

GW - 55

REPORTS

YEAR(S):

10-28-09

October 28, 2009

2009 OCT 29 PM 1 31

Brad Jones
New Mexico Oil Conservation Division
1220 S. St. Francis Drive
Santa Fe, New Mexico 87505

GW-55

**RE: Periodic Progress Report for the Thriftway Refinery, 626 County Road 5500,
Bloomfield, New Mexico**

Dear Mr. Jones:

Animas Environmental Services, LLC (AES) has prepared this Periodic Progress 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 groundwater analytical report details groundwater monitoring and sampling activities conducted at the site during August 2009. A General Site Plan is included as Figure 1.

1.0 Groundwater Monitoring and Sampling

BioTech Remediation, Inc. (BioTech) personnel measured groundwater elevations at the site on August 12, 2009, to determine which wells contained free product. Groundwater monitoring and sampling was also conducted at the site on August 19 through 21, and August 24, 2009.

1.1 *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 feet. Depth to groundwater measurements were recorded on Water Sample Collection Forms. Electronic copies of the Water Sample Collection Forms are included in Appendix A.

1.2 *Measurement of Free Product*

Each well with free product was measured with an electronic interface probe, and the depths to the top of product and the oil/water interface were recorded on a



groundwater measurement form. Free product was measured on August 12 and 13, 2009, in TW-13, TW-19 through TW-22, TW-25, TW-26, TW-28, TW-29, TW-32, TW-33, TW-36, and TW-40. In addition, free product was observed in TW-36 on August 21. Monitor wells containing free product were not sampled during the August 2009 event.

In monitor wells containing free product, corrected groundwater elevations (H_c) 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)

1.3 Groundwater Sampling

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

Groundwater samples were then collected. 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 Hall Environmental Analysis Laboratory (Hall), Albuquerque, New Mexico.

Groundwater samples were collected in the order from the least contaminated sampling location to the most contaminated sampling location, as determined by the previous sampling event, in order to reduce the potential for cross-contamination.

1.4 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

1.5 Laboratory Analyses

Samples collected from 27 wells, including TW-1 through TW-12, TW-15 through TW-18, TW-23, TW-30, TW-31, TW-34, TW-35, TW-37, TW-39, and TW-41 through TW-44 were analyzed for the following:

- Total Petroleum Hydrocarbons (TPH) including Diesel Range Organics (DRO), Gasoline Range Organics (GRO), and Motor Oil Range Organics (MRO) per EPA Method 8015B;
- Volatile Organic Compounds per EPA Method 8260B;
- RCRA 8 Metals per EPA Method 6010 and 7470;
- Dissolved Metals (Calcium, Magnesium, Potassium, and Sodium) per EPA Method 6010;
- Bromide, Chloride, Fluoride, and Sulfate per EPA Method 300.0;
- Hardness as CaCO_3 per EPA Method 6010;
- Total Dissolved Solids (TDS) per Standard Method 2540C;
- Specific Conductance per EPA 120.1

All samples were analyzed at Hall in Albuquerque, New Mexico.

2.0 Groundwater Monitoring and Sampling Results

2.1 Hydraulic Gradient and Water Quality Data

2.1.1 Hydraulic Gradient

Prior to sampling each well, depth to groundwater measurements were recorded on a Water Sample Collection Form. Using surveyed TOC elevations and these groundwater depths, AES determined specific groundwater elevations, relative to sea level, for each well measured. Groundwater elevations across the site in August 2009 ranged from 5,440.85 feet above mean sea level (AMSL) in TW-1 to 5,427.39 feet AMSL in TW-42. Groundwater elevations generally decreased across the site by an average of 0.25 feet since the last sampling event in December 2008. Groundwater gradient was calculated between TW-3 and TW-41 with a magnitude of 0.007 ft/ft to the northwest for August 2009.

The groundwater flow direction has remained stable, in a northwesterly direction, which is consistent with historical site data. Table 1 includes depth to groundwater measurements and final water table elevations. Groundwater elevation contours for August 2009 are included on Figure 2. Electronic copies of the Water Sample Collection Forms are included in Appendix A.

2.1.2 Water Quality Data

During purging of the wells prior to sampling, water quality data was recorded until temperature, pH, conductivity, and dissolved oxygen (DO) measurements stabilized. Temperature during the August 2009 sampling event ranged from 14.52°C in TW-8 to 23.34°C in TW-39. Groundwater pH ranged between 6.61 in TW-30 and 7.57 in TW-9, and conductivity ranged between 1.795 mS in TW-1 and 10.81 mS in TW-42. Dissolved oxygen concentrations ranged from 1.33 mg/L in TW-9 to 8.50 mg/L in TW-41.

2.2 Free Product

Non-aqueous phase liquid (NAPL), or free product, was measured in 15 monitor wells, including TW-13, TW-19 through TW-22, TW-25 through TW-29, TW-32, TW-33, TW-36, TW-38, and TW-40. Measured NAPL thicknesses ranged from 0.01 feet in TW-38 to 1.53 feet in TW-20. Free product thickness contours for August 2009 are presented in Figure 3.

2.3 Dissolved Phase Contaminants Concentrations

2.3.1 Volatile Organics

Dissolved phase benzene concentrations outside the area of free product exceeded the New Mexico Water Quality Control Commission (WQCC) standard of 10 µg/L in four of the 27 wells sampled, including TW-8 (26 µg/L), TW-37 (250 µg/L), TW-41 (170 µg/L), and TW-44 (56 µg/L). Dissolved phase benzene concentration contours for August 2009 are included on Figure 4.

Toluene and ethylbenzene concentrations outside the area of free product were below laboratory detection limits or below the applicable WQCC standards of 750 µg/L in all sampled wells. Xylene concentrations were also below laboratory detection limits or below the applicable WQCC standard of 620 µg/L in all wells sampled except TW-41 with 2,000 µg/L.

Dissolved phase MTBE concentrations outside the area of free product were above the WQCC standard of 100 µg/L in three of the wells sampled in August 2009, including TW-37 (180 µg/L), TW-43 (500 µg/L), and TW-44 (360 µg/L). All other wells were either below the laboratory detection limit of 1.0 µg/L or below applicable WQCC standards. MTBE concentration contours for August 2009 are included on Figure 5.

Dissolved phase total naphthalene concentrations outside the area of NAPL were above the WQCC standard of 30 µg/L in only one well, TW-41 (49 µg/L). The remaining wells sampled were either below laboratory detection limits or below the applicable WQCC standard.

Dissolved phase TPH-GRO concentrations outside the area of free product ranged from below laboratory detection limits of 0.050 mg/L to 7.0 mg/L in TW-41. TPH-DRO concentrations ranged from below laboratory detection limits of 1.0 mg/L to 1.2 mg/L in TW-37 and TW-44. TPH-MRO concentrations were below laboratory detection limits of 5.0 mg/L in all sampled wells.

BTEX, MTBE, naphthalene, and TPH analytical data are summarized in Table 2, and electronic copies of laboratory analytical reports are presented in Appendix A.

2.3.2 RCRA 8 Metals

RCRA 8 metals were analyzed by EPA Method 6010 and 7470 from groundwater samples collected from TW-1 through TW-12, TW-15 through TW-18, TW-23, TW-30, TW-31, TW-34, TW-35, TW-37, TW-39, and TW-41 through TW-44. Laboratory results for arsenic, 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 3, and electronic copies of laboratory analytical reports are included in Appendix A.

2.3.3 Geochemical Parameters

Based on laboratory analytical results, dissolved calcium concentrations ranged from 250 mg/L in TW-42 to 700 mg/L in TW-30, and dissolved magnesium concentrations were between 21 mg/L in TW-9 and 88 mg/L in TW-35. Dissolved potassium concentrations ranged from 2.3 mg/L in TW-7 to 8.5 mg/L in TW-16, and dissolved sodium concentrations were 300 mg/L in TW-1 and 1,600 mg/L in TW-4 and TW-35.

