers)

BTEX/MTBE only per EPA Method 8021
DRO/GRO per EPA Method 8015
(4 40 mL VOAs w/ HCL)

Disposal of Purged Water:
Collected Samples Stored on Ice in Cooler:
Chain of Custody Record Complete:
Analytical Laboratory: Pinnacle Laboratories, Albuquerque, NM
Equipment Used During Sampling: Keck Water Level, YSI Water Quality Meter, and New Disposable Bailer

Notes/Comments

revised: 05/23/07

If it is necessary to calculate the volume of the monitoring well to determine what volume of groundwater will need to be purged from the well prior to collecting the samples, use the following equation:

Well Volume = (h)(cf)

where:

h = height of water column (feet)
cf = gallons/foot based on well diameter shown below

The gallons/foot for common size monitoring wells are as follows:

Well Diameter (inches)	2"	3"	4"	6"
Volume (gallons/foot)	0.1632	0.3672	0.6528	1.4688

The well volume is typically tripled to determine the volume to be purged.

Show purge volume calculation below:

21' - 15.27' = 5.73

5.73 x .1632 = 0.94 Gal

0.94 x 3 = 2.86 Gal purge

MONITORING WELL SAMPLING RECORD

Monitor Well No: MW-2

Animas Environmental Services
624 E. Comanche, Farmington NM 87401
Tel. (505) 564-2281 Fax (505) 324-2022

Site: Thriftway Refinery 810
Location: 626 CR 5500, Bloomfield, NM
Project: Annual Sampling
Sampling Technician: Mike Beauparlant
Purge / No Purge:
Well Diameter (in): 2"
Initial D.T.W. (ft): 11.52' **Time:** 1009 *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): 11.51' **Time:** 1202 *(taken prior to purging well)*
Final D.T.W. (ft): 20.61' **Time:** 1229 *(taken after sample collection)*

Project No.: AES 050204
Date: 7-3-07
Arrival Time: 0900
Air Temp: 100+
T.O.C. Elev. (ft): 5442.65
Total Well Depth (ft): 21'

Water Quality Parameters - Recorded During Well Purging

Time	Temp (deg C)	Conductivity (µS) (mS)	DO (mg/L)	pH	ORP (mV)	PURGED VOLUME (see reverse for calc.)	Notes/Observations
1214	15.7	2.794	1.90	7.2	-129.0	1	
1225	15.8	3.080	0.21	7.2	-130.7	~~4~~ 2	Low Yield/Samp.
						~~8~~ ~~4.5~~	
						(~~8~~ 4.5)	

Analytical Parameters (include analysis method and number and type of sample containers)

BTEX/MTBE only per EPA Method 8021
DRO/GRO per EPA Method 8015
(4 40 mL VOAs w/ HCL)

Disposal of Purged Water:
Collected Samples Stored on Ice in Cooler:
Chain of Custody Record Complete:
Analytical Laboratory: Pinnacle Laboratories, Albuquerque, NM
Equipment Used During Sampling: Keck Water Level, YSI Water Quality Meter, and New Disposable Bailer

Notes/Comments

revised: 05/23/07

If it is necessary to calculate the volume of the monitoring well to determine what volume of groundwater will need to be purged from the well prior to collecting the samples, use the following equation:

Well Volume = (h)(cf)

where:

h = height of water column (feet)
cf = gallons/foot based on well diameter shown below

The gallons/foot for common size monitoring wells are as follows:

Well Diameter (inches)	2"	3"	4"	6"
Volume (gallons/foot)	0.1632	0.3672	0.6528	1.4688

The well volume is typically tripled to determine the volume to be purged.

Show purge volume calculation below:

21' − 11.51' = 9.50'

9.50' x .1632 1.56 gal.

1.5 x 3 = 4.56 gal.

MONITORING WELL SAMPLING RECORD

Monitor Well No: **MW-5**

Animas Environmental Services
624 E. Comanche, Farmington NM 87401
Tel. (505) 564-2281 Fax (505) 324-2022

Site:	Thriftway Refinery 810	**Project No.:**	AES 050204
Location:	626 CR 5500, Bloomfield, NM	**Date:**	7-3-07 (7-5-07)
Project:	Annual Sampling	**Arrival Time:**	
Sampling Technician:	Mike Beauparlant	**Air Temp:**	100°+
Purge / No Purge:		**T.O.C. Elev. (ft):**	5428.97
Well Diameter (in):	2"	**Total Well Depth (ft):**	8.61'
Initial D.T.W. (ft):	5.05' **Time:**	0942	*(taken at initial gauging of all wells)*
Confirm D.T.W. (ft):	5.07' **Time:**	1025	*(taken prior to purging well)*
Final D.T.W. (ft):	5.09 **Time:**	1041	*(taken after sample collection)*

Water Quality Parameters - Recorded During Well Purging

Time	Temp (deg C)	Conductivity (µS) (mS)	DO (mg/L)	pH	ORP (mV)	PURGED VOLUME (see reverse for calc.)	Notes/Observations
1031	16.7	4.535	1.39	7.66	-113.8	1.0	
1037	16.4	4.478	2.93	7.86	-115.1	1.07	
						1.76 gal.	

Analytical Parameters (include analysis method and number and type of sample containers)

BTEX/MTBE only per EPA Method 8021

DRO/GRO per EPA Method 8015

(4 40 mL VOAs w/ HCL)

Disposal of Purged Water:

Collected Samples Stored on Ice in Cooler:

Chain of Custody Record Complete:

Analytical Laboratory: Pinnacle Laboratories, Albuquerque, NM

Equipment Used During Sampling: Keck Water Level, YSI Water Quality Meter, and New Disposable Bailer

Notes/Comments

revised: 05/23/07

If it is necessary to calculate the volume of the monitoring well to determine what volume of groundwater will need to be purged from the well prior to collecting the samples, use the following equation:

Well Volume = (h)(cf)

where:

h = height of water column (feet)
cf = gallons/foot based on well diameter shown below

The gallons/foot for common size monitoring wells are as follows:

Well Diameter (inches)	2"	3"	4"	6"
Volume (gallons/foot)	0.1632	0.3672	0.6528	1.4688

The well volume is typically tripled to determine the volume to be purged.

Show purge volume calculation below:

8.6' - 5.07' = 3.53
3.53' x .1623 = 0.60al.
0.6 x 3 = 1.76al purge

MONITORING WELL SAMPLING RECORD

Monitor Well No: **MW-10**

Animas Environmental Services
624 E. Comanche, Farmington NM 87401
Tel. (505) 564-2281 Fax (505) 324-2022

Site:	Thriftway Refinery 810	**Project No.:**	AES 050204
Location:	626 CR 5500, Bloomfield, NM	**Date:**	7-3-07
Project:	Annual Sampling	**Arrival Time:**	
Sampling Technician:	Mike Beauparlant	**Air Temp:**	
Purge / No Purge:		**T.O.C. Elev. (ft):**	5437.78
Well Diameter (in):		**Total Well Depth (ft):**	15.01
Initial D.T.W. (ft):	5.62' **Time:**	1518	*(taken at initial gauging of all wells)*
Confirm D.T.W. (ft):	5.60' **Time:**	1201	*(taken prior to purging well)*
Final D.T.W. (ft):	6.51' **Time:**	1220	*(taken after sample collection)*

Water Quality Parameters - Recorded During Well Purging

Time	Temp (deg C)	Conductivity (µS) (mS)	DO (mg/L)	pH	ORP (mV)	PURGED VOLUME (see reverse for calc.)	Notes/Observations
1206	19.3	4.882	2.00	7.5	-121.9	0.5	
1211	15.97	5.150	1.20	7.5	-108.1	2.0	
1216	15.83	5.638	3.29	7.5	~~-78~~ -107.3	3.5	well drawing down / muddy sample
						(4.6)	

Analytical Parameters (include analysis method and number and type of sample containers)

BTEX/MTBE only per EPA Method 8021
DRO/GRO per EPA Method 8015
(4 40 mL VOAs w/ HCL)

Disposal of Purged Water:
Collected Samples Stored on Ice in Cooler:
Chain of Custody Record Complete:
Analytical Laboratory: Pinnacle Laboratories, Albuquerque, NM
Equipment Used During Sampling: Keck Water Level, YSI Water Quality Meter, and New Disposable Bailer

Notes/Comments

revised: 05/23/07

If it is necessary to calculate the volume of the monitoring well to determine what volume of groundwater will need to be purged from the well prior to collecting the samples, use the following equation:

Well Volume = (h)(cf)

where:

h = height of water column (feet)
cf = gallons/foot based on well diameter shown below

The gallons/foot for common size monitoring wells are as follows:

Well Diameter (inches)	2"	3"	4"	6"
Volume (gallons/foot)	0.1632	0.3672	0.6528	1.4688

The well volume is typically tripled to determine the volume to be purged.

Show purge volume calculation below:

15' - 5.60' = 9.4'
9.4 x 0.1632 = 1.5'
1.5 X 3 = 4.6 GAL

MONITORING WELL SAMPLING RECORD

Monitor Well No: MW-14

Animas Environmental Services
624 E. Comanche, Farmington NM 87401
Tel. (505) 564-2281 Fax (505) 324-2022

Site: Thriftway Refinery 810
Location: 626 CR 5500, Bloomfield, NM
Project: Annual Sampling
Sampling Technician: Mike Beauparlant
Purge / No Purge:
Well Diameter (in): 2"
Initial D.T.W. (ft): 12.48' **Time:** 0925 *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): 12.50' **Time:** 0922 7-5 *(taken prior to purging well)*
Final D.T.W. (ft): 16.75' **Time:** 0942 *(taken after sample collection)*

Project No.: AES 050204
Date: 7-3-07 (7-5-07)
Arrival Time:
Air Temp:
T.O.C. Elev. (ft): 5446.93
Total Well Depth (ft): 21'

Water Quality Parameters - Recorded During Well Purging

Time	Temp (deg C)	Conductivity (µS) (mS)	DO (mg/L)	pH	ORP (mV)	PURGED VOLUME (see reverse for calc.)	Notes/Observations
0931	15.4	2.365	1.27	7.1	-140.1	1.0	
0938	16.8	3.819	1.76	7.2	-125.1	2.0	Low Yield / Sample
						(4.26 gal.)	

Analytical Parameters (include analysis method and number and type of sample containers)

BTEX/MTBE only per EPA Method 8021
DRO/GRO per EPA Method 8015
(4 40 mL VOAs w/ HCL)

Disposal of Purged Water:
Collected Samples Stored on Ice in Cooler:
Chain of Custody Record Complete:
Analytical Laboratory: Pinnacle Laboratories, Albuquerque, NM
Equipment Used During Sampling: Keck Water Level, YSI Water Quality Meter, and New Disposable Bailer

Notes/Comments

revised: 05/23/07

If it is necessary to calculate the volume of the monitoring well to determine what volume of groundwater will need to be purged from the well prior to collecting the samples, use the following equation:

Well Volume = (h)(cf)

where:

h = height of water column (feet)
cf = gallons/foot based on well diameter shown below

The gallons/foot for common size monitoring wells are as follows:

Well Diameter (inches)	2"	3"	4"	6"
Volume (gallons/foot)	0.1632	0.3672	0.6528	1.4688

The well volume is typically tripled to determine the volume to be purged.

Show purge volume calculation below:

21' - 12.50' = 8.5'

8.5' x .1632 = 1.4Gal.

1.4 x 3 = 4.2Gal - purge

MONITORING WELL SAMPLING RECORD

Monitor Well No: MW-17

Animas Environmental Services
624 E. Comanche, Farmington NM 87401
Tel. (505) 564-2281 Fax (505) 324-2022

Site: Thriftway Refinery 810
Location: 626 CR 5500, Bloomfield, NM
Project: Annual Sampling
Sampling Technician: Mike Beauparlant
Purge / No Purge:
Well Diameter (in):
Initial D.T.W. (ft): 5.72 **Time:** 0955 *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): 5.77' **Time:** 1116 *(taken prior to purging well)*
Final D.T.W. (ft): 5.77' **Time:** 1120 *(taken after sample collection)*

Project No.: AES 050204
Date: 7-3-07 7-5-07
Arrival Time:
Air Temp: 100°+
T.O.C. Elev. (ft): 5435.20
Total Well Depth (ft): 12.5'

Water Quality Parameters - Recorded During Well Purging

Time	Temp (deg C)	Conductivity (µS) (mS)	DO (mg/L)	pH	ORP (mV)	PURGED VOLUME (see reverse for calc.)	Notes/Observations
						—	No Sample
							NAPL
						40	5.77 to 5.88

Analytical Parameters (include analysis method and number and type of sample containers)

BTEX/MTBE only per EPA Method 8021
DRO/GRO per EPA Method 8015
(4 40 mL VOAs w/ HCL)

Disposal of Purged Water:
Collected Samples Stored on Ice in Cooler:
Chain of Custody Record Complete:
Analytical Laboratory: Pinnacle Laboratories, Albuquerque, NM
Equipment Used During Sampling: Keck Water Level, YSI Water Quality Meter, and New Disposable Bailer

Notes/Comments

No Sample / NAPL

revised: 05/23/07

If it is necessary to calculate the volume of the monitoring well to determine what volume of groundwater will need to be purged from the well prior to collecting the samples, use the following equation:

Well Volume = (h)(cf)

where:

h = height of water column (feet)
cf = gallons/foot based on well diameter shown below

The gallons/foot for common size monitoring wells are as follows:

Well Diameter (inches)	2"	3"	4"	6"
Volume (gallons/foot)	0.1632	0.3672	0.6528	1.4688

The well volume is typically tripled to determine the volume to be purged.

Show purge volume calculation below:

12.5' - 5.77' = 6.73

6.73 x .1632 1.0

1.0 x 3 = 3Gal. Purge

MONITORING WELL SAMPLING RECORD

Monitor Well No: **MW-18**

Animas Environmental Services
624 E. Comanche, Farmington NM 87401
Tel. (505) 564-2281 Fax (505) 324-2022

Site: Thriftway Refinery 810
Location: 626 CR 5500, Bloomfield, NM
Project: Annual Sampling
Sampling Technician: Mike Beauparlant
Purge / No Purge:
Well Diameter (in):
Initial D.T.W. (ft): 3.75' **Time:** 0946 *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): 3.76' **Time:** 1047 *(taken prior to purging well)*
Final D.T.W. (ft): 11.84 **Time:** 1107 *(taken after sample collection)*

Project No.: AES 050204
Date: 7-3-07 7-5-07
Arrival Time:
Air Temp: 100°F
T.O.C. Elev. (ft): 5428.95
Total Well Depth (ft): 13.6'

Water Quality Parameters - Recorded During Well Purging

Time	Temp (deg C)	Conductivity (µS) (mS)	DO (mg/L)	pH	ORP (mV)	PURGED VOLUME (see reverse for calc.)	Notes/Observations
1055	16.7	5.089	1.40	7.44	-111.0	1	
1102	16.9	5.295	1.68	7.45	-114.6	2.0	Low yield / sampl.
						(4.8)	

Analytical Parameters (include analysis method and number and type of sample containers)

BTEX/MTBE only per EPA Method 8021
DRO/GRO per EPA Method 8015
(4 40 mL VOAs w/ HCL)

Disposal of Purged Water:
Collected Samples Stored on Ice in Cooler:
Chain of Custody Record Complete:
Analytical Laboratory: Pinnacle Laboratories, Albuquerque, NM
Equipment Used During Sampling: Keck Water Level, YSI Water Quality Meter, and New Disposable Bailer

Notes/Comments

revised: 05/23/07

If it is necessary to calculate the volume of the monitoring well to determine what volume of groundwater will need to be purged from the well prior to collecting the samples, use the following equation:

Well Volume = (h)(cf)

where:

h = height of water column (feet)
cf = gallons/foot based on well diameter shown below

The gallons/foot for common size monitoring wells are as follows:

Well Diameter (inches)	2"	3"	4"	6"
Volume (gallons/foot)	0.1632	0.3672	0.6528	1.4688

The well volume is typically tripled to determine the volume to be purged.

Show purge volume calculation below:

13.6' - 3.76' = 9.84'

9.84' x .1632 = 1.6 Gal.

1.6 x 3 = 4.8 Gal. purge.

MONITORING WELL SAMPLING RECORD

Monitor Well No: MW-20

Animas Environmental Services
624 E. Comanche, Farmington NM 87401
Tel. (505) 564-2281 Fax (505) 324-2022

Site: Thriftway Refinery 810
Location: 626 CR 5500, Bloomfield, NM
Project: Annual Sampling
Sampling Technician: Mike Beauparlant
Purge / No Purge:
Well Diameter (in): 2"

Project No.: AES 050204
Date: 7-2-07
Arrival Time:
Air Temp:
T.O.C. Elev. (ft): 5430.45
Total Well Depth (ft): 11.0'

Initial D.T.W. (ft): 5.72' **Time:** 1505 *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): 5.75' **Time:** 1125 7/3 *(taken prior to purging well)*
Final D.T.W. (ft): 5.80 **Time:** 1149 *(taken after sample collection)*

Water Quality Parameters - Recorded During Well Purging

Time	Temp (deg C)	Conductivity (µS) (mS)	DO (mg/L)	pH	ORP (mV)	PURGED VOLUME (see reverse for calc.)	Notes/Observations
1131	17.51	5.002	0.43	7.0	-104	0.5	
1134	16.07	4.726	1.42	7.0	-107	1.5	
1140	16.09	4.841	1.32	7.0	-102	2.6	Samp.
						(2.6 Gal)	~~2.6 Gal~~

Analytical Parameters (include analysis method and number and type of sample containers)

BTEX/MTBE only per EPA Method 8021
DRO/GRO per EPA Method 8015
(4 40 mL VOAs w/ HCL)

Disposal of Purged Water:
Collected Samples Stored on Ice in Cooler:
Chain of Custody Record Complete:
Analytical Laboratory: Pinnacle Laboratories, Albuquerque, NM
Equipment Used During Sampling: Keck Water Level, YSI Water Quality Meter, and New Disposable Bailer

Notes/Comments

revised: 05/23/07

If it is necessary to calculate the volume of the monitoring well to determine what volume of groundwater will need to be purged from the well prior to collecting the samples, use the following equation:

Well Volume = (h)(cf)

where:

h = height of water column (feet)
cf = gallons/foot based on well diameter shown below

The gallons/foot for common size monitoring wells are as follows:

Well Diameter (inches)	2"	3"	4"	6"
Volume (gallons/foot)	0.1632	0.3672	0.6528	1.4688

The well volume is typically tripled to determine the volume to be purged.

Show purge volume calculation below:

11.0 - 5.75' = 5.25'

5.25 x 0.1632 = 0.8568L

0.86 x 3 = 2.568L

MONITORING WELL SAMPLING RECORD

Monitor Well No: **MW-21**

Animas Environmental Services
624 E. Comanche, Farmington NM 87401
Tel. (505) 564-2281 Fax (505) 324-2022

Site: Thriftway Refinery 810 **Project No.:** AES 050204
Location: 626 CR 5500, Bloomfield, NM **Date:** 7-2-07
Project: Annual Sampling **Arrival Time:**
Sampling Technician: Mike Beauparlant **Air Temp:** 100+°F
Purge / No Purge: **T.O.C. Elev. (ft):** 5428.62
Well Diameter (in): 2" **Total Well Depth (ft):** 9.0'
Initial D.T.W. (ft): 3.54' **Time:** 1458 *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): 3.54 **Time:** 1056 (7-3) *(taken prior to purging well)*
Final D.T.W. (ft): 3.57 **Time:** 1119 *(taken after sample collection)*

Water Quality Parameters - Recorded During Well Purging

Time	Temp (deg C)	Conductivity (µS) (mS)	DO (mg/L)	pH	ORP (mV)	PURGED VOLUME (see reverse for calc.)	Notes/Observations
1103	19.35	9.346	1.50	7.0	-100.1	0.5	7/3/07
1106	18.88	9.023	0.96	7.0	-98.4	1.0	
1110	18.74°	9.066	0.86	7.0	-100.1	2.7	Sample
						(2.7)	~~2.7~~

Analytical Parameters (include analysis method and number and type of sample containers)

BTEX/MTBE only per EPA Method 8021
DRO/GRO per EPA Method 8015
(4 40 mL VOAs w/ HCL)

Disposal of Purged Water:
Collected Samples Stored on Ice in Cooler:
Chain of Custody Record Complete:
Analytical Laboratory: Pinnacle Laboratories, Albuquerque, NM
Equipment Used During Sampling: Keck Water Level, YSI Water Quality Meter, and New Disposable Bailer

Notes/Comments

revised: 05/23/07

If it is necessary to calculate the volume of the monitoring well to determine what volume of groundwater will need to be purged from the well prior to collecting the samples, use the following equation:

Well Volume = (h)(cf)

where:

h = height of water column (feet)
cf = gallons/foot based on well diameter shown below

The gallons/foot for common size monitoring wells are as follows:

Well Diameter (inches)	2"	3"	4"	6"
Volume (gallons/foot)	0.1632	0.3672	0.6528	1.4688

The well volume is typically tripled to determine the volume to be purged.