Dissolved bromide concentrations varied between 0.12 mg/L in TW-1 and 3.9 mg/L in TW-31. Chloride concentrations exceeded the WQCC standard of 250 mg/L in six of the wells sampled, including TW-30 (860 mg/L), TW-31 (1,700 mg/L), TW-37 (330 mg/L), TW-39 (1,300 mg/L), TW-41 (970 mg/L), and TW-42 (690 mg/L). Fluoride concentrations were below the WQCC standard of 1.6 mg/L in all wells sampled, with the highest concentrations being reported in TW-6 and TW-23 (1.1 mg/L). Sulfate concentrations exceeded the applicable WQCC standard of 600 mg/L in all wells sampled, with the exception of TW-9 (530 mg/L) and TW-41 (500 mg/L). The highest sulfate concentration was detected in TW-35 (4,400 mg/L).

Specific conductance ranged from 2,600 µmhos/cm to 6,500 µmhos/cm, and hardness as CaCO₃ ranged from 710 mg/L in TW-9 to 2,000 mg/L in TW-30. TDS concentrations

were above the WQCC standard of 1,000 mg/L in all wells sampled, with the highest TDS concentrations detected in TW-35 (6,700 mg/L). Laboratory data have been summarized in Table 4. Electronic copies of laboratory analytical reports are included in Appendix A.

3.0 Summary and Conclusions

BioTech personnel conducted groundwater sampling at the site in August 2009 following CAP approval by the OCD in correspondence dated August 3, 2009.

Overall groundwater elevations continue to be stable. Groundwater gradient was calculated to be approximately 0.007 ft/ft in a northwest direction across the site in August 2009, which is consistent with historical site data.

Free product was measured in 15 monitor wells, including TW-13, TW-19 through TW-22, TW-25 through TW-29, TW-32, TW-33, TW-36, TW-38, and TW-40. Measured thicknesses ranged from 0.01 in TW-38 to 1.53 feet in TW-20.

Based upon the analytical results for the August 2009 sampling event, dissolved phase contaminant concentrations in several wells exceeded the New Mexico WQCC standards for benzene, MTBE, chloride, sulfate, and TDS. TW-41 exceeded the WQCC standard for both xylene and naphthalene. The highest benzene concentration was reported at 250 µg/L in TW-37. The highest MTBE concentration was detected in TW-43 (500 µg/L).

4.0 Recommendations and Scheduled Site Activities

AES recommends that wells with measurable free product be monitored on a quarterly basis, and the free product data and contours will be included in quarterly progress reports. Because Thriftway's budgetary constraints require a prioritization of funding for actual site remediation activities, the frequency of future groundwater sampling in wells without free product will be adjusted to a semi-annual basis, with results being incorporated into quarterly progress reports.

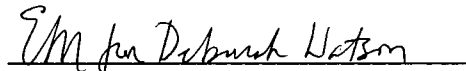
In accordance with Condition #6 of CAP approval by NMOCD, Thriftway proposes to utilize the US Environmental Protection Agency (USEPA) Region 6 Human Health Medium Specific Soil Screening Level (SSL) for MTBE in soil, with a proposed cleanup level of 79 mg/kg (Industrial Worker).

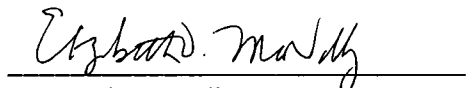
The following site activities have been scheduled:

- Remediation well installation, along with the installation of two additional monitor wells downgradient of TW-42 and TW-43, will be installed beginning November 2, 2009;
- Installation and startup of multi-phase extraction (MPE) remediation unit are tentatively scheduled for late November or early December 2009;
- The next round of free product measurement is also scheduled for November 2009.

If you have any questions regarding this report or scheduled site activities, please do not hesitate to contact Ross Kennemer or Elizabeth McNally at (505) 564-2281.

Sincerely,


Deborah Watson, Project Manager


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

Tables

Table 1.	Summary of Groundwater Measurements and Water Quality Data
Table 2.	Summary of Groundwater BTEX, MTBE, and Total Petroleum Hydrocarbons per EPA Method 8021/8015
Table 3.	Summary of Groundwater RCRA 8 Metals per EPA Method 6010B/7470A
Table 4.	Summary of Groundwater Water Chemistry

Figures

Figure 1.	General Site Plan
Figure 2.	Groundwater Elevations, August 2009
Figure 3.	Free Product Thickness Contours, August 2009
Figure 4.	Dissolved Benzene Concentration Contours, August 2009
Figure 5.	Dissolved MTBE Concentration Contours, August 2009

Appendices

Appendix A. *Electronic*
Water Sample Collection Forms
Laboratory Analytical Reports

Cc: Robert Moss
Thriftway Company
501 Airport Drive
Farmington, NM 87401

TABLE 1

SUMMARY OF RECENT GROUNDWATER MEASUREMENTS AND WATER QUALITY DATA

Thriftway Refinery, 626 CR 5500, 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)	pH	Conductivity (mS)	Dissolved Oxygen (mg/L)	Temp. (°C)	ORP (mV)	Purge Volume (gallons)
TW-1	15-Dec-08	5471.58		27.95		5443.63	6.24	2.772	7.51*	14.64	113.8	0.25
TW-1	26-Jan-09	5471.58		30.53		5441.05	NM	NM	NM	NM	NM	NM
TW-1	19-Aug-09	5471.58		30.73		5440.85	7.09	1.795	8.08	16.17	289.1	1
TW-2	15-Dec-08	5469.31		28.91		5440.40	6.63	4.421	3.60	13.08	125.5	1.25
TW-2	26-Jan-09	5469.31		28.80		5440.51	NM	NM	NM	NM	NM	NM
TW-2	19-Aug-09	5469.31		28.97		5440.34	7.03	2.948	2.68	16.85	291.3	2
TW-3	15-Dec-08	5468.14		27.99		5440.15	6.63	4.249	2.01	14.44	-1.6	1.25
TW-3	26-Jan-09	5468.14		27.87		5440.27	NM	NM	NM	NM	NM	NM
TW-3	19-Aug-09	5468.14		28.05		5440.09	6.95	4.16	2.120	16.34	289.5	2.5
TW-4	16-Dec-08	5458.72		19.16		5439.56	6.67	7.258	4.09	13.40	170.6	1.25
TW-4	26-Jan-09	5458.72		NM			NM	NM	NM	NM	NM	NM
TW-4	19-Aug-09	5458.72		19.22		5439.50	7.08	6.739	4.19	16.19	289.9	4.3
TW-5	15-Dec-08	5465.18		25.54		5439.64	6.56	3.704	3.26	14.25	16.0	1.25
TW-5	26-Jan-09	5465.18		25.44		5439.74	NM	NM	NM	NM	NM	NM
TW-5	19-Aug-09	5465.18		25.58		5439.60	6.96	3.636	5.53	16.55	298.9	3.6
TW-6	15-Dec-08	5463.57		24.78		5438.79	6.50	4.719	0.99	14.50	9.0	1.25
TW-6	26-Jan-09	5463.57		24.67		5438.90	NM	NM	NM	NM	NM	NM
TW-6	19-Aug-09	5463.57		24.82		5438.75	6.95	4.535	1.81	16.24	295.6	4

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TW-7	15-Dec-08	5461.17		22.25		5438.92	6.47	5.302	0.82	14.88	0.8	1.25
TW-7	26-Jan-09	5461.17		22.14		5439.03	NM	NM	NM	NM	NM	NM
TW-7	19-Aug-09	5461.17		22.25		5438.92	6.92	4.780	1.67	16.37	290.3	3
TW-8	16-Dec-08	5458.29		19.76		5438.53	6.42	5.575	0.51	12.78	-258.2	1.25
TW-8	26-Jan-09	5458.29		19.62		5438.67	NM	NM	NM	NM	NM	NM
TW-8	20-Aug-09	5458.29		19.88		5438.41	7.12	4.523	1.40	14.52	264.7	4
TW-9	16-Dec-08	5450.61		12.20		5438.41	6.90	3.473	2.27	14.53	15.6	1.25
TW-9	26-Jan-09	5450.61		12.05		5438.56	NM	NM	NM	NM	NM	NM
TW-9	20-Aug-09	5450.61		12.49		5438.12	7.57	2.397	1.33	16.93	269.2	2.50
TW-10	16-Dec-08	5450.16		12.42		5437.74	6.49	3.876	0.98	11.97	-189.3	1.25
TW-10	26-Jan-09	5450.16		12.25		5437.91	NM	NM	NM	NM	NM	NM
TW-10	20-Aug-09	5450.16		12.70		5437.46	7.37	4.019	1.42	16.75	254.7	4
TW-11	16-Dec-08	5456.31		18.12		5438.19	6.75	6.941	1.41	14.32	72.0	1.25
TW-11	26-Jan-09	5456.31		18.02		5438.29	NM	NM	NM	NM	NM	NM
TW-11	20-Aug-09	5456.31		18.22		5438.09	7.43	6.704	2.52	15.35	261.4	4
TW-12	15-Dec-08	5460.44		22.44		5438.00	6.49	4.247	0.95	16.15	-97.3	1.25
TW-12	26-Jan-09	5460.44	22.34	22.44	0.1	5438.08	NM	NM	NM	NM	NM	NM

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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)	pH	Conductivity (mS)	Dissolved Oxygen (mg/L)	Temp. (°C)	ORP (mV)	Purge Volume (gallons)
TW-12	20-Aug-09	5460.44		22.50		5437.94	7.02	3.881	2.34	17.09	266.5	2.50
TW-13	16-Dec-08	5458.17	20.64	21.48	0.84	5437.38	Not Sampled - NAPL Present					
TW-13	26-Jan-09	5458.17	20.52	21.46	0.94	5437.49	NM	NM	NM	NM	NM	NM
TW-13	12-Aug-09	5458.17	20.75	21.77	1.02	5437.24	NM	NM	NM	NM	NM	NM
TW-14	16-Dec-08	5454.24		16.82		5437.42	Not Sampled - Sheen of NAPL present					
TW-14	26-Jan-09	5454.24	16.71	17.02	0.31	5437.48	NM	NM	NM	NM	NM	NM
TW-14	20-Aug-09	5454.24	16.89	17.02	0.13	5437.33	Not Sampled - NAPL present					
TW-15	16-Dec-08	5450.44		13.15		5437.29	6.69	6.647	1.25	13.17	-176.5	1.25
TW-15	26-Jan-09	5450.44		12.99		5437.45	NM	NM	NM	NM	NM	NM
TW-15	20-Aug-09	5450.44		13.35		5437.09	7.26	6.056	3.64	16.49	320.0	4.30
TW-16	16-Dec-08	5448.45		8.76		5439.69	6.71	6.593	1.64	14.90	7.3	1.25
TW-16	26-Jan-09	5448.45		11.11		5437.34	NM	NM	NM	NM	NM	NM
TW-16	20-Aug-09	5448.45		11.85		5436.60	7.40	6.025	3.66	16.57	285.2	1
TW-17	16-Dec-08	5446.24		9.99		5436.25	6.68	6.643	1.26	14.10	-31.3	1.25
TW-17	26-Jan-09	5446.24		9.82		5436.42	NM	NM	NM	NM	NM	NM
TW-17	21-Aug-09	5446.24		10.31		5435.93	7.13	6.100	8.37	17.86	289.9	3
TW-18	16-Dec-08	5452.73		16.40		5436.33	6.65	5.094	0.88	16.42	-170.9	1.25

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TW-18	26-Jan-09	5452.73		16.29		5436.44	NM	NM	NM	NM	NM	NM
TW-18	21-Aug-09	5452.73		16.48		5436.25	6.94	5.273	7.64	17.32	285.8	4
TW-19	16-Dec-08	5458.49	22.15	22.62	0.47	5436.26	Not Sampled - NAPL Present					
TW-19	26-Jan-09	5458.49	22.01	22.57	0.56	5436.38	NM	NM	NM	NM	NM	NM
TW-19	13-Aug-09	5458.49	22.13	22.86	0.73	5436.23	Not Sampled - NAPL present					
TW-20	17-Dec-08	5453.74	15.14	15.86	0.72	5438.48	Not Sampled - NAPL Present					
TW-20	26-Jan-09	5453.74	17.36	18.62	1.26	5436.16	NM	NM	NM	NM	NM	NM
TW-20	13-Aug-09	5453.74	17.64	19.17	1.53	5435.84	Not Sampled - NAPL present					
TW-21	17-Dec-08	5451.85	15.42	17.19	1.77	5436.12	Not Sampled - NAPL Present					
TW-21	26-Jan-09	5451.85	16.35	16.94	0.59	5435.40	NM	NM	NM	NM	NM	NM
TW-21	13-Aug-09	5451.85	16.50	16.94	0.44	5435.27	Not Sampled - NAPL present					
TW-22	17-Dec-08	5450.19	14.75	14.76	0.01	5435.44	Not Sampled - NAPL Present					
TW-22	26-Jan-09	5450.19	14.69	15.26	0.57	5435.40	NM	NM	NM	NM	NM	NM
TW-22	13-Aug-09	5450.19	14.79	15.39	0.60	5435.30	Not Sampled - NAPL present					
TW-23	18-Dec-08	5443.64		6.60		5437.04	7.09	6.727	3.77	13.65	-138.4	1.25
TW-23	26-Jan-08	5443.64		8.73		5434.91	NM	NM	NM	NM	NM	NM
TW-23	21-Aug-09	5443.64		9.07		5434.57	7.17	7.95	5.40	18.47	286.8	3

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TW-24	17-Dec-08	5444.79		10.97		5433.82	6.21	5.942	4.88	15.60	-64.3	1.25
TW-24	26-Jan-09	5444.79	11.84	11.85	0.01	5432.95	NM	NM	NM	NM	NM	NM
TW-24	21-Aug-09	5444.79	11.10	11.22	0.12	5433.67			Not Sampled - NAPL Present			
TW-25	17-Dec-08	5448.80	14.13	14.62	0.49	5434.59			Not Sampled - NAPL Present			
TW-25	26-Jan-09	5448.80	14.05	14.41	0.36	5434.69	NM	NM	NM	NM	NM	NM
TW-25	13-Aug-09	5448.80	14.14	14.63	0.49	5434.58			Not Sampled - NAPL present			
TW-26	17-Dec-08	5450.34	13.49	14.47	0.98	5436.68			Not Sampled - NAPL Present			
TW-26	26-Jan-09	5450.34	15.80	16.76	0.96	5434.37	NM	NM	NM	NM	NM	NM
TW-26	13-Aug-09	5450.34	15.83	17.29	1.46	5434.26			Not Sampled - NAPL present			
TW-28	17-Dec-08	5449.24	15.37	15.96	0.59	5433.77			Not Sampled - NAPL Present			
TW-28	26-Jan-09	5449.24	15.28	15.79	0.51	5433.87	NM	NM	NM	NM	NM	NM
TW-28	13-Aug-09	5449.24	15.27	16.31	1.04	5433.79			Not Sampled - NAPL present			
TW-29	17-Dec-08	5441.87	9.19	9.20	0.01	5432.68			Not Sampled - NAPL Present			
TW-29	26-Jan-09	5441.87	9.12	9.14	0.02	5432.75	NM	NM	NM	NM	NM	NM
TW-29	13-Aug-09	5441.87	9.22	10.06	0.84	5432.50			Not Sampled - NAPL present			
TW-30	18-Dec-08	5437.93		5.90		5432.03	6.46	6.328	6.25*	12.89	-66.2	1.25
TW-30	26-Jan-09	5437.93		5.69		5432.24	NM	NM	NM	NM	NM	NM
TW-30	21-Aug-09	5437.93		6.07		5431.86	6.61	7.238	5.52	18.52	304.0	5.50