Show purge volume calculation below:

9.0 - 3.54' = 5.46
5.46 x 0.1632 = 0.891
.891 x 3 = 2.7 Gal.

MONITORING WELL SAMPLING RECORD

Monitor Well No: **MW-22**

Animas Environmental Services
624 E. Comanche, Farmington NM 87401
Tel. (505) 564-2281 Fax (505) 324-2022

Site: Thriftway Refinery 810
Location: 626 CR 5500, Bloomfield, NM
Project: Annual Sampling
Sampling Technician: Mike Beauparlant
Purge / No Purge:
Well Diameter (in): 2
Initial D.T.W. (ft): 4.99' **Time:** 1453 *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): 4.98 **Time:** 1030 (7/3) *(taken prior to purging well)*
Final D.T.W. (ft): 7.99 **Time:** 1050 *(taken after sample collection)*

Project No.: AES 050204
Date: 7-2-07
Arrival Time: 1430
Air Temp: 100°F +
T.O.C. Elev. (ft): 5430.75
Total Well Depth (ft): 11.0'

Water Quality Parameters - Recorded During Well Purging

Time	Temp (deg C)	Conductivity (µS) (mS)	DO (mg/L)	pH	ORP (mV)	PURGED VOLUME (see reverse for calc.)	Notes/Observations
1039	18.9	10.62	~~5.0~~ 0.42	7.2	-86.8	0.5	
1045	18.0	10.50	0.15	7.2	-91.0	1.0	Low Yield/Samp
							7-3-07

Analytical Parameters (include analysis method and number and type of sample containers)

BTEX/MTBE only per EPA Method 8021
DRO/GRO per EPA Method 8015
(4 40 mL VOAs w/ HCL)

Disposal of Purged Water:
Collected Samples Stored on Ice in Cooler:
Chain of Custody Record Complete:
Analytical Laboratory: Pinnacle Laboratories, Albuquerque, NM
Equipment Used During Sampling: Keck Water Level, YSI Water Quality Meter, and New Disposable Bailer

Notes/Comments

revised: 05/23/07

If it is necessary to calculate the volume of the monitoring well to determine what volume of groundwater will need to be purged from the well prior to collecting the samples, use the following equation:

Well Volume = (h)(cf)

where:

h = height of water column (feet)
cf = gallons/foot based on well diameter shown below

The gallons/foot for common size monitoring wells are as follows:

Well Diameter (inches)	2"	3"	4"	6"
Volume (gallons/foot)	0.1632	0.3672	0.6528	1.4688

The well volume is typically tripled to determine the volume to be purged.

Show purge volume calculation below:

11.0 - 4.98' = ~~6.982~~ = 6.0

~~0.982 x .1632~~

6.0 x .1632 = 0.982

0.982 x 3 = 3 Gal.

MONITORING WELL SAMPLING RECORD

Monitor Well No: **RW-26**

Animas Environmental Services
624 E. Comanche, Farmington NM 87401
Tel. (505) 564-2281 Fax (505) 324-2022

Site: Thriftway Refinery 810
Location: 626 CR 5500, Bloomfield, NM
Project: Annual Sampling
Sampling Technician: Mike Beauparlant
Purge / No Purge: Pump / Foltz
Well Diameter (in): 4"
Initial D.T.W. (ft): 14.24' **Time:** 1003 *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): 14.25' 7/5 **Time:** 1132 *(taken prior to purging well)*
Final D.T.W. (ft): 15.91 **Time:** 1200 *(taken after sample collection)*

Project No.: AES 050204
Date: 7-3-07 - 7-5-07
Arrival Time: 0900
Air Temp: 100°F
T.O.C. Elev. (ft): 5443.98
Total Well Depth (ft): 22.0'

Water Quality Parameters - Recorded During Well Purging

Time	Temp (deg C)	Conductivity (µS) (mS)	DO (mg/L)	pH	ORP (mV)	PURGED VOLUME (see reverse for calc.)	Notes/Observations
1133	18.0	4.235	0.67	7.0	-119.7	1	
1145	17.9	4.623	0.12	7.0	-128.1	10	
1158	17.9	5.031	0.07	7.0	-129.9	20	
						(21)	

Analytical Parameters (include analysis method and number and type of sample containers)

BTEX/MTBE only per EPA Method 8021
DRO/GRO per EPA Method 8015
(4 40 mL VOAs w/ HCL)

Disposal of Purged Water:
Collected Samples Stored on Ice in Cooler:
Chain of Custody Record Complete:
Analytical Laboratory: Pinnacle Laboratories, Albuquerque, NM
Equipment Used During Sampling: Keck Water Level, YSI Water Quality Meter, and New Disposable Bailer

Notes/Comments Purge w/ Foltz Pump

revised: 05/23/07

If it is necessary to calculate the volume of the monitoring well to determine what volume of groundwater will need to be purged from the well prior to collecting the samples, use the following equation:

Well Volume = (h)(cf)

where:

h = height of water column (feet)
cf = gallons/foot based on well diameter shown below

The gallons/foot for common size monitoring wells are as follows:

Well Diameter (inches)	2"	3"	4"	6"
Volume (gallons/foot)	0.1632	0.3672	0.6528	1.4688

The well volume is typically tripled to determine the volume to be purged.

Show purge volume calculation below:

22' - 11.52' = 10.48'

10.48 x .6528 = 7Gal

7 x 3 = 21 PURGE

DEPTH TO GROUNDWATER MEASUREMENT FORM

Animas Environmental Services
624 E. Comanche, Farmington NM 87401
Tel. (505) 564-2281 Fax (505) 324-2022

Project: Annual Sampling
Site: Thriftway Refinery 810
Location: 626 CR 5500, Bloomfield, NM
Tech: Mike Beauparlant

Project No.: AES 050204
Date: 7-2-07 - 7-5-07
Time: 1445
Form:

Well I.D.	Depth to NAPL (ft.)	Depth to Water (ft.)	NAPL Thickness (ft.)	Notes / Observations
MW-1		15.27'		
MW-2		11.51'		
MW-5		5.07'		
MW-10		5.60		
MW-14		12.50		
MW-17	5.77	5.78	.01	No Sample
MW-18		3.76		
MW-20		5.75'		
MW-21		~~4.98'~~ 3.54'		
MW-22		4.98		
RW-26		14.25		

Wells measured with KECK water level or KECK interface tape, decontaminated between each well measurement.

Pinnacle Laboratories Inc.

CHAIN OF CUSTODY

DATE: 6-25-07 PAGE: 1 OF 2

PLI Accession #:

SHADED AREAS ARE FOR LAB USE ONLY.

PLEASE FILL THIS FORM IN COMPLETELY.

PROJECT MANAGER: Gwen Frost

COMPANY: Animas Environmental Services

ADDRESS: 624 E. Comanche St.
Farmington, NM 87401

PHONE: (505) 564-2281

FAX:

BILL TO:

COMPANY: BioTech

ADDRESS:

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB I.D.	Petroleum Hydrocarbons (418.1) TRPH	(MOD.8015) Diesel/Direct Inject	8015 GRO/DRO	(M8015) Gas/Purge & Trap	8021 (BTEX)/8015 (Gasoline) MTBE	8021 (BTEX) MTBE ~~EDB DBCP~~	8021 (TCL)	8021 (EDX)	8021 (HALO)	8021 (CUST)	504.1 EDB ☐/DBCP ☐	8260 (TCL) Volatile Organics	8260 (Full) Volatile Organics ☐PBMS	8260 (CUST) Volatile Organics	8260 (Landfill) Volatile Organics	Pesticides/PCB (608/8081/8082)	Herbicides (615/8151)	Base/Neutral/Acid Compounds GC/MS (625/8270)	Polynuclear Aromatics (610/8310/8270-SIMS)	General Chemistry:	Priority Pollutant Metals (13)	Target Analyte List Metals (23)	RCRA Metals (8)	RCRA Metals by TCLP (Method1311)	Metals:	NUMBER OF CONTAINERS
MW-1	7-5-07	1007	H_2O				X			X																				4
MW-2	7-5-07	1225	H_2O				X			X																				4
MW-3	7-5-07	1037	H_2O				X			X																				4
MW-10	7-3-07	1216	H_2O				X			X																				4
MW-14	7-5-07	0938	H_2O				X			X																				4
~~MW-17~~			~~H_2O~~				~~X~~			~~X~~																				4
MW-18	7-5-07	1102	H_2O				X			X																				4
MW-21	7-3-07	1110	H_2O				X			X																				4
MW-20	7-3-07	1140	H_2O				X			X																				4
MW-22	7-3-07	1045	H_2O				X			X																				4

WEEKEND ANALYSES MAY RESULT IN AN ADDITIONAL SURCHARGE - PLEASE INQUIRE.

PROJECT INFORMATION

PROJ. NO.: 050204

PROJ. NAME: TW 810

P.O. NO.:

SHIPPED VIA:

SAMPLE RECEIPT

NO. CONTAINERS	
CUSTODY SEALS	Y / N / NA
RECEIVED INTACT	
BLUE ICE/ICE	

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

(RUSH) ☐24hr* ☐48hr* ☐72hr* ☐ 1 WEEK (NORMAL) ☒
*NOT AVAILABLE ON ALL ANALYSES

CERTIFICATION REQUIRED ☐ NM ☐ SDWA ☐ AZ ☐ OTHER

METHANOL PRESERVATION ☐ | METALS ☐ TOTAL ☐ DISSOLVED

COMMENTS:

RELINQUISHED BY: 1.

Signature: Time: 1400

Printed Name: M. Beauparlant Date: 7-5-07

Company: BioTech

See Reverse side (Force Majeure)

RECEIVED BY: 1

Signature: Time: 1400

Printed Name: Nathan Willis Date: 7-5-07

Company: AES

RELINQUISHED BY: 2.

Signature: Time: AK. 1520

Printed Name: Russ Kanemori Date: 7-5-07

Company:

RECEIVED BY: (LAB) 2.

Signature: Time:

Printed Name: Date:

Pinnacle Laboratories Inc.

Pinnacle Laboratories Inc.

CHAIN OF CUSTODY

DATE 6-25-07 PAGE: 2 OF 2

PLI Accession #:

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PLEASE FILL THIS FORM IN COMPLETELY.

PROJECT MANAGER: Gwen Frost

COMPANY: Animas Environmental Services
ADDRESS: 624 E. Comanche St.
Farmington, NM 87401
PHONE: (505) 564-2281
FAX:

BILL TO:
COMPANY: BioTech
ADDRESS:

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB I.D.	NUMBER OF CONTAINERS
RW-26	7/5/07	1158	H_2O		4
Trip Blank	6/25/07	1090	H_2O	AG	2

Petroleum Hydrocarbons (418.1) TRPH
(MOD.8015) Diesel/Direct Inject
8015 DRO/GRO X
(M8015) Gas/Purge & Trap
8021 (BTEX)/8015 (Gasoline) MTBE
8021 (BTEX) MTBE ~~EDB EDC~~ X X
8021 (TCL)
8021 (EDX)
8021 (HALO)
8021 (CUST)
504.1 EDB ☐/DBCP ☐
8260 (TCL) Volatile Organics
8260 (Full) Volatile Organics ☐PBMS
8260 (CUST) Volatile Organics
8260 (Landfill) Volatile Organics
Pesticides/PCB (608/8081/8082)
Herbicides (615/8151)
Base/Neutral/Acid Compounds GC/MS (625/8270)
Polynuclear Aromatics (610/8310/8270-SIMS)
General Chemistry:
Priority Pollutant Metals (13)
Target Analyte List Metals (23)
RCRA Metals (8)
RCRA Metals by TCLP (Method1311)
Metals:

WEEKEND ANALYSES MAY RESULT IN AN ADDITIONAL SURCHARGE - PLEASE INQUIRE.

PROJECT INFORMATION

PROJ. NO.: 050204
PROJ. NAME: TW810
P.O. NO.:
SHIPPED VIA:

SAMPLE RECEIPT

NO. CONTAINERS	
CUSTODY SEALS	Y / N / NA
RECEIVED INTACT	
BLUE ICE/ICE	

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

(RUSH) ☐24hr* ☐48hr* ☐72hr* ☐ 1 WEEK (NORMAL) ☒
*NOT AVAILABLE ON ALL ANALYSES

CERTIFICATION REQUIRED ☐ NM ☐ SDWA ☐ AZ ☐ OTHER

METHANOL PRESERVATION ☐ METALS ☐ TOTAL ☐ DISSOLVED

COMMENTS:

RELINQUISHED BY: 1.
Signature: Time: 1400
Printed Name: M. Beauregard Date: 7-5-07
Company: BioTech
See Reverse side (Force Majeure)

RECEIVED BY: 1.
Signature: Time: 1400
Printed Name: Nathan Willis Date: 7-5-07
Company: AES

RELINQUISHED BY: 2.
Signature: Time: 1520
Printed Name: Ross Kennemer Date: 7-5-07
Company:

RECEIVED BY: (LAB) 2.
Signature: Time:
Printed Name: Date:
Pinnacle Laboratories Inc.

PINNACLE LABS
Environmental Testing

Pinnacle Lab ID number **707034**
August 10, 2007

ANIMAS ENVIRONMENTAL SERVICES
624 EAST COMMANCHE
FARMINGTON, NM 87401

Project Name TW 810
Project Number 050204

Attention: GWEN FROST/MIKE BEAUPARLANT

On 07/06/2007 Pinnacle Laboratories Inc., (ADHS License No. AZ0643), received a request to analyze **aqueous** samples. The samples were analyzed with EPA methodology or equivalent methods. The results of these analyses and the quality control data, which follow each set of analyses, are enclosed.

If you have any questions or comments, please do not hesitate to contact us at (505) 344-3777.

H. Mitchell Rubenstein, Ph.D.
General Manager, Pinnacle Laboratories, Inc.

MR: jt

Enclosure

PINNACLE LABS
Environmental Testing

CLIENT	: ANIMAS ENVIRONMENTAL SERVICES	PINNACLE ID	: 707034
PROJECT #	: 050204	DATE RECEIVED	: 07/06/2007
PROJECT NAME	: TW 810	REPORT DATE	: 08/10/2007

PINNACLE ID #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
707034 - 01	MW-1	AQUEOUS	07/05/2007
707034 - 02	MW-2	AQUEOUS	07/05/2007
707034 - 03	MW-5	AQUEOUS	07/05/2007
707034 - 04	MW-10	AQUEOUS	07/03/2007
707034 - 05	MW-14	AQUEOUS	07/05/2007
707034 - 06	MW-18	AQUEOUS	07/05/2007
707034 - 07	MW-21	AQUEOUS	07/03/2007
707034 - 08	MW-20	AQUEOUS	07/03/2007
707034 - 09	MW-22	AQUEOUS	07/03/2007
707034 - 10	RW-26	AQUEOUS	07/05/2007
707034 - 11	TRIP BLANK	AQUEOUS	06/25/2007

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PINNACLE LABS
Environmental Testing

GAS CHROMATOGRAPHY RESULTS

TEST	: EPA 8021B / 8015B GRO		
CLIENT	: ANIMAS ENVIRONMENTAL SERVICES	PINNACLE I.D.	: 707034
PROJECT #	: 050204	ANALYST	: ARM
PROJECT NAME	: TW 810		

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
01	MW-1	AQUEOUS	07/05/07	NA	07/11/07	1
02	MW-2	AQUEOUS	07/05/07	NA	07/19/07	20
03	MW-5	AQUEOUS	07/05/07	NA	07/11/07	1

PARAMETER	DET. LIMIT	UNITS	MW-1	MW-2	MW-5
FUEL HYDROCARBONS	0.10	MG/L	**0.13**	**21**	**0.14**
HYDROCARBON RANGE			C6-C10	C6-C10	C6-C10
HYDROCARBONS QUANTITATED USING			GASOLINE	GASOLINE	GASOLINE
BENZENE	0.5	UG/L	**47**	**370**	**2.4**
TOLUENE	0.5	UG/L	< 0.5	**140**	< 0.5
ETHYLBENZENE	0.5	UG/L	< 0.5	**140**	**0.8**
TOTAL XYLENES	2.0	UG/L	< 2.0	**260**	< 2.0
METHYL-t-BUTYL ETHER	2.5	UG/L	**4.6 C2**	< 50.0	**28 C2**
SURROGATE:					
BROMOFLUOROBENZENE (%)			93	102	101
SURROGATE LIMITS	(80 - 120)				

CHEMIST NOTES:
C2 = CCV was less than established limits. Results may be biased low.

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PINNACLE LABS
Environmental Testing

GAS CHROMATOGRAPHY RESULTS

TEST : EPA 8021B / 8015B GRO
CLIENT : ANIMAS ENVIRONMENTAL SERVICES PINNACLE I.D. : 707034
PROJECT # : 050204 ANALYST : ARM
PROJECT NAME : TW 810

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
04	MW-10	AQUEOUS	07/03/07	NA	07/11/07	1
05	MW-14	AQUEOUS	07/05/07	NA	07/11/07	1
06	MW-18	AQUEOUS	07/05/07	NA	07/11/07	1

PARAMETER	DET. LIMIT	UNITS	MW-10	MW-14	MW-18
FUEL HYDROCARBONS	0.10	MG/L	**0.31**	**0.92**	**0.36**
HYDROCARBON RANGE			C6-C10	C6-C10	C6-C10
HYDROCARBONS QUANTITATED USING			GASOLINE	GASOLINE	GASOLINE
BENZENE	0.5	UG/L	**1.6**	**20**	**2.4**
TOLUENE	0.5	UG/L	< 0.5	**4.4**	**1.3**
ETHYLBENZENE	0.5	UG/L	**1.1**	**17**	**1.1**
TOTAL XYLENES	2.0	UG/L	**2.2**	**6.1**	**3.1**
METHYL-t-BUTYL ETHER	2.5	UG/L	< 2.5	**2.7 C2**	**32 C2**
SURROGATE:					
BROMOFLUOROBENZENE (%)			97	88	101
SURROGATE LIMITS	(80 - 120)				

CHEMIST NOTES:
C2 = CCV was less than established limits. Results may be biased low.

PINNACLE LABS
Environmental Testing

GAS CHROMATOGRAPHY RESULTS

TEST : EPA 8021B / 8015B GRO
CLIENT : ANIMAS ENVIRONMENTAL SERVICES PINNACLE I.D. : 707034
PROJECT # : 050204 ANALYST : ARM
PROJECT NAME : TW 810

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
07	MW-21	AQUEOUS	07/03/07	NA	07/11/07	1
08	MW-20	AQUEOUS	07/03/07	NA	07/11/07	2
09	MW-22	AQUEOUS	07/03/07	NA	07/11/07	1

PARAMETER	DET. LIMIT	UNITS	MW-21	MW-20	MW-22
FUEL HYDROCARBONS	0.10	MG/L	< 0.10	**0.34**	< 0.10
HYDROCARBON RANGE			C6-C10	C6-C10	C6-C10
HYDROCARBONS QUANTITATED USING			GASOLINE	GASOLINE	GASOLINE
BENZENE	0.5	UG/L	< 0.5	< 1.0	< 0.5
TOLUENE	0.5	UG/L	< 0.5	**4.0**	< 0.5
ETHYLBENZENE	0.5	UG/L	< 0.5	**1.7**	< 0.5
TOTAL XYLENES	2.0	UG/L	< 2.0	< 4.0	< 2.0
METHYL-t-BUTYL ETHER	2.5	UG/L	**39 C2**	**180 C2**	**13 C2**
SURROGATE:					
BROMOFLUOROBENZENE (%)			102	103	99
SURROGATE LIMITS	(80 - 120)				

CHEMIST NOTES:
C2 = CCV was less than established limits. Results may be biased low.

PINNACLE LABS
Environmental Testing

GAS CHROMATOGRAPHY RESULTS

TEST	: EPA 8021B / 8015B GRO		
CLIENT	: ANIMAS ENVIRONMENTAL SERVICES	PINNACLE I.D.	: 707034
PROJECT #	: 050204	ANALYST	: ARM
PROJECT NAME	: TW 810		

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
10	RW-26	AQUEOUS	07/05/07	NA	07/11/07	10
11	TRIP BLANK	AQUEOUS	06/25/07	NA	**07/11/07H1**	1

PARAMETER	DET. LIMIT	UNITS	RW-26	TRIP BLANK
FUEL HYDROCARBONS	0.10	MG/L	**5.6**	< 0.10
HYDROCARBON RANGE			C6-C10	C6-C10
HYDROCARBONS QUANTITATED USING			GASOLINE	GASOLINE
BENZENE	0.5	UG/L	**1000**	< 0.5
TOLUENE	0.5	UG/L	**27**	< 0.5
ETHYLBENZENE	0.5	UG/L	**78**	< 0.5
TOTAL XYLENES	2.0	UG/L	**420**	< 2.0
METHYL-t-BUTYL ETHER	2.5	UG/L	**66 C2**	< 2.5
SURROGATE:				
BROMOFLUOROBENZENE (%)			107	104
SURROGATE LIMITS	(80 - 120)			

CHEMIST NOTES:
C2 = CCV was less than established limits. Results may be biased low.
H1 = Trip Blank was run past the 14 day hold time.