TABLE 1

SUMMARY OF RECENT GROUNDWATER MEASUREMENTS AND WATER QUALITY DATA

Thriftway Refinery, 626 CR 5500, 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)	pH	Conductivity (mS)	Dissolved Oxygen (mg/L)	Temp. (°C)	ORP (mV)	Purge Volume (gallons)
TW-31	16-Dec-08	5438.54		7.03		5431.51	6.37	7.298	2.97	14.00	12.8	1.25
TW-31	26-Jan-09	5438.54		6.94		5431.60	NM	NM	NM	NM	NM	NM
TW-31	21-Aug-09	5438.54		7.18		5431.36	6.84	10.35	6.90	21.75	319.9	3
TW-32	17-Dec-08	5441.61	7.22	8.79	1.57	5434.12	Not Sampled - NAPL Present					
TW-32	26-Jan-09	5441.61	9.02	10.31	1.29	5432.37	NM	NM	NM	NM	NM	NM
TW-32	13-Aug-09	5441.61	9.12	10.86	1.74	5432.19	Not Sampled - NAPL present					
TW-33	17-Dec-08	5445.85	12.96	13.02	0.06	5432.88	Not Sampled - NAPL Present					
TW-33	26-Jan-09	5445.85	12.92	13.02	0.10	5432.91	NM	NM	NM	NM	NM	NM
TW-33	13-Aug-09	5445.85	12.96	13.10	0.14	5432.87	Not Sampled - NAPL present					
TW-34	18-Dec-08	5455.80		19.82		5435.98	7.48	6.744	3.97	14.29	-183.8	1.25
TW-34	26-Jan-09	5455.80		19.74		5436.06	NM	NM	NM	NM	NM	NM
TW-34	19-Aug-09	5455.80		20.23		5435.57	7.06	10.07	6.19	15.43	303.7	3
TW-35	18-Dec-08	5449.14		15.21		5433.93	7.04	7.929	4.39	14.98	-189.4	1.25
TW-35	26-Jan-09	5449.14		15.12		5434.02	NM	NM	NM	NM	NM	NM
TW-35	24-Aug-09	5449.14		15.29		5433.85	7.02	11.80	6.40	16.41	295.1	3.30
TW-36	18-Dec-08	5441.91		13.03		5428.88	6.94	7.874	3.6	15.28	-270.7	1.25
TW-36	26-Jan-09	5441.91	12.94	12.97	0.03	5428.96	NM	NM	NM	NM	NM	NM

TABLE 1

SUMMARY OF RECENT GROUNDWATER MEASUREMENTS AND WATER QUALITY DATA

Thriftway Refinery, 626 CR 5500, 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)	pH	Conductivity (mS)	Dissolved Oxygen (mg/L)	Temp. (°C)	ORP (mV)	Purge Volume (gallons)
TW-36	13-Aug-09	5441.91	13.17	13.35	0.18	5428.71	Not Sampled - NAPL present					
TW-37	17-Dec-08	5439.59		10.57		5429.02	6.51	4.698	3.5	14.02	-221.3	1.25
TW-37	26-Jan-09	5439.59		10.47		5429.12	NM	NM	NM	NM	NM	NM
TW-37	21-Aug-09	5439.59		10.71		5428.88	7.22	6.162	4.35	18.77	296.1	3
TW-38	17-Dec-08	5442.11		9.55		5432.56	6.95	5.466	4.06	12.82	-179.3	1.25
TW-38	26-Jan-09	5442.11		11.36		5430.75	NM	NM	NM	NM	NM	NM
TW-38	21-Aug-09	5442.11	11.57	11.58	0.01	5430.54	Not Sampled - NAPL Present					
TW-39	18-Dec-08	5438.43	7.7	7.71	0.01	5430.73	Not Sampled - Sheen of NAPL Present					
TW-39	26-Jan-09	5438.43		7.44		5430.99	NM	NM	NM	NM	NM	NM
TW-39	21-Aug-09	5438.43		7.96		5430.47	6.93	8.946	4.48	23.34	328.1	3
TW-40	18-Dec-08	5437.50		5.30		5432.20	Not Sampled - Sheen of NAPL Present					
TW-40	26-Jan-09	5437.50		7.27		5430.23	NM	NM	NM	NM	NM	NM
TW-40	13-Aug-09	5437.50	7.90	8.53	0.63	5429.49	Not Sampled - NAPL present					
TW-41	18-Dec-08	5434.77		5.85		5428.92	6.16	5.669	3.92	10.95	-339.4	1.25
TW-41	26-Jan-09	5434.77		5.59		5429.18	NM	NM	NM	NM	NM	NM
TW-41	24-Aug-09	5434.77		6.27		5428.50	6.72	9.811	8.50	20.12	126.3	2.50
TW-42	16-Dec-08	5433.76		6.09		5427.67	6.48	6.036	1.07	12.04	23.5	1.25

TABLE 1

SUMMARY OF RECENT GROUNDWATER MEASUREMENTS AND WATER QUALITY DATA
Thriftway Refinery, 626 CR 5500, 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)	pH	Conductivity (mS)	Dissolved Oxygen (mg/L)	Temp. (°C)	ORP (mV)	Purge Volume (gallons)
TW-42	26-Jan-09	5433.76		5.97		5427.79	NM	NM	NM	NM	NM	NM
TW-42	24-Aug-09	5433.76		6.37		5427.39	7.23	10.81	6.43	19.48	219.0	2.50
TW-43	16-Dec-08	5440.42		12.19		5428.23	6.35	6.716	1.01	14.39	7.0	1.25
TW-43	26-Jan-09	5440.42		12.10		5428.32	NM	NM	NM	NM	NM	NM
TW-43	24-Aug-09	5440.42		12.44		5427.98	6.94	8.834	6.92	17.73	204.1	3
TW-44	17-Dec-08	5444.08		12.66		5431.42	6.71	6.494	2.75	15.75	-43.4	1.25
TW-44	26-Jan-09	5444.08		14.93		5429.15	NM	NM	NM	NM	NM	NM
TW-44	24-Aug-09	5444.08		15.15		5428.93	6.74	9.788	6.47	16.80	248.3	1.50

NOTES: NM - Not Measured

* Denotes erroneous DO measurement - sensor malfunction

TABLE 2
SUMMARY OF GROUNDWATER ANALYTICALS
(VOCs AND TOTAL PETROLEUM HYDROCARBONS)
Thriftway Refinery, 626 CR 5500, Bloomfield, New Mexico

Well ID	Date	Sample Method	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE	Total Naphthalene	GRO C6-C10	DRO C10-C22	MRO
		NM WQCC STANDARD	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	mg/L
			10	750	750	620	100	30	NE	NE	NE
TW-1	15-Dec-08	8260/8015	<1.0	<1.0	<1.0	<1.5	<1.0	<10	<0.050	<1.0	<5.0
TW-1	19-Aug-09	8260/8015	<1.0	<1.0	<1.0	<1.5	<1.0	<2.0	<0.050	<1.0	<5.0
TW-2	15-Dec-08	8260/8015	<1.0	<1.0	<1.0	<1.5	<1.0	<10	<0.050	<1.0	<5.0
TW-2	19-Aug-09	8260/8015	<1.0	<1.0	<1.0	<1.5	<1.0	<2.0	<0.050	<1.0	<5.0
TW-3	15-Dec-08	8260/8015	<1.0	<1.0	<1.0	<1.5	<1.0	<10	<0.050	<1.0	<5.0
TW-3	19-Aug-09	8260/8015	<1.0	<1.0	<1.0	<1.5	<1.0	<2.0	<0.050	<1.0	<5.0
TW-4	16-Dec-08	8260/8015	<1.0	<1.0	<1.0	<1.5	<1.0	<10	<0.050	<1.0	<5.0
TW-4	19-Aug-09	8260/8015	<1.0	<1.0	<1.0	<1.5	<1.0	<2.0	<0.050	<1.0	<5.0
TW-5	15-Dec-08	8260/8015	<1.0	<1.0	<1.0	<1.5	<1.0	<10	<0.050	<1.0	<5.0
TW-5	19-Aug-09	8260/8015	<1.0	<1.0	<1.0	<1.5	<1.0	<2.0	<0.050	<1.0	<5.0
TW-6	15-Dec-08	8260/8015	<1.0	<1.0	<1.0	<1.5	<1.0	<10	<0.050	<1.0	<5.0
TW-6	19-Aug-09	8260/8015	<1.0	<1.0	<1.0	<1.5	<1.0	<2.0	<0.050	<1.0	<5.0
TW-7	15-Dec-08	8260/8015	67	1,700	710	4,200	<10	308	15	2.1	<5.0
TW-7	19-Aug-09	8260/8015	3.8	11	98	15	<1.0	19	0.79	<1.0	<5.0
TW-8	16-Dec-08	8260/8015	120	15	330	950	<5.0	92	8.9	1.4	<5.0
TW-8	19-Aug-09	8260/8015	26	<1.0	82	130	<1.0	<2.0	1.7	<1.0	<5.0
TW-9	16-Dec-08	8260/8015	<1.0	<1.0	<1.0	<1.5	<1.0	<10	<0.050	<1.0	<5.0
TW-9	20-Aug-09	8260/8015	<1.0	<1.0	<1.0	<1.5	<1.0	<2.0	<0.050	<1.0	<5.0

TABLE 2

**SUMMARY OF GROUNDWATER ANALYTICALS
(VOCs AND TOTAL PETROLEUM HYDROCARBONS)**

Thriftway Refinery, 626 CR 5500, Bloomfield, New Mexico

Well ID	Date	Sample Method	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE	Total Naphthalene	GRO C6-C10	DRO C10-C22	MRO
		NM WQCC STANDARD	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	mg/L
			10	750	750	620	100	30	NE	NE	NE
TW-10	16-Dec-08	8260/8015	1.4	<1.0	3.9	9.9	<1.0	<10	0.29	<1.0	<5.0
TW-10	20-Aug-09	8260/8015	<1.0	<1.0	1.1	<1.5	<1.0	<2.0	<0.050	<1.0	<5.0
TW-11	16-Dec-08	8260/8015	<1.0	<1.0	<1.0	<1.5	<1.0	<10	<0.050	<1.0	<5.0
TW-11	20-Aug-09	8260/8015	<1.0	<1.0	<1.0	<1.5	<1.0	<2.0	<0.050	<1.0	<5.0
TW-12	15-Dec-08	8260/8015	6.9	33	670	1,700	<5.0	317	3.4	1.9	<5.0
TW-12	20-Aug-09	8260/8015	<1.0	<1.0	19	25	<1.0	<2.0	0.25	<1.0	<5.0
TW-13	17-Dec-08										
TW-13	21-Aug-09										
TW-14	17-Dec-08										
TW-14	21-Aug-09										
TW-15	16-Dec-08	8260/8015	22	9.2	190	10	<1.0	10	1.1	1.2	<5.0
TW-15	20-Aug-09	8260/8015	6.2	1.7	94	<1.5	<1.0	<2.0	0.69	<1.0	<5.0
TW-16	16-Dec-08	8260/8015	<1.0	<1.0	<1.0	<1.5	<1.0	<10	<0.050	<1.0	<5.0
TW-16	20-Aug-09	8260/8015	<1.0	<1.0	<1.0	<1.5	<1.0	<2.0	<0.050	<1.0	<5.0
TW-17	16-Dec-08	8260/8015	<1.0	<1.0	<1.0	<1.5	<1.0	<10	<0.050	<1.0	<5.0
TW-17	21-Aug-09	8260/8015	<1.0	<1.0	<1.0	<1.5	<1.0	<2.0	<0.050	<1.0	<5.0
TW-18	16-Dec-08	8260/8015	8.9	<1.0	31	18	1.9	<10	0.70	<1.0	<5.0

TABLE 2
SUMMARY OF GROUNDWATER ANALYTICALS
(VOCs AND TOTAL PETROLEUM HYDROCARBONS)
Thriftway Refinery, 626 CR 5500, Bloomfield, New Mexico

Well ID	Date	Sample Method	Benzene µg/L	Toluene µg/L	Ethyl- benzene µg/L	Xylenes µg/L	MTBE µg/L	Total Naph- thalene µg/L	GRO C6-C10 mg/L	DRO C10- C22 mg/L	MRO mg/L
	NM WQCC STANDARD		10	750	750	620	100	30	NE	NE	NE
TW-18	21-Aug-09	8260/8015	2.5	<1.0	12	<1.5	3.2	<2.0	0.11	<1.0	<5.0
TW-19	17-Dec-08		Not Sampled-NAPL present								
TW-19	21-Aug-09		Not Sampled-NAPL present								
TW-20	17-Dec-08		Not Sampled-NAPL present								
TW-20	21-Aug-09		Not Sampled-NAPL present								
TW-21	17-Dec-08		Not Sampled-NAPL present								
TW-21	21-Aug-09		Not Sampled-NAPL present								
TW-22	17-Dec-08		Not Sampled-NAPL present								
TW-22	21-Aug-09		Not Sampled-NAPL present								
TW-23	18-Dec-08	8260/8015	<1.0	<1.0	93	<1.5	<1.0	<10	0.77	1.4	<5.0
TW-23	21-Aug-09	8260/8015	<1.0	<1.0	24	<1.5	<1.0	<2.0	0.34	<1.0	<5.0
TW-24	17-Dec-08	8260/8015	7.5	<1.0	10	<1.5	5.6	2.6	0.26	<1.0	<5.0
TW-24	21-Aug-09		Not Sampled-NAPL present								
TW-25	17-Dec-08		Not Sampled-NAPL present								
TW-25	21-Aug-09		Not Sampled-NAPL present								
TW-26	17-Dec-08		Not Sampled-NAPL present								
TW-26	21-Aug-09		Not Sampled-NAPL present								

TABLE 2

**SUMMARY OF GROUNDWATER ANALYTICALS
(VOCs AND TOTAL PETROLEUM HYDROCARBONS)**

Thriftway Refinery, 626 CR 5500, Bloomfield, New Mexico

Well ID	Date	Sample Method	Benzene µg/L	Toluene µg/L	Ethyl- benzene µg/L	Xylenes µg/L	MTBE µg/L	Total Naph- thalene µg/L	GRO C6-C10 mg/L	DRO C10- C22 mg/L	MRO mg/L
NM WQCC STANDARD			10	750	750	620	100	30	NE	NE	NE
TW-27	17-Dec-08		Not Sampled-NAPL present								
TW-27	21-Aug-09		Not Sampled-NAPL present								
TW-28	17-Dec-08		Not Sampled-NAPL present								
TW-28	21-Aug-09		Not Sampled-NAPL present								
TW-29	17-Dec-08		Not Sampled-NAPL present								
TW-29	21-Aug-09		Not Sampled-NAPL present								
TW-30	18-Dec-08	8260/8015	<1.0	<1.0	<1.0	<1.5	24	<10	0.087	2.8	<5.0
TW-30	21-Aug-09	8260/8015	<1.0	<1.0	<1.0	<1.5	20	<2.0	0.055	<1.0	<5.0
TW-31	16-Dec-08	8260/8015	<1.0	<1.0	<1.0	<1.5	12	<10	<0.050	<1.0	<5.0
TW-31	21-Aug-09	8260/8015	<1.0	<1.0	<1.0	<1.5	16	<2.0	<0.050	<1.0	<5.0
TW-32	17-Dec-08		Not Sampled-NAPL present								
TW-32	21-Aug-09		Not Sampled-NAPL present								
TW-33	17-Dec-08		Not Sampled-NAPL present								
TW-33	21-Aug-09		Not Sampled-NAPL present								
TW-34	18-Dec-08	8260/8015	<1.0	<1.0	<1.0	<1.5	<1.0	<10	<0.050	<1.0	<5.0
TW-34	24-Aug-09	8260/8015	<1.0	<1.0	<1.0	<1.5	<1.0	<2.0	<0.050	<1.0	<5.0
TW-35	18-Dec-08	8260/8015	<1.0	<1.0	<1.0	<1.5	<1.0	<10	<0.050	<1.0	<5.0
TW-35	24-Aug-09	8260/8015	<1.0	<1.0	<1.0	<1.5	<1.0	<2.0	<0.050	<1.0	<5.0

TABLE 2
SUMMARY OF GROUNDWATER ANALYTICALS
(VOCs AND TOTAL PETROLEUM HYDROCARBONS)
Thriftway Refinery, 626 CR 5500, Bloomfield, New Mexico