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PINNACLE LABS
Environmental Testing

GAS CHROMATOGRAPHY RESULTS
REAGENT BLANK

TEST	: EPA 8021B / 8015B GRO	PINNACLE I.D.	: 707034
BLANK I.D.	: 071107B	DATE EXTRACTED	: NA
CLIENT	: ANIMAS ENVIRONMENTAL SERVICES	DATE ANALYZED	: 07/11/07
PROJECT #	: 050204	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: TW 810	ANALYST	: ARM

PARAMETER	UNITS	
FUEL HYDROCARBONS	MG/L	<0.10
HYDROCARBON RANGE		C6-C10
HYDROCARBONS QUANTITATED USING		GASOLINE
BENZENE	UG/L	<0.5
TOLUENE	UG/L	<0.5
ETHYLBENZENE	UG/L	<0.5
TOTAL XYLENES	UG/L	<2.0
METHYL-t-BUTYL ETHER	UG/L	<2.5
SURROGATE:		
BROMOFLUOROBENZENE (%)		99
SURROGATE LIMITS (80 - 120)		

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PINNACLE LABS
Environmental Testing

GAS CHROMATOGRAPHY RESULTS
REAGENT BLANK

TEST	: EPA 8021B / 8015B GRO	PINNACLE I.D.	: 707034
BLANK I.D.	: 071907B	DATE EXTRACTED	: NA
CLIENT	: ANIMAS ENVIRONMENTAL SERVICES	DATE ANALYZED	: 07/19/07
PROJECT #	: 050204	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: TW 810	ANALYST	:

PARAMETER	UNITS	
FUEL HYDROCARBONS	MG/L	<0.10
HYDROCARBON RANGE		C6-C10
HYDROCARBONS QUANTITATED USING		GASOLINE
BENZENE	UG/L	<0.5
TOLUENE	UG/L	<0.5
ETHYLBENZENE	UG/L	<0.5
TOTAL XYLENES	UG/L	<2.0
METHYL-t-BUTYL ETHER	UG/L	<2.5
SURROGATE:		
BROMOFLUOROBENZENE (%)		102
SURROGATE LIMITS (80 - 120)		

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PINNACLE LABS
Environmental Testing

GAS CHROMATOGRAPHY QUALITY CONTROL
LCS/LCSD

TEST	: EPA 8021B	PINNACLE I.D.	: 707034
BATCH ID	: 071107B	DATE EXTRACTED	: NA
CLIENT	: ANIMAS ENVIRONMENTAL SERVICES	DATE ANALYZED	: 07/11/07
PROJECT #	: 050204	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: TW 810	UNITS	: UG/L

PARAMETER	SAMPLE RESULT	CONC SPIKE	SPIKED SAMPLE	% REC	DUP SPIKE	DUP % REC	RPD	REC LIMITS	RPD LIMITS
BENZENE	<0.5	20.0	19.9	99	20.3	102	2	(80 - 120)	20
TOLUENE	<0.5	20.0	18.3	92	18.7	94	2	(80 - 120)	20
ETHYLBENZENE	<0.5	20.0	19.6	98	19.4	97	1	(80 - 120)	20
TOTAL XYLENES	<2.0	60.0	56.7	94	57.5	96	1	(80 - 120)	20
METHYL-t-BUTYL ETHER	<2.5	20.0	17.0	85	16.6 **C2**	83	3	(70 - 133)	20

CHEMIST NOTES:
C2 = CCV was less than established limits. Results may be biased low.

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative Percent Difference)} = \frac{(\text{Sample Result} - \text{Duplicate Result})}{\text{Average Result}} \times 100$$

PINNACLE LABS
Environmental Testing

GAS CHROMATOGRAPHY QUALITY CONTROL
LCS/LCSD

TEST	: EPA 8021B	PINNACLE I.D.	: 707034
BATCH ID	: 071907B	DATE EXRACTED	: NA
CLIENT	: ANIMAS ENVIRONMENTAL SERVICES	DATE ANALYZED	: 07/19/07
PROJECT #	: 050204	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: TW 810	UNITS	: UG/L

PARAMETER	SAMPLE RESULT	CONC SPIKE	SPIKED SAMPLE	% REC	DUP SPIKE	DUP % REC	RPD	REC LIMITS	RPD LIMITS
BENZENE	<0.5	20.0	21.3	107	21.6	108	1	(80 - 120)	20
TOLUENE	<0.5	20.0	18.6	93	19.2	96	3	(80 - 120)	20
ETHYLBENZENE	<0.5	20.0	19.9	100	20.4	102	2	(80 - 120)	20
TOTAL XYLENES	<2.0	60.0	57.1	95	58.5	97	2	(80 - 120)	20
METHYL-t-BUTYL ETHER	<2.5	20.0	15.5 **C2**	77	12.5 **C2**	62	22	(70 - 133)	20

CHEMIST NOTES:
C2 = CCV was less than established limits. Results may be biased low.

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative Percent Difference)} = \frac{(\text{Sample Result} - \text{Duplicate Result})}{\text{Average Result}} \times 100$$

PINNACLE LABS
Environmental Testing

GAS CHROMATOGRAPHY QUALITY CONTROL
MS/MSD

TEST	: EPA 8021B	PINNACLE I.D.	: 707034
SAMPLE ID	: 707034-04	DATE EXTRACTED	: NA
CLIENT	: ANIMAS ENVIRONMENTAL SERVICES	DATE ANALYZED	: 07/11/07
PROJECT #	: 050204	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: TW 810	UNITS	: UG/L

PARAMETER	SAMPLE RESULT	CONC SPIKE	SPIKED SAMPLE	% REC	DUP SPIKE	DUP % REC	RPD	REC LIMITS	RPD LIMITS
BENZENE	<0.5	20.0	21.0	105	20.1	101	4	(80 - 120)	20
TOLUENE	<0.5	20.0	18.6	93	18.6	93	0	(80 - 120)	20
ETHYLBENZENE	<0.5	20.0	19.5	97	19.4	97	0	(80 - 120)	20
TOTAL XYLENES	<2.0	60.0	57.8	96	57.7	96	0	(80 - 120)	20
METHYL-t-BUTYL ETHER	<2.5	20.0	13.0 **C2**	65	13.3 **C2**	67	2	(70 - 133)	20

CHEMIST NOTES:
C2 = CCV was less than established limits. Results may be biased low.

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative Percent Difference)} = \frac{(\text{Sample Result} - \text{Duplicate Result})}{\text{Average Result}} \times 100$$

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PINNACLE LABS
Environmental Testing

GAS CHROMATOGRAPHY QUALITY CONTROL
LCS/LCSD

TEST	: EPA 8015B GRO	PINNACLE I.D.	: 707034
BATCH ID	: 071107B	DATE EXTRACTED	: NA
CLIENT	: ANIMAS ENVIRONMENTAL SERVICES	DATE ANALYZED	: 07/11/07
PROJECT #	: 050204	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: TW 810	UNITS	: MG/L

PARAMETER	BLANK RESULT	CONC SPIKE	SPIKED SAMPLE	% REC	DUP SPIKE	DUP % REC	RPD	REC LIMITS	RPD LIMITS
FUEL HYDROCARBONS	<0.10	1.00	0.868	87	0.882	88	2	(70 - 130)	20
HYDROCARBON RANGE		C6-C10							

HYDROCARBONS QUANTITATED USING GASOLINE

Spike Concentration

$$\text{RPD (Relative Percent Difference)} = \frac{\text{(Sample Result - Duplicate Result)}}{\text{Average Result}} \times 100$$

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PINNACLE LABS
Environmental Testing

GAS CHROMATOGRAPHY QUALITY CONTROL
LCS/LCSD

TEST	: EPA 8015B GRO	PINNACLE I.D.	: 707034
BATCH ID	: 071907B	DATE EXRACTED	: NA
CLIENT	: ANIMAS ENVIRONMENTAL SERVICES	DATE ANALYZED	: 07/19/07
PROJECT #	: 050204	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: TW 810	UNITS	: MG/L

PARAMETER	BLANK RESULT	CONC SPIKE	SPIKED SAMPLE	% REC	DUP SPIKE	DUP % REC	RPD	REC LIMITS	RPD LIMITS
FUEL HYDROCARBONS	<0.10	1.00	0.935	94	0.933	93	0	(70 - 130)	20
HYDROCARBON RANGE		C6-C10							

HYDROCARBONS QUANTITATED USING GASOLINE

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative Percent Difference)} = \frac{(\text{Sample Result} - \text{Duplicate Result})}{\text{Average Result}} \times 100$$

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PINNACLE LABS
Environmental Testing

GAS CHROMATOGRAPHY QUALITY CONTROL
MS/MSD

TEST	: EPA 8015B GRO	PINNACLE I.D.	: 707034
SAMPLE ID	: 707034-04	DATE EXTRACTED	: NA
CLIENT	: ANIMAS ENVIRONMENTAL SERVICES	DATE ANALYZED	: 07/11/07
PROJECT #	: 050204	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: TW 810	UNITS	: MG/L

PARAMETER	SAMPLE RESULT	CONC SPIKE	SPIKED SAMPLE	% REC	DUP SPIKE	DUP % REC	RPD	REC LIMITS	RPD LIMITS
FUEL HYDROCARBONS	<0.10	1.00	0.905	91	0.914	91	1	(70 - 130)	20
HYDROCARBON RANGE		C6-C10							

HYDROCARBONS QUANTITATED USING GASOLINE

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative Percent Difference)} = \frac{(\text{Sample Result} - \text{Duplicate Result})}{\text{Average Result}} \times 100$$

PINNACLE LABS
Environmental Testing

GAS CHROMATOGRAPHY RESULTS

TEST	: EPA 8015 MODIFIED (DIRECT INJECT)		
CLIENT	: ANIMAS ENVIRONMENTAL SERVICES	PINNACLE I.D.	: 707034
PROJECT #	: 050204	ANALYST	: DRK
PROJECT NAME	: TW 810		

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
01	MW-1	AQUEOUS	07/05/2007	07/17/2007	07/20/2007	1
02	MW-2	AQUEOUS	07/05/2007	07/17/2007	07/20/2007	1
03	MW-5	AQUEOUS	07/05/2007	07/17/2007	07/20/2007	1

PARAMETER	DET. LIMIT	UNITS	MW-1	MW-2	MW-5
FUEL HYDROCARBONS, C10-C22	**1.0**	**MG/L**	< 1.0	**28**	< 1.0
FUEL HYDROCARBONS, C22-C36	**1.0**	**MG/L**	< 1.0	**8.8**	< 1.0
SURROGATE:					
O-TERPHENYL (%)			**163-S2**	111	129
SURROGATE LIMITS	(70-130)				

CHEMIST NOTES:
S2 = Surrogate does not meet PLI criteria - high.

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PINNACLE LABS
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GAS CHROMATOGRAPHY RESULTS

TEST : EPA 8015 MODIFIED (DIRECT INJECT)
CLIENT : ANIMAS ENVIRONMENTAL SERVICES PINNACLE I.D. : 707034
PROJECT # : 050204 ANALYST : DRK
PROJECT NAME : TW 810

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
04	MW-10	AQUEOUS	07/03/2007	07/17/2007	07/17/2007	1
05	MW-14	AQUEOUS	07/05/2007	07/17/2007	07/20/2007	1
06	MW-18	AQUEOUS	07/05/2007	07/17/2007	07/20/2007	1

PARAMETER	DET. LIMIT	UNITS	MW-10	MW-14	MW-18
FUEL HYDROCARBONS, C10-C22	1.0	MG/L	< 1.0	< 1.0	< 1.0
FUEL HYDROCARBONS, C22-C36	1.0	MG/L	< 1.0	< 1.0	< 1.0
SURROGATE:					
O-TERPHENYL (%)			86	126	116
SURROGATE LIMITS	(70-130)				

CHEMIST NOTES:
N/A

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PINNACLE LABS
Environmental Testing

GAS CHROMATOGRAPHY RESULTS

TEST : EPA 8015 MODIFIED (DIRECT INJECT)
CLIENT : ANIMAS ENVIRONMENTAL SERVICES PINNACLE I.D. : 707034
PROJECT # : 050204 ANALYST : DRK
PROJECT NAME : TW 810

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
07	MW-21	AQUEOUS	07/03/2007	07/17/2007	07/17/2007	1
08	MW-20	AQUEOUS	07/03/2007	07/17/2007	07/17/2007	1
09	MW-22	AQUEOUS	07/03/2007	07/17/2007	07/17/2007	1

PARAMETER	DET. LIMIT	UNITS	MW-21	MW-20	MW-22
FUEL HYDROCARBONS, C10-C22	1.0	MG/L	< 1.0	< 1.0	< 1.0
FUEL HYDROCARBONS, C22-C36	1.0	MG/L	< 1.0	< 1.0	< 1.0
SURROGATE:					
O-TERPHENYL (%)			82	79	76
SURROGATE LIMITS	(70-130)				

CHEMIST NOTES:
N/A

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GAS CHROMATOGRAPHY RESULTS

TEST	: EPA 8015 MODIFIED (DIRECT INJECT)		
CLIENT	: ANIMAS ENVIRONMENTAL SERVICES	PINNACLE I.D.	: 707034
PROJECT #	: 050204	ANALYST	: DRK
PROJECT NAME	: TW 810		

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
10	RW-26	AQUEOUS	07/05/2007	07/17/2007	07/20/2007	1

PARAMETER	DET. LIMIT	UNITS	RW-26
FUEL HYDROCARBONS, C10-C22	**1.0**	**MG/L**	**6.2**
FUEL HYDROCARBONS, C22-C36	1.0	MG/L	< 1.0
SURROGATE:			
O-TERPHENYL (%)			129
SURROGATE LIMITS	(70-130)		

CHEMIST NOTES:
N/A

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GAS CHROMATOGRAPHY RESULTS
EXTRACTION BLANK

TEST	: EPA 8015 MODIFIED (DIRECT INJECT)	PINNACLE I.D.	: 707034
BLANK I.D.	: 071707FW	DATE EXTRACTED	: 07/17/2007
CLIENT	: ANIMAS ENVIRONMENTAL SERVICES	DATE ANALYZED	: 07/17/2007
PROJECT #	: 050204	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: TW 810	ANALYST	: DRK

PARAMETER	UNITS	
FUEL HYDROCARBONS, C10-C22	MG/L	< 1.0
FUEL HYDROCARBONS, C22-C36	MG/L	< 1.0

SURROGATE:		
O-TERPHENYL (%)		**34-S1**
SURROGATE LIMITS	(70-130)	

CHEMIST NOTES:
S1 = Surrogate does not meet PLI criteria - low. Reanalysis on 07/20/07 was within criteria.

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Environmental Testing

GAS CHROMATOGRAPHY RESULTS
EXTRACTION BLANK

TEST	: EPA 8015 MODIFIED (DIRECT INJECT)	PINNACLE I.D.	: 707034
BLANK I.D.	: 071707FW	DATE EXTRACTED	: 07/17/2007
CLIENT	: ANIMAS ENVIRONMENTAL SERVICES	DATE ANALYZED	: 07/20/2007
PROJECT #	: 050204	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: TW 810	ANALYST	:

PARAMETER	UNITS	
FUEL HYDROCARBONS, C10-C22	MG/L	< 1.0
FUEL HYDROCARBONS, C22-C36	MG/L	< 1.0

SURROGATE:		
O-TERPHENYL (%)		108
SURROGATE LIMITS	(70-130)	

CHEMIST NOTES:
N/A

PINNACLE LABS
Environmental Testing

GAS CHROMATOGRAPHY QUALITY CONTROL
LCS/LCSD

TEST	: EPA 8015 MODIFIED (DIRECT INJECT)	PINNACLE I.D.	: 707034
BATCH ID	: 071707FW	DATE EXTRACTED	: 07/17/2007
CLIENT	: ANIMAS ENVIRONMENTAL SERVICES	DATE ANALYZED	: 07/20/2007
PROJECT #	: 050204	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: TW 810	UNITS	: MG/L

PARAMETER	BLANK RESULT	CONC SPIKE	SPIKED BLANK	% REC	DUP SPIKE	DUP % REC	RPD	REC LIMITS	RPD LIMITS
FUEL HYDROCARBONS	<1.0	20.0	15.4	77	18.6	93	19	(75-125)	20
HYDROCARBON RANGE		C10-C32							

HYDROCARBONS QUANTITATED USING DIESEL FUEL

CHEMIST NOTES:
N/A

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative Percent Difference)} = \frac{(\text{Sample Result} - \text{Duplicate Result})}{\text{Average Result}} \times 100$$

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GAS CHROMATOGRAPHY QUALITY CONTROL
MS/MSD

TEST	: EPA 8015 MODIFIED (DIRECT INJECT)	PINNACLE I.D.	: 707034
SAMPLE ID	: 707064-30	DATE EXTRACTED	: 07/17/2007
CLIENT	: ANIMAS ENVIRONMENTAL SERVICES	DATE ANALYZED	: 07/20/2007
PROJECT #	: 050204	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: TW 810	UNITS	: MG/L

PARAMETER	SAMPLE RESULT	CONC SPIKE	SPIKED SAMPLE	% REC	DUP SPIKE	DUP % REC	RPD	REC LIMITS	RPD LIMITS
FUEL HYDROCARBONS	<1.0	20.0	19.9	99	19.2	96	4	(70-130)	20
HYDROCARBON RANGE		C10-C32							

HYDROCARBONS QUANTITATED USING DIESEL FUEL

CHEMIST NOTES:
N/A

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative Percent Difference)} = \frac{(\text{Sample Result} - \text{Duplicate Result})}{\text{Average Result}} \times 100$$

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CHAIN OF CUSTODY

DATE: 6-25-07 PAGE: 1 OF 2

PLI Accession #: 707034

SHADED AREAS ARE FOR LAB USE ONLY.

PLEASE FILL THIS FORM IN COMPLETELY.

PROJECT MANAGER: Gwen Frost

COMPANY: Animas Environmental Services
ADDRESS: 624 E. Comanche St.
Farmington, NM 87401
PHONE: (505) 564-2281
FAX:
BILL TO:
COMPANY: BioTech
ADDRESS:

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB I.D.	Petroleum Hydrocarbons (418.1) TRPH	(MOD.8015) Diesel/Direct Inject	8015 GRO/DRO	(M8015) Gas/Purge & Trap	8021 (BTEX)/8015 (Gasoline) MTBE	8021 (BTEX) ☒MTBE ~~TMB PCE~~	8021 (TCL)	8021 (EDX)	8021 (HALO)	8021 (CUST)	504.1 EDB ☐/DBCP ☐	8260 (TCL) Volatile Organics	8260 (Full) Volatile Organics ☐PBMS	8260 (CUST) Volatile Organics	8260 (Landfill) Volatile Organics	Pesticides/PCB (608/8081/8082)	Herbicides (615/8151)	Base/Neutral/Acid Compounds GC/MS (625/8270)	Polynuclear Aromatics (610/8310/8270-SIMS)	General Chemistry:	Priority Pollutant Metals (13)	Target Analyte List Metals (23)	RCRA Metals (8)	RCRA Metals by TCLP (Method1311)	Metals:	NUMBER OF CONTAINERS
MW-1	7-5-07	1007	H_2O	01			X			X																				4
MW-2	7-5-07	1225	H_2O	02			X			X																				4
MW-5	7-5-07	1037	H_2O	03			X			X																				4
MW-10	7-3-07	1216	H_2O	04			X			X																				4
MW-14	7-5-07	0938	H_2O	05			X			X																				4
~~MW-17~~			~~H_2O~~	—			~~X~~			~~X~~																				~~4~~
MW-18	7-5-07	1102	H_2O	06			X			X																				4
MW-21	7-3-07	1110	H_2O	07			X			X																				4
MW-20	7-3-07	1140	H_2O	08			X			X																				4
MW-22	7-3-07	1045	H_2O	09			X			X																				4

WEEKEND ANALYSES MAY RESULT IN AN ADDITIONAL SURCHARGE - PLEASE INQUIRE.

PROJECT INFORMATION

PROJ. NO.: 050204
PROJ. NAME: TW 810
P.O. NO.:
SHIPPED VIA:

SAMPLE RECEIPT

NO CONTAINERS	36
CUSTODY SEALS	Y (N) NA
RECEIVED INTACT	Yes
(BLUE ICE)/ICE	1.3°C

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

(RUSH) ☐24hr* ☐48hr* ☐72hr* ☐ 1 WEEK (NORMAL) ☒
*NOT AVAILABLE ON ALL ANALYSES

CERTIFICATION REQUIRED ☐ NM ☐ SDWA ☐ AZ ☐ OTHER

METHANOL PRESERVATION ☐ METALS ☐ TOTAL ☐ DISSOLVED

COMMENTS:

RELINQUISHED BY: 1.
Signature: [signature] Time: 1400
Printed Name: M. Beauparlant Date: 7-5-07
Company: BioTech
See Reverse side (Force Majeure)

RECEIVED BY: 1.
Signature: [signature] Time: 1400
Printed Name: Nathan Willis Date: 7-5-07
Company: AES

RELINQUISHED BY: 2.
Signature: [signature] Time: 1520 RK
Printed Name: Ross Kennemer Date: 7-5-07
Company:

RECEIVED BY: (LAB) 2.
Signature: [signature] Time: 1000
Printed Name: T Hoxeyo Date: 7/6/07
Pinnacle Laboratories Inc.