Well ID	Date	Sample Method	Benzene µg/L	Toluene µg/L	Ethyl- benzene µg/L	Xylenes µg/L	MTBE µg/L	Total Naph- thalene µg/L	GRO C6-C10 mg/L	DRO C10- C22 mg/L	MRO mg/L
	NM WQCC STANDARD		10	750	750	620	100	30	NE	NE	NE
TW-36	18-Dec-08	8260/8015	<1.0	<1.0	16	22	<1.0	91.9	0.30	4.3	<5.0
TW-36	21-Aug-09		Not Sampled-NAPL present								
TW-37	17-Dec-08	8260/8015	820	<5.0	560	1,800	180	<500	8.4	19	<5.0
TW-37	21-Aug-09	8260/8015	250	<5.0	51	32	180	<10	1.7	1.2	<5.0
TW-38	17-Dec-08	8260/8015	140	<5.0	36	220	190	<50	0.99	<1.0	<5.0
TW-38	21-Aug-09		Not Sampled-NAPL present								
TW-39	17-Dec-08		Not Sampled-NAPL present								
TW-39	21-Aug-09	8260/8015	1.7	<1.0	2.8	<1.5	16	<2.0	0.47	<1.0	<5.0
TW-40	17-Dec-08		Not Sampled-NAPL present								
TW-40	21-Aug-09		Not Sampled-NAPL present								
TW-41	18-Dec-08	8260/8015	480	<5.0	570	4,000	<50	<500	8.4	2.0	<5.0
TW-41	24-Aug-09	8260/8015	170	6.6	400	2,000	24	49	7.0	1.1	<5.0
TW-42	16-Dec-08	8260/8015	<1.0	<1.0	31	<1.5	130	<10	0.18	1.2	<5.0
TW-42	24-Aug-09	8260/8015	<1.0	<1.0	<1.0	<1.5	70	<2.0	0.10	<1.0	<5.0
TW-43	16-Dec-08	8260/8015	<1.0	<1.0	31	<1.5	1,700	<10	0.80	<1.0	<5.0
TW-43	24-Aug-09	8260/8015	<1.0	<1.0	<1.0	<1.5	500	<10	0.17	<1.0	<5.0
TW-44	17-Dec-08	8260/8015	58	<5.0	69	340	330	245	2.0	1.8	<5.0

TABLE 2

SUMMARY OF GROUNDWATER ANALYTICALS
(VOCs AND TOTAL PETROLEUM HYDROCARBONS)
Thriftway Refinery, 626 CR 5500, Bloomfield, New Mexico

Well ID	Date	Sample Method	Benzene µg/L	Toluene µg/L	Ethyl- benzene µg/L	Xylenes µg/L	MTBE µg/L	Total Naph- thalene µg/L	GRO C6-C10 mg/L	DRO C10- C22 mg/L	MRO mg/L
		NM WQCC STANDARD	10	750	750	620	100	30	NE	NE	NE
TW-44	24-Aug-09	8260/8015	56	<1.0	6.9	7.3	360	<2.0	0.20	1.2	<5.0

Notes: < Analyte not detected above listed method limit

NA Not analyzed

NE Not established

mg/L Micrograms per liter (ppb)

mg/L Milligrams per liter (ppm)

GRO Gasoline range organics

DRO Diesel range organics

MRO Motor oil range organics

TABLE 3

SUMMARY OF GROUNDWATER RCRA 8 METALS ANALYTICAL RESULTS
Thriftway Refinery, 626 CR 500, Bloomfield, New Mexico

Well ID	Sample Date	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
<i>Analytical Method</i>		6010B	6010B	6010B	6010B	6010B	7470	6010B	6010B
<i>NM WQCC Standard</i>		0.10	1.0	0.01	0.05	0.05	0.002	0.05	0.005
TW-1	19-Aug-09	<0.020	0.036	<0.0020	0.01	0.018	<0.00020	<0.050	<0.0050
TW-2	19-Aug-09	<0.020	<0.020	<0.0020	<0.0060	0.0053	<0.00020	<0.050	<0.0050
TW-3	19-Aug-09	<0.020	<0.020	<0.0020	<0.0060	0.0058	<0.00020	<0.050	<0.0050
TW-4	19-Aug-09	<0.020	<0.020	<0.0020	<0.0060	0.0053	<0.00020	<0.050	<0.0050
TW-5	19-Aug-09	<0.020	<0.020	<0.0020	<0.0060	0.0050	<0.00020	<0.050	<0.0050
TW-6	19-Aug-09	<0.020	<0.020	<0.0020	<0.0060	0.011	<0.00020	<0.050	<0.0050
TW-7	19-Aug-09	<0.020	<0.020	<0.0020	<0.0060	0.011	<0.00020	<0.050	<0.0050
TW-8	20-Aug-09	<0.020	0.021	<0.0020	<0.0060	<0.0050	<0.00020	<0.050	<0.0050
TW-9	20-Aug-09	<0.020	0.033	<0.0020	<0.0060	0.0077	<0.00020	<0.050	<0.0050
TW-10	20-Aug-09	<0.020	0.038	<0.0020	<0.0060	0.021	<0.00020	<0.050	<0.0050
TW-11	20-Aug-09	<0.20	<0.20	<0.020	<0.060	<0.050	<0.00020	<0.50	<0.050
TW-12	20-Aug-09	<0.020	0.020	<0.0020	<0.0060	0.0072	<0.00020	<0.050	<0.0050
TW-15	20-Aug-09	<0.020	<0.020	<0.0020	<0.0060	0.0092	<0.00020	<0.050	<0.0050
TW-16	20-Aug-09	<0.020	0.047	<0.0020	<0.0060	0.0095	<0.00020	<0.050	<0.0050

TABLE 3

SUMMARY OF GROUNDWATER RCRA 8 METALS ANALYTICAL RESULTS
Thriftway Refinery, 626 CR 500, Bloomfield, New Mexico

Well ID	Sample Date	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Analytical Method		6010B	6010B	6010B	6010B	6010B	7470	6010B	6010B
NM WQCC Standard		0.10	1.0	0.01	0.05	0.05	0.002	0.05	0.005
TW-17	21-Aug-09	0.063	<0.020	<0.0020	<0.0060	0.0083	<0.00020	<0.050	<0.0050
TW-18	21-Aug-09	<0.020	<0.020	<0.0020	<0.0060	<0.0050	<0.00020	<0.050	<0.0050
TW-23	21-Aug-09	<0.020	0.023	<0.0020	<0.0060	<0.0050	<0.00020	<0.050	<0.0050
TW-30	21-Aug-09	0.032	0.039	<0.0020	<0.0060	0.019	<0.00020	<0.050	<0.0050
TW-31	21-Aug-09	0.066	0.064	<0.0020	<0.0060	0.015	<0.00020	<0.050	<0.0050
TW-34	24-Aug-09	<0.020	<0.020	<0.0020	<0.0060	<0.0050	<0.00020	<0.050	<0.0050
TW-35	24-Aug-09	<0.020	<0.020	<0.0020	<0.0060	0.0061	<0.00020	<0.050	<0.0050
TW-37	21-Aug-09	<0.020	0.041	<0.0020	<0.0060	<0.0050	<0.00020	<0.050	<0.0050
TW-39	21-Aug-09	<0.020	0.08	<0.0020	0.0077	<0.0050	<0.00020	<0.050	<0.0050
TW-41	24-Aug-09	<0.020	0.11	<0.0020	<0.0060	<0.0050	<0.00020	<0.050	<0.0050
TW-42	24-Aug-09	<0.020	0.042	<0.0020	<0.0060	<0.0050	<0.00020	<0.050	<0.0050
TW-43	24-Aug-09	<0.020	<0.020	<0.0020	<0.0060	0.0061	<0.00020	<0.050	<0.0050
TW-44	24-Aug-09	<0.020	0.043	<0.0020	<0.0060	<0.0050	<0.00020	<0.050	<0.0050

TABLE 3

SUMMARY OF GROUNDWATER RCRA 8 METALS ANALYTICAL RESULTS
Thriftway Refinery, 626 CR 500, Bloomfield, New Mexico

Well ID	Sample Date	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Analytical Method		6010B	6010B	6010B	6010B	6010B	7470	6010B	6010B
NM WQCC Standard		0.10	1.0	0.01	0.05	0.05	0.002	0.05	0.005

Notes: < mg/L Analyte not detected above listed method limit
Milligrams per liter (ppm)

TABLE 4

SUMMARY OF GROUNDWATER DISSOLVED CATIONS, ANIONS, SPECIFIC CONDUCTANCE, HARDNESS,
AND TOTAL DISSOLVED SOLIDS ANALYTICAL RESULTS
Thriftway Refinery, 626 CR 5500, Bloomfield, New Mexico

Well ID	Sample Date	Calcium	Magnesium	Potassium	Sodium	Bromide	Chloride	Fluoride	Sulfate	Specific Conductance	Hardness as (CaCO ₃)	TDS
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	μmhos/cm	mg/L	mg/L
Analytical Method		6010B	6010B	6010B	6010B	300.0	300.0	300.0	300.0	120.1	6010B	SM 2540C
NM WQCC Standard		NE	NE	NE	NE	NE	250	1.6	600	NE	NE	1,000
TW-1	19-Aug-09	500	37	2.8	300	0.12	18	0.82	1,700	2,900	1,400	2,530
TW-2	19-Aug-09	470	46	3.7	660	0.27	24	1.0	2,600	4,100	1,400	4,020
TW-3	19-Aug-09	500	45	2.7	710	0.28	26	0.80	2,600	4,200	1,400	4,170
TW-4	19-Aug-09	470	54	4.2	1,600	0.79	120	0.78	4,100	6,500	1,400	6,530
TW-5	19-Aug-09	510	36	3.1	400	0.23	20	0.86	2,000	3,300	1,400	3,180
TW-6	19-Aug-09	480	47	3.4	720	0.28	28	1.1	2,700	4,200	1,400	4,020
TW-7	19-Aug-09	480	46	2.3	750	0.28	24	0.78	2,700	4,200	1,400	3,930
TW-8	20-Aug-09	450	57	3.6	910	1.3	190	0.67	2,600	4,700	1,400	4,490
TW-9	20-Aug-09	250	21	2.4	410	1.2	170	0.87	530	2,600	710	2,070
TW-10	20-Aug-09	420	36	3.6	640	1.1	160	0.72	940	3,700	1,200	3,250
TW-11	20-Aug-09	470	53	3.6	1,500	0.46	70	0.85	4,000	6,100	1,400	6,290
TW-12	20-Aug-09	470	56	2.5	500	0.28	27	0.85	2,100	3,500	1,400	3,490
TW-15	20-Aug-09	460	47	2.6	1,200	0.99	140	0.74	3,100	5,300	1,300	5,240
TW-16	20-Aug-09	360	32	8.5	1,100	1.1	150	0.75	2,600	4,800	1,000	4,240

TABLE 4

SUMMARY OF GROUNDWATER DISSOLVED CATIONS, ANIONS, SPECIFIC CONDUCTANCE, HARDNESS,
AND TOTAL DISSOLVED SOLIDS ANALYTICAL RESULTS
Thriftway Refinery, 626 CR 5500, Bloomfield, New Mexico

Well ID	Sample Date	Calcium	Magnesium	Potassium	Sodium	Bromide	Chloride	Fluoride	Sulfate	Specific Conductance	Hardness as (CaCO ₃)	TDS
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µmhos/cm	mg/L	mg/L
<i>Analytical Method</i>		6010B	6010B	6010B	300.0	300.0	300.0	300.0	300.0	120.1	6010B	SM 2540C
<i>NM WQCC Standard</i>		NE	NE	NE	NE	NE	250	1.6	600	NE	NE	1,000
TW-17	21-Aug-09	350	43	4.2	1,200	1.2	170	0.80	3,100	4,700	1,100	4,640
TW-18	21-Aug-09	500	54	3.6	830	0.43	52	0.77	2,800	4,300	1,500	4,440
TW-23	21-Aug-09	470	49	3.5	1,400	1.1	150	1.1	3,600	5,500	1,400	5,440
TW-30	21-Aug-09	700	57	5.9	1,100	3.7	860	0.56	2,000	5,000	2,000	4,550
TW-31	21-Aug-09	460	68	4.9	1,300	3.9	1,700	0.43	1,200	5,800	1,400	4,790
TW-34	24-Aug-09	450	76	4.7	1,200	0.36	59	1.0	3,500	5,100	1,400	5,460
TW-35	24-Aug-09	440	88	8.3	1,600	0.40	65	0.74	4,400	6,100	1,500	6,700
TW-37	21-Aug-09	380	46	3.7	870	3.5	330	0.59	1,700	4,200	1,100	3,740
TW-39	21-Aug-09	600	54	7.1	1,100	2.3	1,300	0.44	990	5,200	1,700	4,460
TW-41	24-Aug-19	330	57	6.5	1,000	1.7	970	<0.50	500	4,600	1,100	3,510
TW-42	24-Aug-09	250	75	6.3	1,200	3.8	690	0.43	1,400	5,000	940	4,260
TW-43	24-Aug-09	570	55	5.0	930	0.6	140	0.74	2,500	4,500	1,600	4,610
TW-44	24-Aug-09	610	56	8.1	1,100	3.7	81	0.38	2,800	5,100	1,800	5,520

TABLE 4

SUMMARY OF GROUNDWATER DISSOLVED CATIONS, ANIONS, SPECIFIC CONDUCTANCE, HARDNESS,
AND TOTAL DISSOLVED SOLIDS ANALYTICAL RESULTS

Thriftway Refinery, 626 CR 5500, Bloomfield, New Mexico

Well ID	Sample Date	Calcium	Magnesium	Potassium	Sodium	Bromide	Chloride	Fluoride	Sulfate	Specific Conductance	Hardness as (CaCO ₃)	TDS
Analytical Method		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µmhos/cm	mg/L	mg/L
NM WQCC Standard		6010B	6010B	6010B	6010B	300.0	300.0	300.0	300.0	120.1	6010B	SM 2540C
		NE	NE	NE	NE	NE	250	1.6	600	NE	NE	1,000

Notes:

< Analyte not detected above listed method limit

NE

Not established

mg/L

Milligrams per liter (ppm)

µmhos/cm

Micromhos per centimeter

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



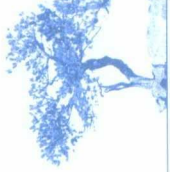
Animas Environmental Services, LLC

DRAWN BY: N. Willis	DATE DRAWN: February 2, 2009
REVISIONS BY: C. Laneman	DATE REVISED: October 7, 2009
CHECKED BY: B. Watson	DATE CHECKED: October 8, 2009
APPROVED BY: E. McNally	DATE APPROVED: October 21, 2009

- LEGEND**
- MONITORING WELL LOCATIONS
 - TEST WELL LOCATIONS
 - X — FENCE
 - E — OVERHEAD ELECTRIC LINE
 - BP — BURIED PHONE LINE
 - G — NATURAL GAS GATHERING LINE
 - V — WATER LINE



FIGURE 2
GROUNDWATER ELEVATION
CONTOURS
AUGUST 2009
THRIFTWAY REFINERY
626 ROAD 5500
BLOOMFIELD, NEW MEXICO



Animas Environmental Services, LLC

DRAWN BY: N. Willis	DATE DRAWN: February 2, 2009
REVISIONS BY: C. Lammiman	DATE REVISED: October 7, 2009
CHECKED BY: D. Watson	DATE CHECKED: September 20, 2009
APPROVED BY: E. McNally	DATE APPROVED: October 21, 2009

LEGEND

- TEST WELL LOCATIONS
- x — FENCE
- GROUNDWATER ELEVATION IN FEET
- 5440.85 (AMSL)
- GROUNDWATER ELEVATION
- 5439 — CONTOUR IN FEET (AMSL)

NOTE: ALL GROUNDWATER MEASUREMENTS WERE MADE ON AUGUST 12 - 24, 2009.