July, 2003 PLI Inc.: Pinnacle Laboratories, Inc. • 2709-D Pan American Freeway, NE • Albuquerque, New Mexico 87107 • (505) 344-3777 • Fax (505) 344-4413 • E-mail: PIN_LAB@ATT.NET

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CHAIN OF CUSTODY

DATE 6-25-07 PAGE: 1 OF 2

PLI Acct. Set: 707034

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PLEASE FILL THIS FORM IN COMPLETELY.

PROJECT MANAGER: Gwen Frost

COMPANY: Animas Environmental Services
ADDRESS: 624 E. Comanche St.
Farmington, NM 87401
PHONE: (505) 564-2281
FAX:

BILL TO:
COMPANY: BioTech
ADDRESS:

SAMPLE ID	DATE	TIME	MATRIX	LAB I.D.
RW-26	7/5/07	1158	H_2O	10
Trip Blank	6/25/07	1050	H_2O	11

ANALYSIS REQUEST

Petroleum Hydrocarbons (418.1) TRPH	(MOD.8015) Diesel/Direct Inject	8015 DRO/GRO	(M8015) Gas/Purge & Trap	8021 (BTEX)/8015 (Gasoline) MTBE	8021 (BTEX) MTBE ~~EDB~~ EDC/E	8021 (TCL)	8021 (EDX)	8021 (HALO)	8021 (CUST)	504.1 EDB ☐/DBCP ☐	8260 (TCL) Volatile Organics	8260 (Full) Volatile Organics ☐PBMS	8260 (CUST) Volatile Organics	8260 (Landfill) Volatile Organics	Pesticides/PCB (608/8081/8082)	Herbicides (615/8151)	Base/Neutral/Acid Compounds GC/MS (625/8270)	Polynuclear Aromatics (610/8310/8270-SIMS)	General Chemistry:	Priority Pollutant Metals (13)	Target Analyte List Metals (23)	RCRA Metals (8)	RCRA Metals by TCLP (Method1311)	Metals:	NUMBER OF CONTAINERS
		X			X																				2
					X																				1

WEEKEND ANALYSES MAY RESULT IN AN ADDITIONAL SURCHARGE - PLEASE INQUIRE.

PROJECT INFORMATION

PROJ. NO.: 050204
PROJ. NAME: TW810
P.O. NO.:
SHIPPED VIA:

SAMPLE RECEIPT

NO CONTAINERS	8
CUSTODY SEALS	Y N NA
RECEIVED INTACT	Y
BLUE ICE/ICE	1.3°

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

(RUSH) ☐24hr* ☐48hr* ☐72hr* ☐1 WEEK (NORMAL) ☒
*NOT AVAILABLE ON ALL ANALYSES

CERTIFICATION REQUIRED ☐ NM ☐ SDWA ☐ AZ ☐ OTHER

METHANOL PRESERVATION ☐ | METALS ☐ TOTAL ☐ DISSOLVED

COMMENTS:

RELINQUISHED BY: 1
Signature: Time: 1400
Printed Name: M. Beauregard Date: 7-5-07
Company: BioTech
See Reverse side (Force Majeure)

RECEIVED BY: 1
Signature: Time: 1400
Printed Name: Nathan Willis Date: 7-5-07
Company: AES

RELINQUISHED BY: 2
Signature: Time: 1520
Printed Name: Ross Kennemer Date: 7-5-07
Company:

RECEIVED BY: (LAB) 2
Signature: Time: 1000
Printed Name: T. Hovey Date: 7/6/07
Pinnacle Laboratories Inc.

PINNACLE LABS
Environmental Testing

Pinnacle Lab ID number **712206**
January 17, 2008

ANIMAS ENVIRONMENTAL SERVICES
624 EAST COMMANCHE
FARMINGTON, NM 87401

Project Name TW 810 REFINERY
Project Number AES 050204

Attention: ROSS KENNEMER/MIKE BEAUPARLANT

On 12/20/2007 Pinnacle Laboratories Inc., (ADHS License No. AZ0643), received a request to analyze **aqueous** samples. The samples were analyzed with EPA methodology or equivalent methods. The results of these analyses and the quality control data, which follow each set of analyses, are enclosed.

EPA Methods 8021 and 8015 analyses were performed by Pinnacle Laboratories, Inc. (PLI).

All remaining analyses were performed by Flowers Chemical Laboratories, Inc. (FCL), Altamonte Springs, FL.

If you have any questions or comments, please do not hesitate to contact us at (505) 344-3777.

H. Mitchell Rubenstein, Ph.D.
General Manager, Pinnacle Laboratories, Inc.

MR: jt

Enclosure

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PINNACLE LABS
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CLIENT	: ANIMAS ENVIRONMENTAL SERVICES	PINNACLE ID	: 712206
PROJECT #	: AES 050204	DATE RECEIVED	: 12/20/2007
PROJECT NAME	: TW 810 REFINERY	REPORT DATE	: 01/17/2008

PINNACLE ID #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
712206 - 01	MW-20	AQUEOUS	12/18/2007
712206 - 02	MW-21	AQUEOUS	12/18/2007
712206 - 03	MW-22	AQUEOUS	12/18/2007
712206 - 04	MW-10	AQUEOUS	12/18/2007
712206 - 05	MW-18	AQUEOUS	12/18/2007
712206 - 06	MW-1	AQUEOUS	12/18/2007
712206 - 07	MW-14	AQUEOUS	12/19/2007
712206 - 08	MW-2	AQUEOUS	12/19/2007

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PINNACLE LABS
Environmental Testing

GAS CHROMATOGRAPHY RESULTS

TEST : EPA 8021B / 8015B GRO
CLIENT : ANIMAS ENVIRONMENTAL SERVICES PINNACLE I.D. : 712206
PROJECT # : AES 050204 ANALYST : DRK
PROJECT NAME : TW 810 REFINERY

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
01	MW-20	AQUEOUS	12/18/07	NA	01/01/08	1
02	MW-21	AQUEOUS	12/18/07	NA	01/01/08	1
03	MW-22	AQUEOUS	12/18/07	NA	01/01/08	1

PARAMETER	DET. LIMIT	UNITS	MW-20	MW-21	MW-22
FUEL HYDROCARBONS	**0.10**	**MG/L**	**0.52**	< 0.10	< 0.10
HYDROCARBON RANGE			C6-C10	C6-C10	C6-C10
HYDROCARBONS QUANTITATED USING			GASOLINE	GASOLINE	GASOLINE
BENZENE	0.5	UG/L	< 0.5	< 0.5	< 0.5
TOLUENE	**0.5**	**UG/L**	**8.3**	< 0.5	< 0.5
ETHYLBENZENE	0.5	UG/L	< 0.5	< 0.5	< 0.5
TOTAL XYLENES	**2.0**	**UG/L**	**3.6**	< 2.0	< 2.0
METHYL-t-BUTYL ETHER	**2.5**	**UG/L**	**360 D5**	**79 D2**	**17 D2**
SURROGATE:					
BROMOFLUOROBENZENE (%)			105	105	108
SURROGATE LIMITS	(80 - 120)				

CHEMIST NOTES:
D2 = Reported from a 2X dilution run on 01/01/08 using GCMS-2.
D5 = Reported from a 5X dilution run on 01/01/08 using GCMS-2.

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PINNACLE LABS
Environmental Testing

GAS CHROMATOGRAPHY RESULTS

TEST : EPA 8021B / 8015B GRO
CLIENT : ANIMAS ENVIRONMENTAL SERVICES PINNACLE I.D. : 712206
PROJECT # : AES 050204 ANALYST : DRK
PROJECT NAME : TW 810 REFINERY

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
04	MW-10	AQUEOUS	12/18/07	NA	01/01/08	1
05	MW-18	AQUEOUS	12/18/07	NA	01/01/08	1
06	MW-1	AQUEOUS	12/18/07	NA	01/01/08	5

PARAMETER	DET. LIMIT	UNITS	MW-10	MW-18	MW-1
FUEL HYDROCARBONS	0.10	MG/L	< 0.10	< 0.10	< 0.50
HYDROCARBON RANGE			C6-C10	C6-C10	C6-C10
HYDROCARBONS QUANTITATED USING			GASOLINE	GASOLINE	GASOLINE
BENZENE	**0.5**	**UG/L**	**0.5**	**0.6**	**17**
TOLUENE	0.5	UG/L	< 0.5	< 0.5	< 2.5
ETHYLBENZENE	0.5	UG/L	< 0.5	< 0.5	< 2.5
TOTAL XYLENES	2.0	UG/L	< 2.0	< 2.0	< 10
METHYL-t-BUTYL ETHER	**2.5**	**UG/L**	< 2.5	**82 D2**	< 13
SURROGATE:					
BROMOFLUOROBENZENE (%)			105	104	113
SURROGATE LIMITS	(80 - 120)				

CHEMIST NOTES:
D2 = Reported from a 2X dilution run on 01/01/08 using GCMS-2.

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PINNACLE LABS
Environmental Testing

GAS CHROMATOGRAPHY RESULTS

TEST : EPA 8021B / 8015B GRO
CLIENT : ANIMAS ENVIRONMENTAL SERVICES PINNACLE I.D. : 712206
PROJECT # : AES 050204 ANALYST : DRK
PROJECT NAME : TW 810 REFINERY

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
07	MW-14	AQUEOUS	12/19/07	NA	01/01/08	2
08	MW-2	AQUEOUS	12/19/07	NA	01/01/08	5

PARAMETER	DET. LIMIT	UNITS	MW-14	MW-2
FUEL HYDROCARBONS	**0.10**	**MG/L**	**0.65**	**4.3**
HYDROCARBON RANGE			C6-C10	C6-C10
HYDROCARBONS QUANTITATED USING			GASOLINE	GASOLINE
BENZENE	**0.5**	**UG/L**	**16**	**730**
TOLUENE	**0.5**	**UG/L**	**3.3**	**13**
ETHYLBENZENE	**0.5**	**UG/L**	**15**	**150**
TOTAL XYLENES	**2.0**	**UG/L**	**< 4.0**	**78**
METHYL-t-BUTYL ETHER	**2.5**	**UG/L**	**6.7 D2**	**67 D5**
SURROGATE:				
BROMOFLUOROBENZENE (%)			97	111
SURROGATE LIMITS	(80 - 120)			

CHEMIST NOTES:
D2 = Reported from a 2X dilution run on 01/01/08 using GCMS-2.
D5 = Reported from a 5X dilution run on 01/01/08 using GCMS-2.

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PINNACLE LABS
Environmental Testing

GAS CHROMATOGRAPHY RESULTS
METHOD BLANK

TEST	: EPA 8021B / 8015B GRO	PINNACLE I.D.	: 712206
BLANK I.D.	: 123107B2	DATE EXTRACTED	: NA
CLIENT	: ANIMAS ENVIRONMENTAL SERVICES	DATE ANALYZED	: 12/31/07
PROJECT #	: AES 050204	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: TW 810 REFINERY	ANALYST	: DRK

PARAMETER	UNITS	
FUEL HYDROCARBONS	MG/L	<0.10
HYDROCARBON RANGE		C6-C10
HYDROCARBONS QUANTITATED USING		GASOLINE
BENZENE	UG/L	<0.5
TOLUENE	UG/L	<0.5
ETHYLBENZENE	UG/L	<0.5
TOTAL XYLENES	UG/L	<2.0
METHYL-t-BUTYL ETHER	UG/L	<2.5
SURROGATE:		
BROMOFLUOROBENZENE (%)		103
SURROGATE LIMITS (80 - 120)		

CHEMIST NOTES:
N/A

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PINNACLE LABS
Environmental Testing

GAS CHROMATOGRAPHY QUALITY CONTROL
LCS/LCSD

TEST	: EPA 8021B	PINNACLE I.D.	: 712206
BATCH ID	: 123107B2	DATE EXTRACTED	: NA
CLIENT	: ANIMAS ENVIRONMENTAL SERVICES	DATE ANALYZED	: 12/31/07
PROJECT #	: AES 050204	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: TW 810 REFINERY	UNITS	: UG/L

PARAMETER	SAMPLE RESULT	CONC SPIKE	SPIKED SAMPLE	% REC	DUP SPIKE	DUP % REC	RPD	REC LIMITS	RPD LIMITS
BENZENE	<0.5	20.0	18.8	94	18.8	94	0	(80 - 120)	20
TOLUENE	<0.5	20.0	20.3	102	20.3	102	0	(80 - 120)	20
ETHYLBENZENE	<0.5	20.0	21.0	105	21.3	106	1	(80 - 120)	20
TOTAL XYLENES	<2.0	60.0	63.6	106	64.2	107	1	(80 - 120)	20
METHYL-t-BUTYL ETHER	<2.5	20.0	15.4	77	20.7	104	**30 M3**	(70 - 133)	20

CHEMIST NOTES:
M3 = RPD is outside of PLI criteria.

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative Percent Difference)} = \frac{(\text{Sample Result} - \text{Duplicate Result})}{\text{Average Result}} \times 100$$

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PINNACLE LABS
Environmental Testing

GAS CHROMATOGRAPHY QUALITY CONTROL
MS/MSD

TEST	: EPA 8021B	PINNACLE I.D.	: 712206
SAMPLE ID	: 712206-04	DATE EXTRACTED	: NA
CLIENT	: ANIMAS ENVIRONMENTAL SERVICES	DATE ANALYZED	: 01/01/08
PROJECT #	: AES 050204	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: TW 810 REFINERY	UNITS	: UG/L

PARAMETER	SAMPLE RESULT	CONC SPIKE	SPIKED SAMPLE	% REC	DUP SPIKE	DUP % REC	RPD	REC LIMITS	RPD LIMITS
BENZENE	**0.5**	20.0	19.4	94	18.7	91	4	(80 - 120)	20
TOLUENE	<0.5	20.0	20.9	104	20.4	102	2	(80 - 120)	20
ETHYLBENZENE	<0.5	20.0	21.3	106	20.8	104	2	(80 - 120)	20
TOTAL XYLENES	<2.0	60.0	64.4	107	63.1	105	2	(80 - 120)	20
METHYL-t-BUTYL ETHER	<2.5	20.0	16.9	85	17.1	86	1	(70 - 133)	20

CHEMIST NOTES:
N/A

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative Percent Difference)} = \frac{(\text{Sample Result} - \text{Duplicate Result})}{\text{Average Result}} \times 100$$

PINNACLE LABS
Environmental Testing

GAS CHROMATOGRAPHY QUALITY CONTROL
LCS/LCSD

TEST	: EPA 8015B GRO	PINNACLE I.D.	: 712206
BATCH ID	: 123107B2	DATE EXTRACTED	: NA
CLIENT	: ANIMAS ENVIRONMENTAL SERVICES	DATE ANALYZED	: 12/31/07
PROJECT #	: AES 050204	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: TW 810 REFINERY	UNITS	: UG/L

PARAMETER	BLANK RESULT	CONC SPIKE	SPIKED SAMPLE	% REC	DUP SPIKE	DUP % REC	RPD	REC LIMITS	RPD LIMITS
FUEL HYDROCARBONS	<100	1000	1070	107	994	99	7	(70 - 130)	20
HYDROCARBON RANGE		C6-C10							

HYDROCARBONS QUANTITATED USING GASOLINE

CHEMIST NOTES:
N/A

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative Percent Difference)} = \frac{(\text{Sample Result} - \text{Duplicate Result})}{\text{Average Result}} \times 100$$

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PINNACLE Labs
Environmental Testing

GAS CHROMATOGRAPHY QUALITY CONTROL
MS/MSD

TEST	: EPA 8015B GRO	PINNACLE I.D.	: 712206
SAMPLE ID	: 712206-04	DATE EXRACTED	: NA
CLIENT	: ANIMAS ENVIRONMENTAL SERVICES	DATE ANALYZED	: 01/01/08
PROJECT #	: AES 050204	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: TW 810 REFINERY	UNITS	: MG/L

PARAMETER	SAMPLE RESULT	CONC SPIKE	SPIKED SAMPLE	% REC	DUP SPIKE	DUP % REC	RPD	REC LIMITS	RPD LIMITS
FUEL HYDROCARBONS	<0.10	1.00	1.02	102	1.01	101	1	(70 - 130)	20
HYDROCARBON RANGE		C6-C10							

HYDROCARBONS QUANTITATED USING GASOLINE

CHEMIST NOTES:
N/A

$$\%\ \text{Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative Percent Difference)} = \frac{(\text{Sample Result} - \text{Duplicate Result})}{\text{Average Result}} \times 100$$

PINNACLE LABS
Environmental Testing

GC/MS RESULTS

TEST	: VOLATILE ORGANICS EPA METHOD 8260B	PINNACLE I.D. :	712206
CLIENT	: ANIMAS ENVIRONMENTAL SERVICES		
PROJECT #	: AES 050204	INSTRUMENT ID :	GCMS-2
PROJECT NAME	: TW 810 REFINERY	ANALYST :	DRK

SAMPLE ID #	BATCH	MATRIX	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
METHOD BLANK	123107A2	AQUEOUS	N/A	01/01/08	1

PARAMETER (CAS#)	DET. LIMIT	RESULT	UNITS
Methyl-t-butyl Ether (1634-04-4)	1.0	< 1.0	ug/L
Benzene (71-43-2)	1.0	< 1.0	ug/L
Toluene (108-88-3)	1.0	< 1.0	ug/L
Ethylbenzene (100-41-4)	1.0	< 1.0	ug/L
m&p Xylenes (108-38-3, 106-42-3)	2.0	< 2.0	ug/L
o-Xylene (95-47-6)	1.0	< 1.0	ug/L

SURROGATE % RECOVERY		
1,2-Dichloroethane-d4	97	(76 - 114)
Toluene-d8	101	(88 - 110)
Bromofluorobenzene	105	(86 - 115)

PINNACLE LABS
Environmental Testing

GC/MS RESULTS

TEST	: VOLATILE ORGANICS EPA METHOD 8260B	PINNACLE I.D. :	712206
CLIENT	: ANIMAS ENVIRONMENTAL SERVICES		
PROJECT #	: AES 050204	INSTRUMENT ID :	GCMS-2
PROJECT NAME	: TW 810 REFINERY	ANALYST :	DRK

SAMPLE ID #	BATCH	MATRIX	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
METHOD BLANK	010108A	AQUEOUS	N/A	01/01/08	1

PARAMETER (CAS#)	DET. LIMIT	RESULT	UNITS
Methyl-t-butyl Ether (1634-04-4)	1.0	< 1.0	ug/L
Benzene (71-43-2)	1.0	< 1.0	ug/L
Toluene (108-88-3)	1.0	< 1.0	ug/L
Ethylbenzene (100-41-4)	1.0	< 1.0	ug/L
m&p Xylenes (108-38-3, 106-42-3)	2.0	< 2.0	ug/L
o-Xylene (95-47-6)	1.0	< 1.0	ug/L

SURROGATE % RECOVERY	
1,2-Dichloroethane-d4	99 (76 - 114)
Toluene-d8	100 (88 - 110)
Bromofluorobenzene	103 (86 - 115)

PINNACLE LABS
Environmental Testing

LABORATORY CONTROL SPIKE / SPIKE DUPLICATE RESULTS

TEST	: VOLATILE ORGANICS EPA METHOD 8260B	PINNACLE I.D.	: 712206
BATCH	: 123107A2	DATE ANALYZED	: 01/01/08
CLIENT	: ANIMAS ENVIRONMENTAL SERVICES	UNITS	: ug/L (PPB)
PROJECT #	: AES 050204	INSTRUMENT ID	: GCMS-2
PROJECT NAME	: TW 810 REFINERY	ANALYST	: DRK

COMPOUND	BLANK CONC.	SPIKE ADDED	LCS RESULT	LCSD RESULT	LCS %REC	LCSD %REC	RPD	QC LIMITS RPD	QC LIMITS %RECOVERY
BENZENE	<1.0	20.0	18.6	18.4	93	92	1	14	61-145
TOLUENE	<1.0	20.0	18.7	18.8	93	94	1	11	76-127
ETHYLBENZENE	<1.0	20.0	18.7	19.2	93	96	3	14	71-120
TOTAL XYLENES	<1.0	60.0	58.4	57.8	97	96	1	13	76-125
METHYL-t-BUTYL ETHER	<1.0	20.0	20.5	19.5	103	98	5	13	75-130

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PINNACLE LABS
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LABORATORY CONTROL SPIKE / SPIKE DUPLICATE RESULTS

TEST	: VOLATILE ORGANICS EPA METHOD 8260B	PINNACLE I.D.	: 712206
BATCH	: 010108A	DATE ANALYZED	: 01/01/08
CLIENT	: ANIMAS ENVIRONMENTAL SERVICES	UNITS	: ug/L (PPB)
PROJECT #	: AES 050204	INSTRUMENT ID	: GCMS-2
PROJECT NAME	: TW 810 REFINERY	ANALYST	: DRK

COMPOUND	BLANK CONC.	SPIKE ADDED	LCS RESULT	LCSD RESULT	LCS %REC	LCSD %REC	RPD	QC LIMITS RPD	QC LIMITS %RECOVERY
BENZENE	<1.0	20.0	19.3	18.3	96	91	5	14	61-145
TOLUENE	<1.0	20.0	18.6	18.5	93	92	1	11	76-127
ETHYLBENZENE	<1.0	20.0	19.3	18.8	96	94	2	14	71-120
TOTAL XYLENES	<1.0	60.0	58.3	56.3	97	94	4	13	76-125
METHYL-t-BUTYL ETHER	<1.0	20.0	19.5	19.2	97	96	1	13	75-130

PINNACLE LABS
Environmental Testing

GAS CHROMATOGRAPHY RESULTS

TEST	: EPA 8015 MODIFIED (DIRECT INJECT)		
CLIENT	: ANIMAS ENVIRONMENTAL SERVICES	PINNACLE I.D.	: 712206
PROJECT #	: AES 050204	ANALYST	: STH
PROJECT NAME	: TW 810 REFINERY		

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
01	MW-20	AQUEOUS	12/18/2007	01/01/2008	01/08/2008	1
02	MW-21	AQUEOUS	12/18/2007	01/01/2008	01/08/2008	1
03	MW-22	AQUEOUS	12/18/2007	01/01/2008	01/08/2008	1

PARAMETER	DET. LIMIT	UNITS	MW-20	MW-21	MW-22
FUEL HYDROCARBONS, C10-C22	1.0	MG/L	< 1.0	< 1.0	< 1.0
FUEL HYDROCARBONS, C22-C36	1.0	MG/L	< 1.0	< 1.0	< 1.0
SURROGATE:					
O-TERPHENYL (%)			80	100	93
SURROGATE LIMITS	(70-130)				

CHEMIST NOTES:
N/A

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PINNACLE LABS
Environmental Testing

GAS CHROMATOGRAPHY RESULTS

TEST : EPA 8015 MODIFIED (DIRECT INJECT)
CLIENT : ANIMAS ENVIRONMENTAL SERVICES PINNACLE I.D. : 712206
PROJECT # : AES 050204 ANALYST : STH
PROJECT NAME : TW 810 REFINERY

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
04	MW-10	AQUEOUS	12/18/2007	01/01/2008	01/08/2008	1
05	MW-18	AQUEOUS	12/18/2007	01/01/2008	01/08/2008	1
06	MW-1	AQUEOUS	12/18/2007	01/01/2008	01/08/2008	1

PARAMETER	DET. LIMIT	UNITS	MW-10	MW-18	MW-1
FUEL HYDROCARBONS, C10-C22	1.0	MG/L	< 1.0	< 1.0	< 1.0
FUEL HYDROCARBONS, C22-C36	1.0	MG/L	< 1.0	< 1.0	< 1.0
SURROGATE:					
O-TERPHENYL (%)			95	91	109
SURROGATE LIMITS	(70-130)				

CHEMIST NOTES:
N/A

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PINNACLE LABS
Environmental Testing

GAS CHROMATOGRAPHY RESULTS

TEST	: EPA 8015 MODIFIED (DIRECT INJECT)		
CLIENT	: ANIMAS ENVIRONMENTAL SERVICES	PINNACLE I.D.	: 712206
PROJECT #	: AES 050204	ANALYST	: STH
PROJECT NAME	: TW 810 REFINERY		

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
07	MW-14	AQUEOUS	12/19/2007	01/01/2008	01/08/2008	1
08	MW-2	AQUEOUS	12/19/2007	01/01/2008	01/08/2008	1

PARAMETER	DET. LIMIT	UNITS	MW-14	MW-2
FUEL HYDROCARBONS, C10-C22	**1.0**	**MG/L**	**18**	**330**
FUEL HYDROCARBONS, C22-C36	**1.0**	**MG/L**	< 1.0	**65**
SURROGATE:				
O-TERPHENYL (%)			103	101
SURROGATE LIMITS	(70-130)			

CHEMIST NOTES:
N/A

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PINNACLE LABS
Environmental Testing

GAS CHROMATOGRAPHY RESULTS
METHOD BLANK

TEST	: EPA 8015 MODIFIED (DIRECT INJECT)	PINNACLE I.D.	: 712206
BLANK I.D.	: 010108FW	DATE EXTRACTED	: 01/01/2008
CLIENT	: ANIMAS ENVIRONMENTAL SERVICES	DATE ANALYZED	: 01/08/2008
PROJECT #	: AES 050204	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: TW 810 REFINERY	ANALYST	: STH

PARAMETER	UNITS	
FUEL HYDROCARBONS, C10-C22	MG/L	< 1.0
FUEL HYDROCARBONS, C22-C36	MG/L	< 1.0

SURROGATE:		
O-TERPHENYL (%)		86
SURROGATE LIMITS	(70-130)	

CHEMIST NOTES:
N/A

PINNACLE LABS
Environmental Testing

GAS CHROMATOGRAPHY QUALITY CONTROL
LCS/LCSD

TEST	: EPA 8015 MODIFIED (DIRECT INJECT)	PINNACLE I.D.	: 712206
BATCH ID	: 010108FW	DATE EXRACTED	: 01/01/2008
CLIENT	: ANIMAS ENVIRONMENTAL SERVICES	DATE ANALYZED	: 01/08/2008
PROJECT #	: AES 050204	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: TW 810 REFINERY	UNITS	: MG/L

PARAMETER	BLANK RESULT	CONC SPIKE	SPIKED BLANK	% REC	DUP SPIKE	DUP % REC	RPD	REC LIMITS	RPD LIMITS
FUEL HYDROCARBONS	<1.0	200	172	86	212	106	**21-M3**	(75-125)	20
HYDROCARBON RANGE		C10-C32							

HYDROCARBONS QUANTITATED USING DIESEL FUEL

CHEMIST NOTES:
M3 = RPD is outside of PLI criteria.

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative Percent Difference)} = \frac{(\text{Sample Result} - \text{Duplicate Result})}{\text{Average Result}} \times 100$$

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PINNACLE LABS
Environmental Testing

GAS CHROMATOGRAPHY QUALITY CONTROL
MS/MSD

TEST	: EPA 8015 MODIFIED (DIRECT INJECT)	PINNACLE I.D.	: 712206
SAMPLE ID	: 712206-05	DATE EXRACTED	: 01/01/2008
CLIENT	: ANIMAS ENVIRONMENTAL SERVICES	DATE ANALYZED	: 01/08/2008
PROJECT #	: AES 050204	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: TW 810 REFINERY	UNITS	: MG/L

PARAMETER	SAMPLE RESULT	CONC SPIKE	SPIKED SAMPLE	% REC	DUP SPIKE	DUP % REC	RPD	REC LIMITS	RPD LIMITS
FUEL HYDROCARBONS	<1.0	200	198	99	200	100	1	(70-130)	20
HYDROCARBON RANGE		C10-C32							

HYDROCARBONS QUANTITATED USING DIESEL FUEL

CHEMIST NOTES:
N/A

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative Percent Difference)} = \frac{(\text{Sample Result} - \text{Duplicate Result})}{\text{Average Result}} \times 100$$

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Pinnacle Laboratories
2709 D Pan American Freeway NE
Albuquerque,NM 87107

PO #: 712206
Client Project #: AES
Date Sampled: Dec 18, 2007
Jan 10, 2008; Invoice: 56031

Report Summary

Date Received: Dec 26, 2007

FCL Project Manager: June S. Flowers

Laboratory #	Sample Description	Analysis	Chemist	Location	SampleMatrix
56031GW1	MW-20/712206-01	EPA300.0	YGS	Main Lab	Ground Water
		EPA375.2	PCW	Main Lab	
		EPA6010	EVB	Main Lab	
		EPA6020	EVB	Main Lab	
		EPA7470	EVB	Main Lab	
		SM2320B	CCP	Main Lab	
		SM2340B	EVB	Main Lab	
		SM4500CIE	VLB	Main Lab	
56031GW2	MW-21/712206-02	EPA300.0	YGS	Main Lab	Ground Water
		EPA375.2	PCW	Main Lab	
		EPA6010	EVB	Main Lab	
		EPA6020	EVB	Main Lab	
		EPA7470	EVB	Main Lab	
		SM2320B	CCP	Main Lab	
		SM2340B	EVB	Main Lab	
		SM4500CIE	VLB	Main Lab	
56031GW3	MW-22/712206-03	EPA300.0	YGS	Main Lab	Ground Water
		EPA375.2	PCW	Main Lab	
		EPA6010	EVB	Main Lab	
		EPA6020	EVB	Main Lab	
		EPA7470	EVB	Main Lab	
		SM2320B	CCP	Main Lab	
		SM2340B	EVB	Main Lab	
		SM4500CIE	VLB	Main Lab	
56031GW4	MW-10/712206-04	EPA300.0	YGS	Main Lab	Ground Water
		EPA375.2	PCW	Main Lab	
		EPA6010	EVB	Main Lab	
		EPA6020	EVB	Main Lab	
		EPA7470	EVB	Main Lab	
		SM2320B	CCP	Main Lab	
		SM2340B	EVB	Main Lab	
		SM4500CIE	VLB	Main Lab	
56031GW5	MW-18/712206-05	EPA300.0	YGS	Main Lab	Ground Water
		EPA375.2	PCW	Main Lab	
		EPA6010	EVB	Main Lab	
		EPA6020	EVB	Main Lab	
		EPA7470	EVB	Main Lab	
		SM2320B	CCP	Main Lab	
		SM2340B	EVB	Main Lab	
		SM4500CIE	VLB	Main Lab	
56031GW6	MW-1/712206-06	EPA300.0	YGS	Main Lab	Ground Water
		EPA375.2	PCW	Main Lab	

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Pinnacle Laboratories
2709 D Pan American Freeway NE
Albuquerque,NM 87107

PO #: 712206
Client Project #: AES
Date Sampled: Dec 18, 2007
Jan 10, 2008; Invoice: 56031

		EPA6010	EVB	Main Lab	
		EPA6020	EVB	Main Lab	
		EPA7470	EVB	Main Lab	
		SM2320B	CCP	Main Lab	
		SM2340B	EVB	Main Lab	
		SM4500CIE	VLB	Main Lab	
56031GW7	MW-14/712206-07	EPA300.0	YGS	Main Lab	Ground Water
		EPA375.2	PCW	Main Lab	
		EPA6010	EVB	Main Lab	
		EPA6020	EVB	Main Lab	
		EPA7470	EVB	Main Lab	
		SM2320B	CCP	Main Lab	
		SM2340B	EVB	Main Lab	
		SM4500CIE	VLB	Main Lab	
56031GW8	MW-2/712206-08	EPA300.0	YGS	Main Lab	Ground Water
		EPA375.2	PCW	Main Lab	
		EPA6010	EVB	Main Lab	
		EPA6020	EVB	Main Lab	
		EPA7470	EVB	Main Lab	
		SM2320B	CCP	Main Lab	
		SM2340B	EVB	Main Lab	
		SM4500CIE	VLB	Main Lab	

Certificate of Results
Sample integrity was certified prior to analysis. Test results meet all requirements of the NELAC Standards except as noted in the Quality Control Report. Uncertainties for these data are available on request. This report may not be reproduced in part; results relate only to items tested.

ACCREDITED IN ACCORDANCE WITH NELAC

Jefferson S. Flowers, Ph.D.
President/Technical Director

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Analysis Report

Lab #: 56031GW1 Sampled: 12/18/07 09:52 AMDesc: MW-20/712206-01

Parameter	Result	Units	DF	MDL	PQL	QC Batch	Method	CAS #	Analyzed
Calcium, Dissolved	450	mg/L	1.00	0.100	0.200	10095638	EPA6010		12/26/07
Magnesium, Dissolved	57.3	mg/L	1.00	0.0100	0.0200	10095638	EPA6010		12/26/07
Potassium, Dissolved	4.29	mg/L	1.00	0.100	0.200	10095638	EPA6010		12/26/07
Sodium, Dissolved	757	mg/L	1.00	0.500	1.00	10095638	EPA6010		12/26/07
Total Hardness (as CaCO3)	1360	mg/L	1.00	0.100	0.200	10095640	SM2340B	40-11-9	12/26/07
Arsenic	0.0159	mg/L	1.00	0.00100	0.00200	10095734	EPA6020	7440-38-2	12/27/07
Barium	0.0300	mg/L	1.00	0.00200	0.00400	10095734	EPA6020	7440-39-3	12/27/07
Cadmium	0.00100 U	mg/L	1.00	0.00100	0.00200	10095734	EPA6020	7440-43-9	12/27/07
Chromium	0.00255	mg/L	1.00	0.00100	0.00200	10095734	EPA6020	7440-47-3	12/27/07
Lead	0.00364	mg/L	1.00	0.00100	0.00200	10095734	EPA6020	7439-92-1	12/27/07
Selenium	0.00754	mg/L	1.00	0.00200	0.00400	10095734	EPA6020	7782-49-2	12/27/07
Silver	0.000500 U	mg/L	1.00	0.000500	0.00100	10095734	EPA6020	7440-22-4	12/27/07
Chloride	99.9	mg/L	1.00	5.00	10.0	10095782	SM4500CIE	16887-00-6	12/28/07
Bicarbonate Alkalinity	814	mg/L	1.00	0.100	0.200	10096025	SM2320B	E1640226	12/31/07
Carbonate CaCO3	0.100 U	mg/L	1.00	0.100	0.200	10096025	SM2320B		12/31/07
Total Alkalinity CaCO3	815	mg/L	1.00	0.100	0.200	10096025	SM2320B	T-005	12/31/07
Mercury	0.0000170 U	mg/L	1.00	0.0000170	0.0000400	10096062	EPA7470	7439-97-6	01/03/08
Sulfate	2020	mg/L	100	500	1000	10096340	EPA375.2	14808-79-8	01/08/08
Bromide	0.319	mg/L	1.00	0.0400	0.0800	10096363	EPA300.0	24959-67-9	01/08/08
Fluoride	0.433	mg/L	1.00	0.200	0.400	10096402	EPA300.0	16984-48-8	01/08/08

Lab #: 56031GW2 Sampled: 12/18/07 10:49 AMDesc: MW-21/712206-02

Parameter	Result	Units	DF	MDL	PQL	QC Batch	Method	CAS #	Analyzed
Calcium, Dissolved	361	mg/L	1.00	0.100	0.200	10095638	EPA6010		12/26/07
Magnesium, Dissolved	60.6	mg/L	1.00	0.0100	0.0200	10095638	EPA6010		12/26/07
Potassium, Dissolved	5.38	mg/L	1.00	0.100	0.200	10095638	EPA6010		12/26/07
Sodium, Dissolved	1240	mg/L	1.00	0.500	1.00	10095638	EPA6010		12/26/07

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Albuquerque,NM 87107

PO #: 712206
Client Project #: AES
Date Sampled: Dec 18, 2007
Jan 10, 2008; Invoice: 56031

Lab #: 56031GW2 Sampled: 12/18/07 10:49 AMDesc: MW-21/712206-02

Parameter	Result	Units	DF	MDL	PQL	QC Batch	Method	CAS #	Analyzed
Total Hardness (as CaCO3)	1150	mg/L	1.00	0.100	0.200	10095640	SM2340B	40-11-9	12/26/07
Arsenic	0.0208	mg/L	1.00	0.00100	0.00200	10095734	EPA6020	7440-38-2	12/27/07
Barium	0.0109	mg/L	1.00	0.00200	0.00400	10095734	EPA6020	7440-39-3	12/27/07
Cadmium	0.00100 U	mg/L	1.00	0.00100	0.00200	10095734	EPA6020	7440-43-9	12/27/07
Chromium	0.00192 I	mg/L	1.00	0.00100	0.00200	10095734	EPA6020	7440-47-3	12/27/07
Lead	0.00139 I	mg/L	1.00	0.00100	0.00200	10095734	EPA6020	7439-92-1	12/27/07
Selenium	0.0112	mg/L	1.00	0.00200	0.00400	10095734	EPA6020	7782-49-2	12/27/07
Silver	0.000500 U	mg/L	1.00	0.000500	0.00100	10095734	EPA6020	7440-22-4	12/27/07
Chloride	98.7	mg/L	1.00	5.00	10.0	10095782	SM4500CIE	16887-00-6	12/28/07
Bicarbonate Alkalinity	622	mg/L	1.00	0.100	0.200	10096025	SM2320B	E1640226	12/31/07
Carbonate CaCO3	0.100 U	mg/L	1.00	0.100	0.200	10096025	SM2320B		12/31/07
Total Alkalinity CaCO3	623	mg/L	1.00	0.100	0.200	10096025	SM2320B	T-005	12/31/07
Mercury	0.0000170 U	mg/L	1.00	0.0000170	0.0000400	10096062	EPA7470	7439-97-6	01/03/08
Sulfate	3140	mg/L	100	500	1000	10096340	EPA375.2	14808-79-8	01/08/08
Bromide	0.0400 U	mg/L	1.00	0.0400	0.0800	10096363	EPA300.0	24959-67-9	01/08/08
Fluoride	0.389 I	mg/L	1.00	0.200	0.400	10096402	EPA300.0	16984-48-8	01/08/08

Lab #: 56031GW3 Sampled: 12/18/07 01:35 PMDesc: MW-22/712206-03

Parameter	Result	Units	DF	MDL	PQL	QC Batch	Method	CAS #	Analyzed
Calcium, Dissolved	349	mg/L	1.00	0.100	0.200	10095638	EPA6010		12/26/07
Magnesium, Dissolved	70.3	mg/L	1.00	0.0100	0.0200	10095638	EPA6010		12/26/07
Potassium, Dissolved	7.05	mg/L	1.00	0.100	0.200	10095638	EPA6010		12/26/07
Sodium, Dissolved	2340	mg/L	1.00	0.500	1.00	10095638	EPA6010		12/26/07
Total Hardness (as CaCO3)	1160	mg/L	1.00	0.100	0.200	10095640	SM2340B	40-11-9	12/26/07
Arsenic	0.00314	mg/L	1.00	0.00100	0.00200	10095734	EPA6020	7440-38-2	12/27/07
Barium	0.00669	mg/L	1.00	0.00200	0.00400	10095734	EPA6020	7440-39-3	12/27/07
Cadmium	0.00100 U	mg/L	1.00	0.00100	0.00200	10095734	EPA6020	7440-43-9	12/27/07
Chromium	0.00134 I	mg/L	1.00	0.00100	0.00200	10095734	EPA6020	7440-47-3	12/27/07
Lead	0.0140	mg/L	1.00	0.00100	0.00200	10095734	EPA6020	7439-92-1	12/27/07

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Date Sampled: Dec 18, 2007
Jan 10, 2008; Invoice: 56031

Lab #: 56031GW3 Sampled: 12/18/07 01:35 PMDesc: MW-22/712206-03

Parameter	Result	Units	DF	MDL	PQL	QC Batch	Method	CAS #	Analyzed
Selenium	0.0166	mg/L	1.00	0.00200	0.00400	10095734	EPA6020	7782-49-2	12/27/07
Silver	0.000500 U	mg/L	1.00	0.000500	0.00100	10095734	EPA6020	7440-22-4	12/27/07
Chloride	98.6	mg/L	1.00	5.00	10.0	10095782	SM4500CIE	16887-00-6	12/28/07
Bicarbonate Alkalinity	523	mg/L	1.00	0.100	0.200	10096025	SM2320B	E1640226	12/31/07
Carbonate CaCO3	2.48	mg/L	1.00	0.100	0.200	10096025	SM2320B		12/31/07
Total Alkalinity CaCO3	526	mg/L	1.00	0.100	0.200	10096025	SM2320B	T-005	12/31/07
Mercury	0.0000170 U	mg/L	1.00	0.0000170	0.0000400	10096062	EPA7470	7439-97-6	01/03/08
Sulfate	5610	mg/L	100	500	1000	10096340	EPA375.2	14808-79-8	01/08/08
Bromide	0.700	mg/L	1.00	0.0400	0.0800	10096363	EPA300.0	24959-67-9	01/08/08
Fluoride	0.346 I	mg/L	1.00	0.200	0.400	10096402	EPA300.0	16984-48-8	01/08/08

Lab #: 56031GW4 Sampled: 12/18/07 02:40 PMDesc: MW-10/712206-04

Parameter	Result	Units	DF	MDL	PQL	QC Batch	Method	CAS #	Analyzed
Calcium, Dissolved	291	mg/L	1.00	0.100	0.200	10095638	EPA6010		12/26/07
Magnesium, Dissolved	34.1	mg/L	1.00	0.0100	0.0200	10095638	EPA6010		12/26/07
Potassium, Dissolved	3.96	mg/L	1.00	0.100	0.200	10095638	EPA6010		12/26/07
Sodium, Dissolved	1000	mg/L	1.00	0.500	1.00	10095638	EPA6010		12/26/07
Total Hardness (as CaCO3)	867	mg/L	1.00	0.100	0.200	10095640	SM2340B	40-11-9	12/26/07
Arsenic	0.00233	mg/L	1.00	0.00100	0.00200	10095734	EPA6020	7440-38-2	12/27/07
Barium	0.0259	mg/L	1.00	0.00200	0.00400	10095734	EPA6020	7440-39-3	12/27/07
Cadmium	0.00100 U	mg/L	1.00	0.00100	0.00200	10095734	EPA6020	7440-43-9	12/27/07
Chromium	0.00204	mg/L	1.00	0.00100	0.00200	10095734	EPA6020	7440-47-3	12/27/07
Lead	0.00100 U	mg/L	1.00	0.00100	0.00200	10095734	EPA6020	7439-92-1	12/27/07
Selenium	0.0158	mg/L	1.00	0.00200	0.00400	10095734	EPA6020	7782-49-2	12/27/07
Silver	0.000500 U	mg/L	1.00	0.000500	0.00100	10095734	EPA6020	7440-22-4	12/27/07
Chloride	98.6	mg/L	1.00	5.00	10.0	10095782	SM4500CIE	16887-00-6	12/28/07
Bicarbonate Alkalinity	253	mg/L	1.00	0.100	0.200	10096025	SM2320B	E1640226	12/31/07
Carbonate CaCO3	1.42	mg/L	1.00	0.100	0.200	10096025	SM2320B		12/31/07
Total Alkalinity CaCO3	254	mg/L	1.00	0.100	0.200	10096025	SM2320B	T-005	12/31/07

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Lab #: 56031GW4 Sampled: 12/18/07 02:40 PMDesc: MW-10/712206-04

Parameter	Result	Units	DF	MDL	PQL	QC Batch	Method	CAS #	Analyzed
Mercury	0.0000170 U	mg/L	1.00	0.000017	0.000040	10096062	EPA7470	7439-97-6	01/03/08
Sulfate	2850	mg/L	100	500	1000	10096340	EPA375.2	14808-79-8	01/08/08
Bromide	0.725	mg/L	1.00	0.0400	0.0800	10096363	EPA300.0	24959-67-9	01/08/08
Fluoride	0.895	mg/L	1.00	0.200	0.400	10096402	EPA300.0	16984-48-8	01/08/08

Lab #: 56031GW5 Sampled: 12/18/07 03:44 PMDesc: MW-18/712206-05

Parameter	Result	Units	DF	MDL	PQL	QC Batch	Method	CAS #	Analyzed
Calcium, Dissolved	218	mg/L	1.00	0.100	0.200	10095638	EPA6010		12/26/07
Magnesium, Dissolved	89.2	mg/L	1.00	0.0100	0.0200	10095638	EPA6010		12/26/07
Potassium, Dissolved	6.18	mg/L	1.00	0.100	0.200	10095638	EPA6010		12/26/07
Sodium, Dissolved	1010	mg/L	1.00	0.500	1.00	10095638	EPA6010		12/26/07
Total Hardness (as CaCO3)	913	mg/L	1.00	0.100	0.200	10095640	SM2340B	40-11-9	12/26/07
Arsenic	0.108	mg/L	1.00	0.00100	0.00200	10095734	EPA6020	7440-38-2	12/27/07
Barium	0.0372	mg/L	1.00	0.00200	0.00400	10095734	EPA6020	7440-39-3	12/27/07
Cadmium	0.00100 U	mg/L	1.00	0.00100	0.00200	10095734	EPA6020	7440-43-9	12/27/07
Chromium	0.00246	mg/L	1.00	0.00100	0.00200	10095734	EPA6020	7440-47-3	12/27/07
Lead	0.00163 I	mg/L	1.00	0.00100	0.00200	10095734	EPA6020	7439-92-1	12/27/07
Selenium	0.0120	mg/L	1.00	0.00200	0.00400	10095734	EPA6020	7782-49-2	12/27/07
Silver	0.000500 U	mg/L	1.00	0.000500	0.00100	10095734	EPA6020	7440-22-4	12/27/07
Chloride	98.6	mg/L	1.00	5.00	10.0	10095783	SM4500ClE	16887-00-6	12/28/07
Bicarbonate Alkalinity	992	mg/L	1.00	0.100	0.200	10096025	SM2320B	E1640226	12/31/07
Carbonate CaCO3	3.10	mg/L	1.00	0.100	0.200	10096025	SM2320B		12/31/07
Total Alkalinity CaCO3	995	mg/L	1.00	0.100	0.200	10096025	SM2320B	T-005	12/31/07
Mercury	0.0000170 U	mg/L	1.00	0.000017	0.000040	10096062	EPA7470	7439-97-6	01/03/08
Sulfate	1520	mg/L	100	500	1000	10096340	EPA375.2	14808-79-8	01/08/08
Bromide	0.0400 U	mg/L	1.00	0.0400	0.0800	10096363	EPA300.0	24959-67-9	01/08/08
Fluoride	0.200 U	mg/L	1.00	0.200	0.400	10096402	EPA300.0	16984-48-8	01/08/08

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Lab #: 56031GW6 Sampled: 12/18/07 04:23 PMDesc: MW-1/712206-06

Parameter	Result	Units	DF	MDL	PQL	QC Batch	Method	CAS #	Analyzed
Calcium, Dissolved	448	mg/L	1.00	0.100	0.200	10095638	EPA6010		12/26/07
Magnesium, Dissolved	38.8	mg/L	1.00	0.0100	0.0200	10095638	EPA6010		12/26/07
Potassium, Dissolved	3.00	mg/L	1.00	0.100	0.200	10095638	EPA6010		12/26/07
Sodium, Dissolved	438	mg/L	1.00	0.500	1.00	10095638	EPA6010		12/26/07
Total Hardness (as CaCO3)	1280	mg/L	1.00	0.100	0.200	10095640	SM2340B	40-11-9	12/26/07
Arsenic	0.00177 I	mg/L	1.00	0.00100	0.00200	10095734	EPA6020	7440-38-2	12/27/07
Barium	0.0259	mg/L	1.00	0.00200	0.00400	10095734	EPA6020	7440-39-3	12/27/07
Cadmium	0.00100 U	mg/L	1.00	0.00100	0.00200	10095734	EPA6020	7440-43-9	12/27/07
Chromium	0.00159 I	mg/L	1.00	0.00100	0.00200	10095734	EPA6020	7440-47-3	12/27/07
Lead	0.00182 I	mg/L	1.00	0.00100	0.00200	10095734	EPA6020	7439-92-1	12/27/07
Selenium	0.00721	mg/L	1.00	0.00200	0.00400	10095734	EPA6020	7782-49-2	12/27/07
Silver	0.000500 U	mg/L	1.00	0.000500	0.00100	10095734	EPA6020	7440-22-4	12/27/07
Chloride	35.7	mg/L	1.00	5.00	10.0	10095783	SM4500CIE	16887-00-6	12/28/07
Bicarbonate Alkalinity	275	mg/L	1.00	0.100	0.200	10096025	SM2320B	E1640226	12/31/07
Carbonate CaCO3	0.100 U	mg/L	1.00	0.100	0.200	10096025	SM2320B		12/31/07
Total Alkalinity CaCO3	275	mg/L	1.00	0.100	0.200	10096025	SM2320B	T-005	12/31/07
Mercury	0.0000170 U	mg/L	1.00	0.000017	0.0000400	10096062	EPA7470	7439-97-6	01/03/08
Sulfate	1910	mg/L	100	500	1000	10096340	EPA375.2	14808-79-8	01/08/08
Bromide	0.0400 U	mg/L	1.00	0.0400	0.0800	10096363	EPA300.0	24959-67-9	01/08/08
Fluoride	0.805	mg/L	1.00	0.200	0.400	10096402	EPA300.0	16984-48-8	01/08/08

Lab #: 56031GW7 Sampled: 12/18/07 09:55 AMDesc: MW-14/712206-07

Parameter	Result	Units	DF	MDL	PQL	QC Batch	Method	CAS #	Analyzed
Calcium, Dissolved	415	mg/L	1.00	0.100	0.200	10095638	EPA6010		12/26/07
Magnesium, Dissolved	45.5	mg/L	1.00	0.0100	0.0200	10095638	EPA6010		12/26/07
Potassium, Dissolved	3.23	mg/L	1.00	0.100	0.200	10095638	EPA6010		12/26/07
Sodium, Dissolved	865	mg/L	1.00	0.500	1.00	10095638	EPA6010		12/26/07
Total Hardness (as CaCO3)	1220	mg/L	1.00	0.100	0.200	10095640	SM2340B	40-11-9	12/26/07
Arsenic	0.00232	mg/L	1.00	0.00100	0.00200	10095734	EPA6020	7440-38-2	12/27/07

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Pinnacle Laboratories
2709 D Pan American Freeway NE
Albuquerque,NM 87107

PO #: 712206
Client Project #: AES
Date Sampled: Dec 18, 2007
Jan 10, 2008; Invoice: 56031

Lab #: 56031GW7 Sampled: 12/18/07 09:55 AMDesc: MW-14/712206-07

Parameter	Result	Units	DF	MDL	PQL	QC Batch	Method	CAS #	Analyzed
Barium	0.00982	mg/L	1.00	0.00200	0.00400	10095734	EPA6020	7440-39-3	12/27/07
Cadmium	0.00100 U	mg/L	1.00	0.00100	0.00200	10095734	EPA6020	7440-43-9	12/27/07
Chromium	0.00191 I	mg/L	1.00	0.00100	0.00200	10095734	EPA6020	7440-47-3	12/27/07
Lead	0.00154 I	mg/L	1.00	0.00100	0.00200	10095734	EPA6020	7439-92-1	12/27/07
Selenium	0.00843	mg/L	1.00	0.00200	0.00400	10095734	EPA6020	7782-49-2	12/27/07
Silver	0.000500 U	mg/L	1.00	0.000500	0.00100	10095734	EPA6020	7440-22-4	12/27/07
Chloride	59.6	mg/L	1.00	5.00	10.0	10095783	SM4500CIE	16887-00-6	12/28/07
Bicarbonate Alkalinity	395	mg/L	1.00	0.100	0.200	10096025	SM2320B	E1640226	12/31/07
Carbonate CaCO3	0.100 U	mg/L	1.00	0.100	0.200	10096025	SM2320B		12/31/07
Total Alkalinity CaCO3	396	mg/L	1.00	0.100	0.200	10096025	SM2320B	T-005	12/31/07
Mercury	0.0000170 U	mg/L	1.00	0.000017	0.000400	10096062	EPA7470	7439-97-6	01/03/08
Sulfate	2640	mg/L	100	500	1000	10096340	EPA375.2	14808-79-8	01/08/08
Bromide	0.0400 U	mg/L	1.00	0.0400	0.0800	10096363	EPA300.0	24959-67-9	01/08/08
Fluoride	0.895	mg/L	1.00	0.200	0.400	10096402	EPA300.0	16984-48-8	01/08/08

Lab #: 56031GW8 Sampled: 12/18/07 10:30 AMDesc: MW-27/712206-08

Parameter	Result	Units	DF	MDL	PQL	QC Batch	Method	CAS #	Analyzed
Calcium, Dissolved	47.1	mg/L	1.00	0.100	0.200	10095638	EPA6010		12/26/07
Magnesium, Dissolved	11.0	mg/L	1.00	0.0100	0.0200	10095638	EPA6010		12/26/07
Potassium, Dissolved	2.47	mg/L	1.00	0.100	0.200	10095638	EPA6010		12/26/07
Sodium, Dissolved	597	mg/L	1.00	0.500	1.00	10095638	EPA6010		12/26/07
Total Hardness (as CaCO3)	163	mg/L	1.00	0.100	0.200	10095640	SM2340B	40-11-9	12/26/07
Arsenic	0.00148 I	mg/L	1.00	0.00100	0.00200	10095734	EPA6020	7440-38-2	12/27/07
Barium	0.833	mg/L	1.00	0.00200	0.00400	10095734	EPA6020	7440-39-3	12/27/07
Cadmium	0.00100 U	mg/L	1.00	0.00100	0.00200	10095734	EPA6020	7440-43-9	12/27/07
Chromium	0.00238	mg/L	1.00	0.00100	0.00200	10095734	EPA6020	7440-47-3	12/27/07
Lead	0.00194 I	mg/L	1.00	0.00100	0.00200	10095734	EPA6020	7439-92-1	12/27/07
Selenium	0.00620	mg/L	1.00	0.00200	0.00400	10095734	EPA6020	7782-49-2	12/27/07
Silver	0.000500 U	mg/L	1.00	0.000500	0.00100	10095734	EPA6020	7440-22-4	12/27/07

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Date Sampled: Dec 18, 2007
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Lab #: 56031GW8 Sampled: 12/18/07 10:30 Desc: MW-2/712206-08

Parameter	Result	Units	DF	MDL	PQL	QC Batch	Method	CAS #	Analyzed
Chloride	70.2	mg/L	1.00	5.00	10.0	10095783	SM4500CIE	16887-00-6	12/28/07
Bicarbonate Alkalinity	1490	mg/L	5.00	0.500	1.00	10096025	SM2320B	E1640226	12/31/07
Carbonate CaCO3	1.43	mg/L	5.00	0.500	1.00	10096025	SM2320B		12/31/07
Total Alkalinity CaCO3	1500	mg/L	5.00	0.500	1.00	10096025	SM2320B	T-005	12/31/07
Mercury	0.0000170 U	mg/L	1.00	0.000017	0.000040	10096062	EPA7470	7439-97-6	01/03/08
Sulfate	68.4	mg/L	1.00	5.00	10.0	10096340	EPA375.2	14808-79-8	01/08/08
Bromide	0.332	mg/L	1.00	0.0400	0.0800	10096363	EPA300.0	24959-67-9	01/08/08
Fluoride	0.306 I	mg/L	1.00	0.200	0.400	10096402	EPA300.0	16984-48-8	01/08/08

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Date Sampled: Dec 18, 2007
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Quality Report

Quality Control Batch: 10095638 Analyst: EVB

Blank	Result	Units
Calcium, Dissolved	0.100U	mg/L
Magnesium, Dissolved	0.0100U	mg/L
Potassium, Dissolved	0.100U	mg/L
Sodium, Dissolved	0.500U	mg/L

Laboratory Control Sample	Result	Units	Spike	%REC	%REC Lim
Calcium, Dissolved	5.13	mg/L	5.00	102.51	78.43-122.53
Magnesium, Dissolved	5.28	mg/L	5.00	105.58	84.53-119.02
Potassium, Dissolved	4.59	mg/L	5.00	91.74	82.77-119.91
Sodium, Dissolved	4.73	mg/L	5.00	94.66	77.54-116.18

Matrix Spike	Result	Units	Spike	%REC	%REC Lim	Sample
Calcium, Dissolved	192	mg/L	5.00	60.74	33.95-153.99	189
Magnesium, Dissolved	70.6	mg/L	5.00	101.35	67.14-146.55	65.5
Potassium, Dissolved	6.85	mg/L	5.00	91.59	41.97-168.34	2.27
Sodium, Dissolved	94.7	mg/L	5.00	103.92	36.40-151.57	89.5

Matrix Spike Duplicate	Result	Units	Spike	%REC	%REC Lim	Sample	RPD	RPD Lim
Calcium, Dissolved	192	mg/L	5.00	58.78	33.95-153.99	189	0.05	11.85
Magnesium, Dissolved	70.3	mg/L	5.00	94.39	67.14-146.55	65.5	0.49	10.01
Potassium, Dissolved	7.10	mg/L	5.00	96.53	41.97-168.34	2.27	3.54	19.53
Sodium, Dissolved	94.3	mg/L	5.00	95.56	36.40-151.57	89.5	0.44	16.25

Quality Control Batch: 10095640 Analyst: EVB

Blank	Result	Units
Total Hardness (as CaCO3)	0.100U	mg/L

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Laboratory Control Sample	Result	Units	Spike	%REC	%REC Lim
Total Hardness (as CaCO3)	34.5	mg/L	33.1	104.42	81.91-115.19

Quality Control Batch: 10095734 Analyst: EVB

Blank	Result	Units
Arsenic	0.00100U	mg/L
Barium	0.00200U	mg/L
Cadmium	0.00100U	mg/L
Chromium	0.00100U	mg/L
Lead	0.00100U	mg/L
Selenium	0.00200U	mg/L
Silver	0.000500U	mg/L

Laboratory Control Sample	Result	Units	Spike	%REC	%REC Lim
Arsenic	0.112	mg/L	0.100	111.93	81.09-119.32
Barium	0.110	mg/L	0.100	109.71	84.59-125.11
Cadmium	0.113	mg/L	0.100	112.55	84.66-121.81
Chromium	0.104	mg/L	0.100	103.80	87.00-122.96
Lead	0.114	mg/L	0.100	114.32	86.91-124.18
Selenium	0.107	mg/L	0.100	106.77	75.98-121.42
Silver	0.112	mg/L	0.100	112.47	79.76-119.92

Matrix Spike	Result	Units	Spike	%REC	%REC Lim	Sample
Arsenic	0.273	mg/L	0.250	108.56	73.05-140.45	0.00176
Barium	0.296	mg/L	0.250	105.54	70.68-156.87	0.0325
Cadmium	0.275	mg/L	0.250	109.86	76.87-137.80	0.000180
Chromium	0.280	mg/L	0.250	110.48	67.91-144.29	0.00407
Lead	0.274	mg/L	0.250	109.74	69.09-150.83	0.00100U
Selenium	0.288	mg/L	0.250	113.11	63.72-144.34	0.00510
Silver	0.281	mg/L	0.250	112.21	48.94-146.79	0.000500U

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Quality Control Batch: 100955734	Analyst: EVR							
Matrix Spike Duplicate	**Result**	**Units**	**Spike**	**%REC**	**%REC Lim**	**Sample**	**RPD**	**RPD Lim**
Arsenic	0.275	mg/L	0.250	109.40	73.05-140.45	0.00176	0.77	26.42
Barium	0.302	mg/L	0.250	107.79	70.68-156.87	0.0325	1.88	20.91
Cadmium	0.282	mg/L	0.250	112.61	76.87-137.80	0.000180	2.48	24.42
Chromium	0.282	mg/L	0.250	111.35	67.91-144.29	0.00407	0.77	26.93
Lead	0.276	mg/L	0.250	110.57	69.09-150.83	0.00100U	0.75	26.35
Selenium	0.284	mg/L	0.250	111.62	63.72-144.34	0.00510	1.30	23.19
Silver	0.280	mg/L	0.250	111.86	48.94-146.79	0.000500U	0.31	25.78

Quality Control Batch: 100955782	Analyst: VLB							
Blank	**Result**	**Units**						
Chloride	5.00U	mg/L						
Laboratory Control Sample	**Result**	**Units**	**Spike**	**%REC**	**%REC Lim**			
Chloride	51.2	mg/L	50.0	102.42	80.00-120.00			
Matrix Spike	**Result**	**Units**	**Spike**	**%REC**	**%REC Lim**	**Sample**		
Chloride	51.3	mg/L	50.0	102.58	80.00-120.00	5.00U		
Matrix Spike Duplicate	**Result**	**Units**	**Spike**	**%REC**	**%REC Lim**	**Sample**	**RPD**	**RPD Lim**
Chloride	50.5	mg/L	50.0	101.06	80.00-120.00	5.00U	1.49	20.00

Quality Control Batch: 100955783	Analyst: VLB					
Blank	**Result**	**Units**				
Chloride	5.00U	mg/L				
Laboratory Control Sample	**Result**	**Units**	**Spike**	**%REC**	**%REC Lim**	
Chloride	19.3	mg/L	20.0	96.55	80.00-120.00	
Matrix Spike	**Result**	**Units**	**Spike**	**%REC**	**%REC Lim**	**Sample**

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Quality Control Batch: 100965783 Analyst: VLB

Matrix Spike	Result	Units	Spike	%REC	%REC Lim	Sample
Chloride	54.2	mg/L	50.0	104.06	80.00-120.00	2.18

Matrix Spike Duplicate	Result	Units	Spike	%REC	%REC Lim	Sample	RPD	RPD Lim
Chloride	53.1	mg/L	50.0	101.78	80.00-120.00	2.18	2.13	20.00

Quality Control Batch: 100996025 Analyst: CCP

Blank	Result	Units
Total Alkalinity CaCO3	0.100U	mg/L

Laboratory Control Sample	Result	Units	Spike	%REC	%REC Lim
Total Alkalinity CaCO3	103	mg/L	100	103.38	77.03-121.71

Quality Control Batch: 100996062 Analyst: EVB

Blank	Result	Units
Mercury	0.0000170U	mg/L

Laboratory Control Sample	Result	Units	Spike	%REC	%REC Lim
Mercury	0.00305	mg/L	0.00300	101.80	90.27-115.31

Matrix Spike	Result	Units	Spike	%REC	%REC Lim	Sample
Mercury	0.00296	mg/L	0.00300	98.63	81.00-122.08	0.0000170U

Matrix Spike Duplicate	Result	Units	Spike	%REC	%REC Lim	Sample	RPD	RPD Lim
Mercury	0.00297	mg/L	0.00300	98.93	81.00-122.08	0.0000170U	0.30	8.88

Quality Control Batch: 100996340 Analyst: PCW

Blank	Result	Units
Sulfate	5.00U	mg/L

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Quality Control Batch: 10096340	Analyst: PCW							
Laboratory Control Sample	**Result**	**Units**	**Spike**	**%REC**	**%REC Lim**			
Sulfate	61.8	mg/L	60.0	103.00	91.94-106.64			
Matrix Spike	**Result**	**Units**	**Spike**	**%REC**	**%REC Lim**	**Sample**		
Sulfate	46.1	mg/L	50.0	86.56	51.32-145.17	2.82		
Matrix Spike Duplicate	**Result**	**Units**	**Spike**	**%REC**	**%REC Lim**	**Sample**	**RPD**	**RPD Lim**
Sulfate	45.5	mg/L	50.0	85.36	51.32-145.17	2.82	1.31	7.31

Quality Control Batch: 10096363	Analyst: YGS							
Blank	**Result**	**Units**						
Bromide	0.0400U	mg/L						
Laboratory Control Sample	**Result**	**Units**	**Spike**	**%REC**	**%REC Lim**			
Bromide	2.07	mg/L	2.00	103.41	74.88-117.02			
Matrix Spike	**Result**	**Units**	**Spike**	**%REC**	**%REC Lim**	**Sample**		
Bromide	2.19	mg/L	2.00	109.61	57.55-141.16	0.00266		
Matrix Spike Duplicate	**Result**	**Units**	**Spike**	**%REC**	**%REC Lim**	**Sample**	**RPD**	**RPD Lim**
Bromide	2.17	mg/L	2.00	108.34	57.55-141.16	0.00266	1.16	15.86

Quality Control Batch: 10096402	Analyst: YGS						
Blank	**Result**	**Units**					
Fluoride	0.200U	mg/L					
Laboratory Control Sample	**Result**	**Units**	**Spike**	**%REC**	**%REC Lim**		
Fluoride	1.87	mg/L	2.00	93.71	81.72-119.08		
Matrix Spike	**Result**	**Units**	**Spike**	**%REC**	**%REC Lim**	**Sample**	

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Quality Control Batch: 10099402 Analyst: YGS

Matrix Spike	Result	Units	Spike	%REC	%REC Lim	Sample		
Fluoride	2.72	mg/L	0.500	486.09	53.45-142.81	0.290		
Matrix Spike Duplicate	**Result**	**Units**	**Spike**	**%REC**	**%REC Lim**	**Sample**	**RPD**	**RPD Lim**
Fluoride	2.49	mg/L	0.500	440.83	53.45-142.81	0.290	8.68	20.31

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Narrative Report

Sample Handling
Sample handling and holding time criteria were met for all samples. Samples collected by submitter. No unusual events occurred during analysis. Results are reported on a wet weight basis for aqueous matrices and on a dry weight basis for sludge and soil matrices unless otherwise noted. Sample results reported as dissolved were field filtered.

Quality Control
Enclosed analyses met method or FCL criteria, unless otherwise denoted on the sample results. Applied data qualifiers are defined below.

Attachments
Chain of Custody

Qualifier	Meaning
U	Compound was analyzed for but not detected.
J	One or more QC samples associated with this data value exceeded QC limits.
J1	Surrogate recovery limits have been exceeded.
J2	No known quality control criteria exist for the component.
J3	Reported value failed to meet established quality control criteria for either precision or accuracy.
J4	Sample matrix interfered with the ability to make an accurate determination on the spiked sample.
Q	Sample held beyond the accepted holding time.
L	Off-scale high; reported concentration exceeds the highest standard.
V	Analyte was detected in both the sample and the associated method blank.
ZTNTC	Too numerous to count. Numeric value represents filtration volume.
A	Absent
P	Present
T	Value reported is less than the statistical method detection limit. Reported for informational purposes only.
M	Value reported is greater than the statistical method detection limit, but less than the reported MDL.
G	The greatest of the dilutions performed did not yield sufficient oxygen depletion for valid data.
S	The least of the dilutions performed did not yield sufficient oxygen residual for valid data.
O	Result is greater than (over) the specified value.
I	Reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
B	Results based upon colony plate count outside ideal range.
Y	The laboratory analysis was from an improperly preserved sample. The data may not be accurate.

Pinnacle Laboratories, Inc.

Interlab Chain of Custody

Date: 12/20/07 Page: 1 of 1

Network Project Manager: Jacinta Tenorio

Pinnacle Laboratories, Inc.
2709-D Pan American Freeway, NE
Albuquerque, NM 87107
(505) 344-3777 Fax (505) 344-4413

SAMPLE ID	DATE	TIME	MATRIX	LAB ID
MW-20 / 712206-01	12/18/07	0952	GW	
MW-21 / -02		1049		
MW-22 / -03		1335		
MW-10 / -04		1440		
MW-18 / -05		1544		
MW-11 / -06		1623		
MW-14 / -07		0955		
MW-2 / -08		1030		

ANALYSIS REQUEST

Metals (8) RCRA	TCLP RCRA (8) Metals	Metals-13 PP List	Metals-TAL (23 Metals)	Dissolved Fe, Mn, Pb (6010)	Dissolved Ca, Mg, K, Na	TOC	Gen Chemistry: Br, Cl, F, SO4	Alk+Bicarb Carb	Hardness	Volatile Organics GC/MS (8260)	BOD	COD	Pesticides/PCB (608/8081/8082)	Herbicides (615/8151)	PNA (8310)/8270 SIMS	8260 (TCLP 1311) ZHE		Base/Neutral Acid Compounds GC/MS (625/8270)	Uranium (ICP-MS)	Radium 226+228	Gross Alpha/Beta	TO-14	NUMBER OF CONTAINERS
X					X		X	X	X			56	60	31	GW	1							1
X					X		X	X	X				1			2							1
X					X		X	X	X							3							1
X					X		X	X	X							4							1
X					X		X	X	X							5							1
X					X		X	X	X							6							1
X					X		X	X	X							7							1
X					X		X	X	X				↓			8							1

PROJECT INFORMATION		SAMPLE RECEIPT	
PROJECT #:	712206	Total Number of Containers	
PROJ. NAME:	AES	Chain of Custody Seals	
QC LEVEL:	(STD.) IV	Received Intact?	
QC REQUIRED:	(MS) MSD BLANK	Received Good Cond./Cold	
TAT:	(STANDARD) RUSH!!	LAB NUMBER:	
DUE DATE:	1/3/08		
RUSH SURCHARGE:	—		
CLIENT DISCOUNT:	—		
SPECIAL CERTIFICATION REQUIRED: YES	(NO)		

COMMENTS: 4,12 oC

SAMPLES SENT TO:	
PENSACOLA - STL-FL	
ESL - OR	
ATEL - AZ	
ATEL - MARION	
ATEL - MELMORE	
FCL	X
EHL	
GEL	
WCAS	
WOHL	

RELINQUISHED BY: 1.	RELINQUISHED BY: 2.
Signature: Time: 1700	Signature: Time:
Printed Name: Francine Tanio Date: 12/20/07	Printed Name: Date:
Pinnacle Laboratories, Inc.	Company
RECEIVED BY: 1.	**RECEIVED BY: 2.**
Signature: Time:	Signature: Time: 0769
Printed Name: Date:	Printed Name: Date: 12/26/07
Company	Company

Pinnacle Laboratories Inc.

CHAIN OF CUSTODY

DATE: 12/18/07 PAGE: 1 OF 2

PLI Accession #: 712206

SHADED AREAS ARE FOR LAB USE ONLY

PLEASE FILL THIS FORM IN COMPLETELY.

PROJECT MANAGER: Ross Kennemer

COMPANY: Animas Environmental Svcs, LLC

ADDRESS: 624 E. Comanche
Farmington, NM 87401

PHONE: 505-564-2281

FAX: 505-324-2022

BILL TO: Biotech

COMPANY:

ADDRESS:

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	Petroleum Hydrocarbons (418.1) TRPH	(MOD.8015) Diesel/Direct Inject	8021/8015 BTEX/MTBE+GRO (M8015) Gas/Purge & Trap	8021 (BTEX)/8015 (Gasoline) MTBE	8021 (BTEX) ☐MTBE ☐TMB ☐PCE	8021 (TCL)	8021 (EDX)	8021 (HALO)	8021 (CUST)	504.1 EDB ☐/DBCP ☐	8260 (TCL) Volatile Organics	8260 (Full) Volatile Organics ☐PBMS	8260 (CUST) Volatile Organics	8260 (Landfill) Volatile Organics	Pesticides/PCB (608/8081/8082)	Herbicides (615/8151)	Base/Neutral/Acid Compounds GC/MS (625/8270)	Polynuclear Aromatics (610/8310/8270-SIMS)	General Chemistry: Alk, Br, Cl, F, SO4	Dissolved Ca, Mg, K, Na	Priority Pollutant Metals (13)	Target Analyte List Metals (23)	RCRA Metals (8)	RCRA Metals by TCLP (Method1311)	Metals: Total RCRA metals + hardness	NUMBER OF CONTAINERS
MW-20	12/18/07	0952	H_2O	01		X	X																X	X				X	2
MW-21	12/18/07	1049		02		X	X																X	X				X	2
MW-22	12/18/07	1335		03		X	X																X	X				X	2
MW-10	12/18/07	1440		04		X	X																X	X				X	2
MW-18	12/18/07	1544		05		X	X																X	X				X	2
MW-1	12/18/07	1623		06		X	X																X	X				X	2

WEEKEND ANALYSES MAY RESULT IN AN ADDITIONAL SURCHARGE - PLEASE INQUIRE.

PROJECT INFORMATION

PROJ. NO.: AES 050204

PROJ. NAME: TW 810 Refinery

P.O. NO.:

SHIPPED VIA: UPS

SAMPLE RECEIPT

NO. CONTAINERS	12
CUSTODY SEALS	ON / NA
RECEIVED INTACT	Y/N
BLUE ICE/ICE	Y/N

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

(RUSH) ☐24hr* ☐48hr* ☐72hr* ☐ 1 WEEK (NORMAL) X
*NOT AVAILABLE ON ALL ANALYSES

CERTIFICATION REQUIRED ☐ NM ☐ SDWA ☐ AZ ☐ OTHER

METHANOL PRESERVATION ☐ METALS ☐ TOTAL ☐ DISSOLVED

COMMENTS:

RELINQUISHED BY: 1

Signature: Nathan Wills Time: 1705

Printed Name: Nathan Wills Date: 12-18-07

Company: AES

See Reverse side (Force Majeure)

RECEIVED BY: 1

Signature: L. Cupps Time: 0900

Printed Name: L. Cupps Date: 12/19/07

Company: AES

RELINQUISHED BY: 2

Signature: L. Cupps Time: 1420

Printed Name: L. Cupps Date: 12/19/07

Company: AES

RECEIVED BY: (LAB) 2

Signature: Time: 1445

Printed Name: Date: 12/20/07

Pinnacle Laboratories Inc.

Pinnacle Laboratories Inc.

CHAIN OF CUSTODY

DATE: 12/19/07 PAGE: 1 OF 1

PLI Accession #: 112906

SHADED AREAS ARE FOR LAB USE ONLY

PLEASE FILL THIS FORM IN COMPLETELY.

PROJECT MANAGER: Ross Kennemer

COMPANY: Animas Environmental Svcs LLC
ADDRESS: 624 E Comanche
Farmington, NM 87401
PHONE: 505-564-2281
FAX: 505-324-2022
BILL TO: Biotech
COMPANY:
ADDRESS:

SAMPLE ID	DATE	TIME	MATRIX	LAB ID
MW-1H	12/19/07	0955	H_2O	01
MW-2	12/19/07	1030	H_2O	02

ANALYSIS REQUEST

Petroleum Hydrocarbons (418.1) TRPH	(MOD.8015) Diesel/Direct Inject	8021/8015 BTEX/MTBE+GRO (M8015) Gas/Purge & Trap	8021 (BTEX)/8015 (Gasoline) MTBE	8021 (BTEX) ☐MTBE ☐TMB ☐PCE	8021 (TCL)	8021 (EDX)	8021 (HALO)	8021 (CUST)	504.1 EDB ☐/DBCP ☐	8260 (TCL) Volatile Organics	8260 (Full) Volatile Organics ☐PBMS	8260 (CUST) Volatile Organics	8260 (Landfill) Volatile Organics	Pesticides/PCB (608/8081/8082)	Herbicides (615/8151)	Base/Neutral/Acid Compounds GC/MS (625/8270)	Polynuclear Aromatics (610/8310/8270-SIMS)	General Chemistry: Alk, Br, Cl, F, SO4	Dissolved Ca, Mg, K, Na	Priority Pollutant Metals (13)	Target Analyte List Metals (23)	RCRA Metals (8)	RCRA Metals by TCLP (Method1311)	Metals: Total RCRA metals + Hardness	NUMBER OF CONTAINERS
	X	X																X	X					X	2
	X	X																X	X					X	2

WEEKEND ANALYSES MAY RESULT IN AN ADDITIONAL SURCHARGE - PLEASE INQUIRE.

PROJECT INFORMATION

PROJ. NO.: AES 050204
PROJ. NAME: TW 810 Refinery
P.O. NO.:
SHIPPED VIA: UPS

SAMPLE RECEIPT

NO. CONTAINERS	4
CUSTODY SEALS	(Y) N/A
RECEIVED INTACT	Y (N)
BLUE ICE/ICE	Y (N)

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

(RUSH) ☐24hr* ☐48hr* ☐72hr* ☐ 1 WEEK (NORMAL) X
*NOT AVAILABLE ON ALL ANALYSES

CERTIFICATION REQUIRED ☐ NM ☐ SDWA ☐ AZ ☐ OTHER

METHANOL PRESERVATION ☐ METALS ☐ TOTAL ☐ DISSOLVED

COMMENTS:

RELINQUISHED BY: 1

Signature: Nathan Willis Time: 1200
Printed Name: Nathan Willis Date: 12-19-07
Company: AES
See Reverse side (Force Majeure)

RECEIVED BY: 1

Signature: L. Cupps Time: 1315
Printed Name: L. Cupps Date: 12/19/07
Company: AES

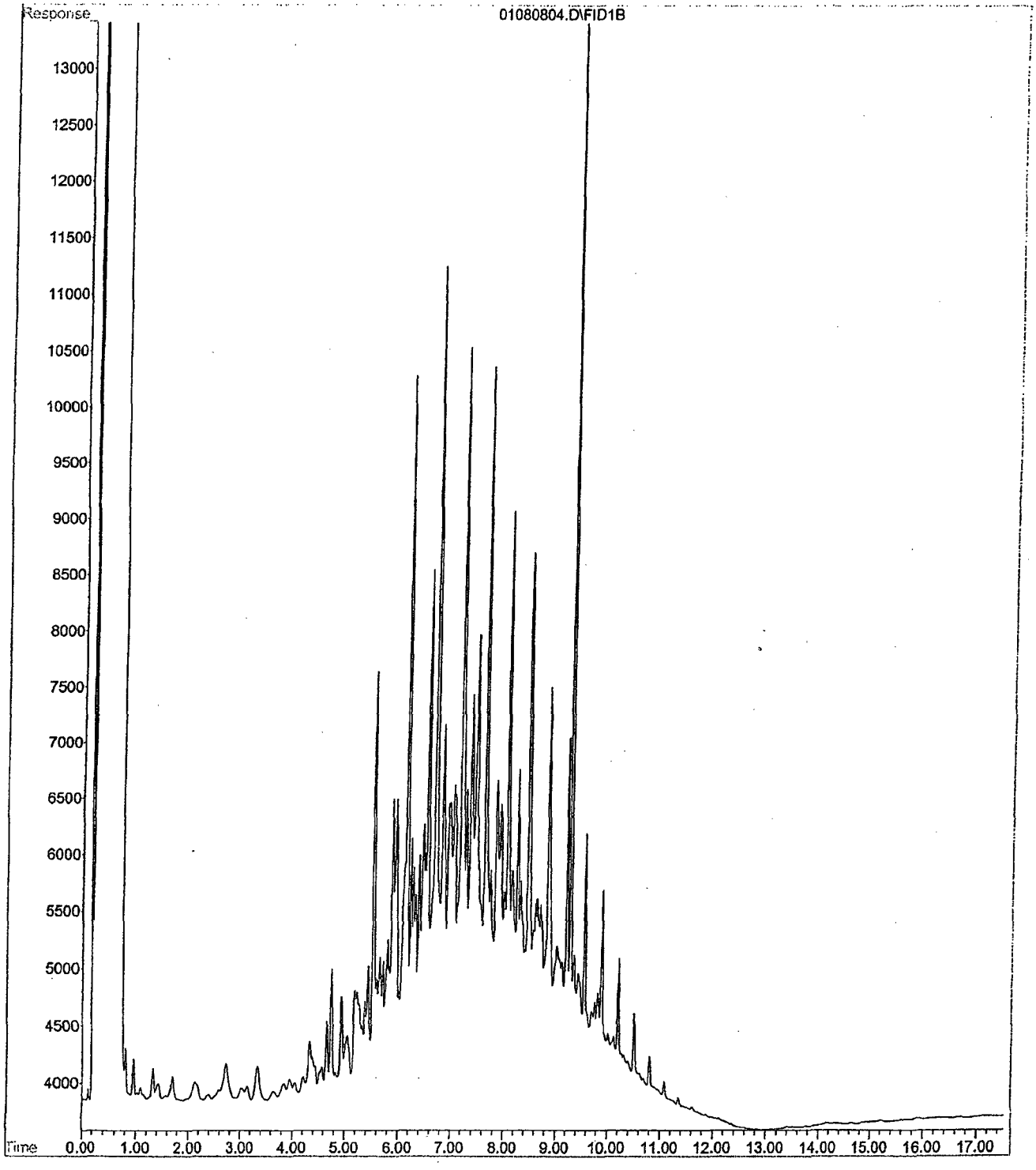
RELINQUISHED BY: 2

Signature: L. Cupps Time: 1420
Printed Name: L. Cupps Date: 12/19/07
Company: AES

RECEIVED BY (LAB): 2

Signature: Time: 1425
Printed Name: Date: 12/20/07
Pinnacle Laboratories Inc.

File : C:\HPCHEM\2\DATA\010808F\01080804.D
Operator : STH
Acquired : 8 Jan 2008 11:38 am using AcqMethod DRO70719.M
Instrument : FID-1
Sample Name: DRO CCV 200 UG/ML
Misc Info : GC5-75-17
Vial Number: 3



HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

COVER LETTER

Wednesday, January 09, 2008

Ross Kennemer
Animas Environmental Services
624 East Comanche
Farmington, NM 87401

TEL: (505) 564-2281
FAX (505) 324-2022

RE: TW 810 Refinery

Order No.: 0712305

Dear Ross Kennemer:

Hall Environmental Analysis Laboratory, Inc. received 8 sample(s) on 12/20/2007 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman, Business Manager
Nancy McDuffie, Laboratory Manager

NM Lab # NM9425
AZ license # AZ0682
ORELAP Lab # NM100001

Hall Environmental Analysis Laboratory, Inc.

Date: *09-Jan-08*

CLIENT:	Animas Environmental Services	**Client Sample ID:**	MW-20
Lab Order:	0712305	**Collection Date:**	12/18/2007 9:52:00 AM
Project:	TW 810 Refinery	**Date Received:**	12/20/2007
Lab ID:	0712305-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: PAHS						Analyst: **JDC**
Naphthalene	ND	0.70		µg/L	1	1/7/2008
1-Methylnaphthalene	ND	0.70		µg/L	1	1/7/2008
2-Methylnaphthalene	ND	0.70		µg/L	1	1/7/2008
Acenaphthylene	ND	0.70		µg/L	1	1/7/2008
Acenaphthene	ND	0.70		µg/L	1	1/7/2008
Fluorene	ND	0.70		µg/L	1	1/7/2008
Phenanthrene	ND	0.70		µg/L	1	1/7/2008
Anthracene	ND	0.70		µg/L	1	1/7/2008
Fluoranthene	ND	0.70		µg/L	1	1/7/2008
Pyrene	ND	0.70		µg/L	1	1/7/2008
Benz(a)anthracene	ND	0.70		µg/L	1	1/7/2008
Chrysene	ND	0.70		µg/L	1	1/7/2008
Benzo(b)fluoranthene	ND	0.70		µg/L	1	1/7/2008
Benzo(k)fluoranthene	ND	0.70		µg/L	1	1/7/2008
Benzo(a)pyrene	ND	0.70		µg/L	1	1/7/2008
Dibenz(a,h)anthracene	ND	1.0		µg/L	1	1/7/2008
Benzo(g,h,i)perylene	ND	1.0		µg/L	1	1/7/2008
Indeno(1,2,3-cd)pyrene	ND	1.0		µg/L	1	1/7/2008
Surr: 2-Fluorobiphenyl	83.7	19.6-134		%REC	1	1/8/2008
Surr: 4-Terphenyl-d-14	68.5	22.7-145		%REC	1	1/8/2008
Surr: Nitrobenzene-d5	74.4	14.6-134		%REC	1	1/8/2008
SM 2540C: TDS						Analyst: **TAF**
Total Dissolved Solids	5000	200		mg/L	1	12/21/2007

Qualifiers:	*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
	ND	Not Detected at the Reporting Limit	RL	Reporting Limit
	S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *09-Jan-08*

CLIENT:	Animas Environmental Services	**Client Sample ID:**	MW-21
Lab Order:	0712305	**Collection Date:**	12/18/2007 10:49:00 AM
Project:	TW 810 Refinery	**Date Received:**	12/20/2007
Lab ID:	0712305-02	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: PAHS						Analyst: **JDC**
Naphthalene	ND	0.70		µg/L	1	1/7/2008
1-Methylnaphthalene	ND	0.70		µg/L	1	1/7/2008
2-Methylnaphthalene	ND	0.70		µg/L	1	1/7/2008
Acenaphthylene	ND	0.70		µg/L	1	1/7/2008
Acenaphthene	ND	0.70		µg/L	1	1/7/2008
Fluorene	ND	0.70		µg/L	1	1/7/2008
Phenanthrene	ND	0.70		µg/L	1	1/7/2008
Anthracene	ND	0.70		µg/L	1	1/7/2008
Fluoranthene	ND	0.70		µg/L	1	1/7/2008
Pyrene	ND	0.70		µg/L	1	1/7/2008
Benz(a)anthracene	ND	0.70		µg/L	1	1/7/2008
Chrysene	ND	0.70		µg/L	1	1/7/2008
Benzo(b)fluoranthene	ND	0.70		µg/L	1	1/7/2008
Benzo(k)fluoranthene	ND	0.70		µg/L	1	1/7/2008
Benzo(a)pyrene	ND	0.70		µg/L	1	1/7/2008
Dibenz(a,h)anthracene	ND	1.0		µg/L	1	1/7/2008
Benzo(g,h,i)perylene	ND	1.0		µg/L	1	1/7/2008
Indeno(1,2,3-cd)pyrene	ND	1.0		µg/L	1	1/7/2008
Surr: 2-Fluorobiphenyl	78.3	19.6-134		%REC	1	1/8/2008
Surr: 4-Terphenyl-d-14	66.5	22.7-145		%REC	1	1/8/2008
Surr: Nitrobenzene-d5	75.6	14.6-134		%REC	1	1/8/2008
SM 2540C: TDS						Analyst: **TAF**
Total Dissolved Solids	6300	200		mg/L	1	12/21/2007

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *09-Jan-08*

CLIENT:	Animas Environmental Services	**Client Sample ID:**	MW-22
Lab Order:	0712305	**Collection Date:**	12/18/2007 1:35:00 PM
Project:	TW 810 Refinery	**Date Received:**	12/20/2007
Lab ID:	0712305-03	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: PAHS						Analyst: **JDC**
Naphthalene	ND	0.70		µg/L	1	1/7/2008
1-Methylnaphthalene	ND	0.70		µg/L	1	1/7/2008
2-Methylnaphthalene	ND	0.70		µg/L	1	1/7/2008
Acenaphthylene	ND	0.70		µg/L	1	1/7/2008
Acenaphthene	ND	0.70		µg/L	1	1/7/2008
Fluorene	ND	0.70		µg/L	1	1/7/2008
Phenanthrene	ND	0.70		µg/L	1	1/7/2008
Anthracene	ND	0.70		µg/L	1	1/7/2008
Fluoranthene	ND	0.70		µg/L	1	1/7/2008
Pyrene	ND	0.70		µg/L	1	1/7/2008
Benz(a)anthracene	ND	0.70		µg/L	1	1/7/2008
Chrysene	ND	0.70		µg/L	1	1/7/2008
Benzo(b)fluoranthene	ND	0.70		µg/L	1	1/7/2008
Benzo(k)fluoranthene	ND	0.70		µg/L	1	1/7/2008
Benzo(a)pyrene	ND	0.70		µg/L	1	1/7/2008
Dibenz(a,h)anthracene	ND	1.0		µg/L	1	1/7/2008
Benzo(g,h,i)perylene	ND	1.0		µg/L	1	1/7/2008
Indeno(1,2,3-cd)pyrene	ND	1.0		µg/L	1	1/7/2008
Surr: 4-Terphenyl-d-14	53.8	19.6-134		%REC	1	1/8/2008
Surr: Nitrobenzene-d5	69.1	22.7-145		%REC	1	1/8/2008
Surr: 2-Fluorobiphenyl	70.9	14.6-134		%REC	1	1/8/2008
SM 2540C: TDS						Analyst: **TAF**
Total Dissolved Solids	10000	200		mg/L	1	12/21/2007

Qualifiers:	*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
	ND	Not Detected at the Reporting Limit	RL	Reporting Limit
	S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *09-Jan-08*

CLIENT:	Animas Environmental Services	**Client Sample ID:**	MW-10
Lab Order:	0712305	**Collection Date:**	12/18/2007 2:40:00 PM
Project:	TW 810 Refinery	**Date Received:**	12/20/2007
Lab ID:	0712305-04	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: PAHS						Analyst: **JDC**
Naphthalene	ND	0.70		µg/L	1	1/7/2008
1-Methylnaphthalene	ND	0.70		µg/L	1	1/7/2008
2-Methylnaphthalene	ND	0.70		µg/L	1	1/7/2008
Acenaphthylene	ND	0.70		µg/L	1	1/7/2008
Acenaphthene	ND	0.70		µg/L	1	1/7/2008
Fluorene	ND	0.70		µg/L	1	1/7/2008
Phenanthrene	ND	0.70		µg/L	1	1/7/2008
Anthracene	ND	0.70		µg/L	1	1/7/2008
Fluoranthene	ND	0.70		µg/L	1	1/7/2008
Pyrene	ND	0.70		µg/L	1	1/7/2008
Benz(a)anthracene	ND	0.70		µg/L	1	1/7/2008
Chrysene	ND	0.70		µg/L	1	1/7/2008
Benzo(b)fluoranthene	ND	0.70		µg/L	1	1/7/2008
Benzo(k)fluoranthene	ND	0.70		µg/L	1	1/7/2008
Benzo(a)pyrene	ND	0.70		µg/L	1	1/7/2008
Dibenz(a,h)anthracene	ND	1.0		µg/L	1	1/7/2008
Benzo(g,h,i)perylene	ND	1.0		µg/L	1	1/7/2008
Indeno(1,2,3-cd)pyrene	ND	1.0		µg/L	1	1/7/2008
Surr: 4-Terphenyl-d-14	58.3	19.6-134		%REC	1	1/8/2008
Surr: Nitrobenzene-d5	67.5	22.7-145		%REC	1	1/8/2008
Surr: 2-Fluorobiphenyl	70.1	14.6-134		%REC	1	1/8/2008
SM 2540C: TDS						Analyst: **TAF**
Total Dissolved Solids	5500	200		mg/L	1	12/21/2007

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *09-Jan-08*

CLIENT:	Animas Environmental Services	**Client Sample ID:**	MW-18
Lab Order:	0712305	**Collection Date:**	12/18/2007 3:44:00 PM
Project:	TW 810 Refinery	**Date Received:**	12/20/2007
Lab ID:	0712305-05	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: PAHS						Analyst: **JDC**
Naphthalene	ND	0.70		µg/L	1	1/7/2008
1-Methylnaphthalene	ND	0.70		µg/L	1	1/7/2008
2-Methylnaphthalene	ND	0.70		µg/L	1	1/7/2008
Acenaphthylene	ND	0.70		µg/L	1	1/7/2008
Acenaphthene	ND	0.70		µg/L	1	1/7/2008
Fluorene	ND	0.70		µg/L	1	1/7/2008
Phenanthrene	ND	0.70		µg/L	1	1/7/2008
Anthracene	ND	0.70		µg/L	1	1/7/2008
Fluoranthene	ND	0.70		µg/L	1	1/7/2008
Pyrene	4.0	0.70		µg/L	1	1/7/2008
Benz(a)anthracene	ND	0.70		µg/L	1	1/7/2008
Chrysene	ND	0.70		µg/L	1	1/7/2008
Benzo(b)fluoranthene	ND	0.70		µg/L	1	1/7/2008
Benzo(k)fluoranthene	ND	0.70		µg/L	1	1/7/2008
Benzo(a)pyrene	ND	0.70		µg/L	1	1/7/2008
Dibenz(a,h)anthracene	ND	1.0		µg/L	1	1/7/2008
Benzo(g,h,i)perylene	ND	1.0		µg/L	1	1/7/2008
Indeno(1,2,3-cd)pyrene	ND	1.0		µg/L	1	1/7/2008
Surr: 4-Terphenyl-d-14	62.8	19.6-134		%REC	1	1/8/2008
Surr: Nitrobenzene-d5	66.9	22.7-145		%REC	1	1/8/2008
Surr: 2-Fluorobiphenyl	71.8	14.6-134		%REC	1	1/8/2008
SM 2540C: TDS						Analyst: **TAF**
Total Dissolved Solids	5000	200		mg/L	1	12/21/2007

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *09-Jan-08*

CLIENT:	Animas Environmental Services	**Client Sample ID:**	MW-1
Lab Order:	0712305	**Collection Date:**	12/18/2007 4:23:00 PM
Project:	TW 810 Refinery	**Date Received:**	12/20/2007
Lab ID:	0712305-06	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: PAHS						Analyst: **JDC**
Naphthalene	ND	0.70		µg/L	1	1/7/2008
1-Methylnaphthalene	ND	0.70		µg/L	1	1/7/2008
2-Methylnaphthalene	ND	0.70		µg/L	1	1/7/2008
Acenaphthylene	ND	0.70		µg/L	1	1/7/2008
Acenaphthene	ND	0.70		µg/L	1	1/7/2008
Fluorene	ND	0.70		µg/L	1	1/7/2008
Phenanthrene	ND	0.70		µg/L	1	1/7/2008
Anthracene	ND	0.70		µg/L	1	1/7/2008
Fluoranthene	ND	0.70		µg/L	1	1/7/2008
Pyrene	5.5	0.70		µg/L	1	1/7/2008
Benz(a)anthracene	ND	0.70		µg/L	1	1/7/2008
Chrysene	ND	0.70		µg/L	1	1/7/2008
Benzo(b)fluoranthene	ND	0.70		µg/L	1	1/7/2008
Benzo(k)fluoranthene	ND	0.70		µg/L	1	1/7/2008
Benzo(a)pyrene	ND	0.70		µg/L	1	1/7/2008
Dibenz(a,h)anthracene	ND	1.0		µg/L	1	1/7/2008
Benzo(g,h,i)perylene	ND	1.0		µg/L	1	1/7/2008
Indeno(1,2,3-cd)pyrene	ND	1.0		µg/L	1	1/7/2008
Surr: 4-Terphenyl-d-14	38.1	19.6-134		%REC	1	1/8/2008
Surr: Nitrobenzene-d5	33.2	22.7-145		%REC	1	1/8/2008
Surr: 2-Fluorobiphenyl	40.5	14.6-134		%REC	1	1/8/2008
SM 2540C: TDS						Analyst: **TAF**
Total Dissolved Solids	3600	100		mg/L	1	12/21/2007

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *09-Jan-08*

CLIENT:	Animas Environmental Services	**Client Sample ID:**	MW-14
Lab Order:	0712305	**Collection Date:**	12/19/2007 9:55:00 AM
Project:	TW 810 Refinery	**Date Received:**	12/20/2007
Lab ID:	0712305-07	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: PAHS						Analyst: **JDC**
Naphthalene	ND	0.70		µg/L	1	1/7/2008
1-Methylnaphthalene	ND	0.70		µg/L	1	1/7/2008
2-Methylnaphthalene	ND	0.70		µg/L	1	1/7/2008
Acenaphthylene	ND	0.70		µg/L	1	1/7/2008
Acenaphthene	ND	0.70		µg/L	1	1/7/2008
Fluorene	ND	0.70		µg/L	1	1/7/2008
Phenanthrene	ND	0.70		µg/L	1	1/7/2008
Anthracene	ND	0.70		µg/L	1	1/7/2008
Fluoranthene	ND	0.70		µg/L	1	1/7/2008
Pyrene	ND	0.70		µg/L	1	1/7/2008
Benz(a)anthracene	ND	0.70		µg/L	1	1/7/2008
Chrysene	ND	0.70		µg/L	1	1/7/2008
Benzo(b)fluoranthene	ND	0.70		µg/L	1	1/7/2008
Benzo(k)fluoranthene	ND	0.70		µg/L	1	1/7/2008
Benzo(a)pyrene	ND	0.70		µg/L	1	1/7/2008
Dibenz(a,h)anthracene	ND	1.0		µg/L	1	1/7/2008
Benzo(g,h,i)perylene	ND	1.0		µg/L	1	1/7/2008
Indeno(1,2,3-cd)pyrene	ND	1.0		µg/L	1	1/7/2008
Surr: 4-Terphenyl-d-14	57.9	19.6-134		%REC	1	1/8/2008
Surr: Nitrobenzene-d5	60.6	22.7-145		%REC	1	1/8/2008
Surr: 2-Fluorobiphenyl	66.1	14.6-134		%REC	1	1/8/2008
SM 2540C: TDS						Analyst: **TAF**
Total Dissolved Solids	5000	100		mg/L	1	12/21/2007

Qualifiers:	*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
	ND	Not Detected at the Reporting Limit	RL	Reporting Limit
	S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *09-Jan-08*

CLIENT:	Animas Environmental Services	**Client Sample ID:**	MW-2
Lab Order:	0712305	**Collection Date:**	12/19/2007 10:30:00 AM
Project:	TW 810 Refinery	**Date Received:**	12/20/2007
Lab ID:	0712305-08	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: PAHS						Analyst: **JDC**
Naphthalene	40	3.5		µg/L	1	1/7/2008
1-Methylnaphthalene	22	3.5		µg/L	1	1/7/2008
2-Methylnaphthalene	210	3.5		µg/L	1	1/7/2008
Acenaphthylene	ND	3.5		µg/L	1	1/7/2008
Acenaphthene	ND	3.5		µg/L	1	1/7/2008
Fluorene	58	3.5		µg/L	1	1/7/2008
Phenanthrene	120	3.5		µg/L	1	1/7/2008
Anthracene	ND	3.5		µg/L	1	1/7/2008
Fluoranthene	ND	3.5		µg/L	1	1/7/2008
Pyrene	ND	3.5		µg/L	1	1/7/2008
Benz(a)anthracene	ND	3.5		µg/L	1	1/7/2008
Chrysene	ND	3.5		µg/L	1	1/7/2008
Benzo(b)fluoranthene	ND	3.5		µg/L	1	1/7/2008
Benzo(k)fluoranthene	ND	3.5		µg/L	1	1/7/2008
Benzo(a)pyrene	ND	3.5		µg/L	1	1/7/2008
Dibenz(a,h)anthracene	ND	5.0		µg/L	1	1/7/2008
Benzo(g,h,i)perylene	ND	5.0		µg/L	1	1/7/2008
Indeno(1,2,3-cd)pyrene	ND	5.0		µg/L	1	1/7/2008
Surr: 4-Terphenyl-d-14	67.8	19.6-134		%REC	1	1/8/2008
Surr: Nitrobenzene-d5	82.6	22.7-145		%REC	1	1/8/2008
Surr: 2-Fluorobiphenyl	80.8	14.6-134		%REC	1	1/8/2008
SM 2540C: TDS						Analyst: **TAF**
Total Dissolved Solids	1900	100		mg/L	1	12/21/2007

Qualifiers:	*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank	
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	
	J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level	
	ND	Not Detected at the Reporting Limit	RL	Reporting Limit	
	S	Spike recovery outside accepted recovery limits			

QA/QC SUMMARY REPORT

Client: Animas Environmental Services
Project: TW 810 Refinery **Work Order:** 0712305

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8270C: PAHs									
Sample ID: mb-14716		*MBLK*			Batch ID:	**14735**	Analysis Date:		1/7/2008
Naphthalene	ND	µg/L	0.70						
1-Methylnaphthalene	ND	µg/L	0.70						
2-Methylnaphthalene	ND	µg/L	0.70						
Acenaphthylene	ND	µg/L	0.70						
Acenaphthene	ND	µg/L	0.70						
Fluorene	ND	µg/L	0.70						
Phenanthrene	ND	µg/L	0.70						
Anthracene	ND	µg/L	0.70						
Fluoranthene	ND	µg/L	0.70						
Pyrene	ND	µg/L	0.70						
Benz(a)anthracene	ND	µg/L	0.70						
Chrysene	ND	µg/L	0.70						
Benzo(b)fluoranthene	ND	µg/L	0.70						
Benzo(k)fluoranthene	ND	µg/L	0.70						
Benzo(a)pyrene	ND	µg/L	0.70						
Dibenz(a,h)anthracene	ND	µg/L	1.0						
Benzo(g,h,i)perylene	ND	µg/L	1.0						
Indeno(1,2,3-cd)pyrene	ND	µg/L	1.0						
Method: SM 2540C: TDS									
Sample ID: MB-14717		*MBLK*			Batch ID:	**14717**	Analysis Date:		12/21/2007
Total Dissolved Solids	ND	mg/L	20						
Sample ID: LCS-14717		*LCS*			Batch ID:	**14717**	Analysis Date:		12/21/2007
Total Dissolved Solids	1028	mg/L	20	102	80	120			

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	S	Spike recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name ANIMAS ENVIRONMENTAL | Date Received: 12/20/2007

Work Order Number 0712305 | Received by: ARS

Checklist completed by: [signature] 12/20/07 (Signature / Date) | Sample ID labels checked by TS (Initials)

Matrix | Carrier name Greyhound

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐	
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐	Not Shipped ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	N/A ☑	
Chain of custody present?	Yes ☑	No ☐		
Chain of custody signed when relinquished and received?	Yes ☑	No ☐		
Chain of custody agrees with sample labels?	Yes ☑	No ☐		
Samples in proper container/bottle?	Yes ☑	No ☐		
Sample containers intact?	Yes ☑	No ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		
Water - VOA vials have zero headspace?	No VOA vials submitted ☑	Yes ☐	No ☐	
Water - Preservation labels on bottle and cap match?	Yes ☐	No ☐	N/A ☑	
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑	
Container/Temp Blank temperature?	8°	*<6° C Acceptable* If given sufficient time to cool.		

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding _____

Comments: _____

Corrective Action _____

CHAIN-OF-CUSTODY RECORD

QA / QC Package:
Std ☒ Level 4 ☐
Other:

HALL ENVIRONMENTAL ANALYSIS LABORATORY
4901 Hawkins NE, Suite D
Albuquerque, New Mexico 87109
Tel. 505.345.3975 Fax 505.345.4107
www.hallenvironmental.com

Client: Animas Environmental Services, LLC
Address: 624 E. Comanche Farmington, NM 87401
Phone #: 505-564-2281
Fax #: 505-324-2022

Project Name: TW 810 Refinery
Project #: AES 050204
Project Manager: Ross Kennemer
Sampler: Nathan Willis + Chad Dawson
Sample Temperature: 8°

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative: $HgCl_2$	Preservative: HNO_3	Preservative: ICE	HEAL No.
12/18/07	0952	H_2O	MW-20	1L Amber 500mL HDPE			X	071205 1
12/18/07	1049	H_2O	MW-21	1L Amber 500mL HDPE			X	2
12/18/07	1335	H_2O	MW-22	1L Amber 500mL HDPE			X	3
12/18/07	1440	H_2O	MW-10	1L Amber 500mL HDPE			X	4
12/18/07	1544	H_2O	MW-18	1L Amber 500mL HDPE			X	5
12/18/07	1623	H_2O	MW-1	1L Amber 500mL HDPE			X	6

ANALYSIS REQUEST

BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / PCB's (8082)	8260B (VOA)	8270 (Semi-VOA)	PAHs - 8270 SIMS	TDS - 160.1			Air Bubbles or Headspace (Y or N)
												X	X			
												X	X			
												X	X			
												X	X			
												X	X			
												X	X			

Remarks:

Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)
12-18-07	1705	Nathan Willis	Sandrea R. Cupps
12/19/07	1420	Sandrea R. Cupps	10:00 12/20/07

CHAIN-OF-CUSTODY RECORD

QA / QC Package:
Std ☒ Level 4 ☐
Other:

HALL ENVIRONMENTAL ANALYSIS LABORATORY
4901 Hawkins NE, Suite D
Albuquerque, New Mexico 87109
Tel. 505.345.3975 Fax 505.345.4107
www.hallenvironmental.com

Client: Animas Environmental Services, LLC
Address: 624 E. Comanche Farmington, NM 87401
Phone #: 505-564-2281
Fax #: 505-324-2022

Project Name: TW 810 Refinery
Project #: AES 050204
Project Manager: Ross Kennemer
Sampler: Nathan Willis + Chad Dawson
Sample Temperature: 8°

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative: $HgCl_2$	Preservative: HNO_3	Preservative: 4°C	HEAL No.
12/19/07	0955	H_2O	MW-14	1L Amber 500mL HDPE			X	0712305 7
12/19/07	1030	H_2O	MW-2	1L Amber 500mL HDPE			X	8

ANALYSIS REQUEST

BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / PCB's (8082)	8260B (VOA)	8270 (Semi-VOA)	PAHs - 8270 SIMs	TDS - 160.1			Air Bubbles or Headspace (Y or N)
												X	X			
												X	X			

Remarks:

Date	Time	Relinquished By: (Signature)	Received By: (Signature)
12-19-07	1200	Nathan Willis	Sandrea R Cupps
12/19/07	1420	Sandrea R Cupps	10:00 12/20/07