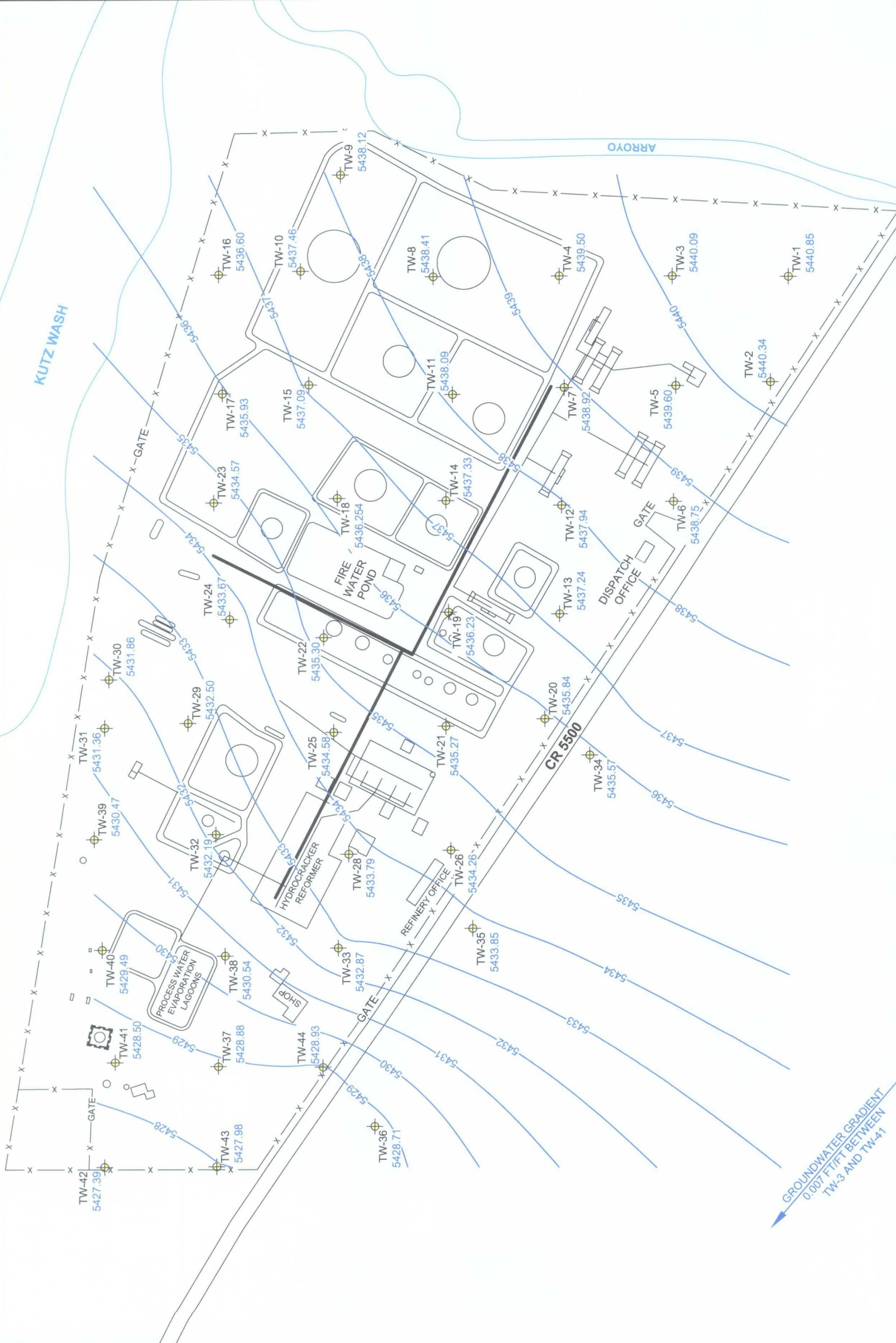


FIGURE 3
FREE PRODUCT THICKNESS
CONTOURS
AUGUST 2009
THRIFTWAY REFINERY
626 ROAD 5500
BLOOMFIELD, NEW MEXICO



DRAWN BY: N. Willis	DATE DRAWN: February 2, 2009
REVISIONS BY: C. Lammeman	DATE REVISED: October 7, 2009
CHECKED BY: D. Watson	DATE CHECKED: September 28, 2009
APPROVED BY: E. McNally	DATE APPROVED: October 21, 2009

- LEGEND**
- MONITORING WELL LOCATIONS
 - TEST WELL LOCATIONS
 - X — FENCE
 - 0.84 FREE PRODUCT THICKNESS IN FEET
 - 1.00 FREE PRODUCT THICKNESS CONTOUR IN FEET

NOTE: ALL MEASUREMENTS WERE MADE ON
AUGUST 12 - 24, 2009.

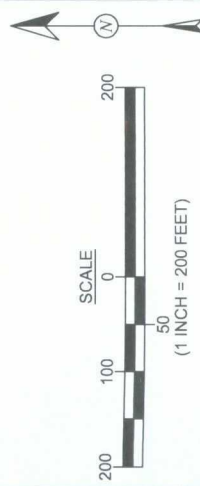
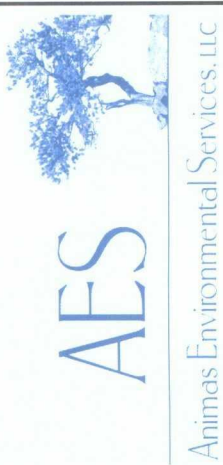


FIGURE 4
DISSOLVED BENZENE
CONCENTRATION CONTOURS
AUGUST 2009
THRIFTWAY REFINERY
626 ROAD 5500
BLOOMFIELD, NEW MEXICO



DRAWN BY: N. Willis	DATE DRAWN: February 2, 2009
REVISIONS BY: C. Larneman	DATE REVISED: October 8, 2009
CHECKED BY: D. Watson	DATE CHECKED: September 29, 2009
APPROVED BY: E. McNally	DATE APPROVED: October 21, 2009

- LEGEND
- MONITORING WELL LOCATIONS
 - TEST WELL LOCATIONS
 - FENCE
 - FREE PRODUCT PLUME
 - BENZENE CONCENTRATIONS IN $\mu\text{g/L}$
 - BENZENE CONCENTRATION CONTOUR IN $\mu\text{g/L}$
 - NOT SAMPLED

NOTE: ALL SAMPLES WERE MADE ON
AUGUST 12 - 24, 2009.

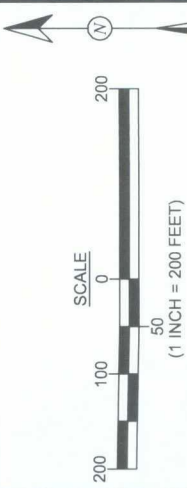
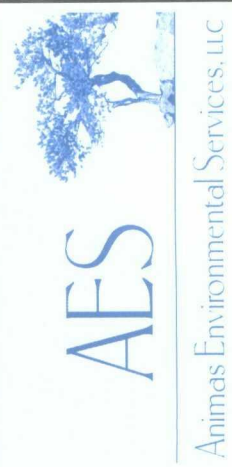


FIGURE 5
DISSOLVED MTBE
CONCENTRATION CONTOURS
AUGUST 2009
THRIFTWAY REFINERY
626 ROAD 5500
BLOOMFIELD, NEW MEXICO



DRAWN BY: N. Willis	DATE DRAWN: February 2, 2009
REVISIONS BY: C. Laneman	DATE REVISED: October 8, 2009
CHECKED BY: D. Watson	DATE CHECKED: September 29, 2009
APPROVED BY: E. McNally	DATE APPROVED: October 21, 2009

- LEGEND**
- MONITORING WELL LOCATIONS
 - TEST WELL LOCATIONS
 - FENCE
 - FREE PRODUCT PLUME
 - MTBE CONCENTRATIONS IN $\mu\text{g/L}$
 - MTBE CONCENTRATION CONTOUR IN $\mu\text{g/L}$
 - NS NOT SAMPLED

NOTE: ALL SAMPLES WERE MADE ON
AUGUST 12 - 24, 2009.

