GW - 55

WORK PLANS

May 4, 2009

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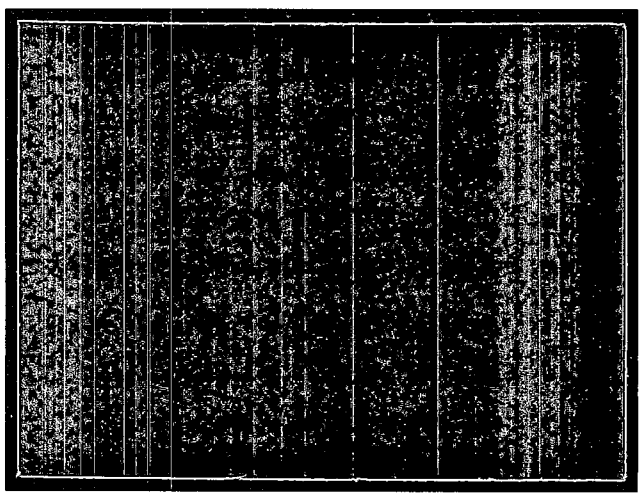

AES

Animas Environmental Services, LLC

624 E. Comanche . Farmington, NM 87401 . TEL 505-564-2281 . FAX 505-324-2022 . www.animasenvironmental.com

Prepared for:
Brad Jones
Edward Hansen
New Mexico Oil Conservation Division
1220 S. St. Francis Drive
Santa Fe, New Mexico 87505

Prepared on behalf of:
Thriftway Company
501 Airport Drive, Suite 100
Farmington, New Mexico 87401

Corrective Action Plan

Thriftway Refinery
626 Road 5500
Bloomfield, San Juan County
New Mexico

Facility Permit: GW-55

May 4, 2009

Prepared by:
Animas Environmental Services, LLC
624 E. Comanche
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May 4, 2009

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

RE: Submittal of Corrective Action Plan (CAP) for the Thriftway Refinery, 626 County Road 5500, Bloomfield, San Juan County, New Mexico; Permit GW-55

Dear Mr. Jones:

Enclosed please find a Corrective Action Plan (CAP) prepared by Animas Environmental Services, LLC (AES) on behalf of Thriftway Company (Thriftway) for the Thriftway Refinery, located at 626 County Road 5500, Bloomfield, San Juan County, New Mexico. If approved, Thriftway would like to schedule installation of the Phase I high vacuum Multi-Phase Extraction (MPE) wells to occur within the next 60 days.

If you have any questions about site conditions or the CAP, please contact me at (505) 564-2281.

Respectfully,

EM for Ross Kennemer

Ross Kennemer
Project Manager

Enclosure: Corrective Action Plan

Cc: Robert Moss
Thriftway Company
501 Airport Drive, Suite 100
Farmington, New Mexico 87401

Ed Hansen
New Mexico Oil Conservation Division
1220 S. St. Francis Drive
Santa Fe, New Mexico 87505

Files:2009/ThriftwayCompany/Refinery/NMOCD 050409

AES

Animas Environmental Services, LLC

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June 1, 2009

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

RE: Notification of Storage Tank Cleaning at the Thriftway Refinery, 626 County Road 5500, Bloomfield, New Mexico

Dear Mr. Jones:

On behalf of Thriftway Company (Thriftway), Animas Environmental Services, LLC (AES) is providing notification to the New Mexico Oil Conservation Division (OCD) that emptying and cleaning of four tanks (Tank #17, 18, 19 and 21) at the Former Thriftway Refinery will commence June 8, 2009. Emptying and cleaning these tanks is anticipated to take approximately one month to complete.

If you have any questions regarding the scheduled site activities, please contact me at (505) 564-2281.

Sincerely,

Ross Kennemer
Project Manager

Cc: Robert Moss
Thriftway Company
501 Airport Drive, Suite 100
Farmington, New Mexico 87401

Brandon Powell
New Mexico Oil Conservation Division
1000 Rio Brazos Rd.
Aztec, New Mexico 87410

Bill Robertson
Western Refining
111 County Road 4990
Bloomfield, New Mexico 87413

Files:2009/ThriftwayCompany/Refinery/NMOCD 060109

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Corrective Action Plan
Thriftway Refinery
626 CR 5500
Bloomfield, San Juan County, New Mexico
NMOCD GW-55

1.0 Introduction

Animas Environmental Services, LLC (AES) has prepared this Corrective Action Plan (CAP) on behalf of Thriftway Company (Thriftway) for the Thriftway Refinery, located at 626 County Road 5500, Bloomfield, San Juan County, New Mexico. The CAP is a partial requirement of the current Thriftway Refinery Groundwater Discharge Permit (GW-55), and as proposed in the April 2008 Work Plan, this CAP is being submitted for review and approval by the New Mexico Oil Conservation Division (NMOCD). Operations at the Thriftway Refinery resulted in the past release(s) of both refined and unrefined petroleum hydrocarbons to the site soil and groundwater.

Several remedial alternatives were evaluated as part of preparation of the CAP, including high vacuum multi-phase extraction (MPE) in the source area and phytoremediation along the down-gradient edge of the dissolved phase plume. These remedial technologies were found to be the most technically responsive and cost-effective options for the site. A topographic site location map showing the location of the facility is included as Figure 1, and Figure 2 is a site vicinity map.

2.0 Facility Identification Information

2.1 Facility Information

a) **NMOCD Groundwater Discharge Permit:** GW-55

b) **Facility Name**: Thriftway Refinery

c) **Facility Street Address**: 626 County Road 5500

City: Bloomfield **Zip**: 87413

County: San Juan

d) **Legal Location**:
SE¼ SE¼ Section 32 and SW¼ SW¼ Section 33 of Township 29 North and Range 11 West, and NW¼ SE¼ and NE¼ SE¼ Section 9 of Township 28 North and Range 11 West, New Mexico Prime Meridian; in San Juan County, New Mexico, approximately three miles south of Bloomfield, New Mexico

e) **Describe occupancy of the facility**: Unoccupied, but some structures and equipment are present

f) **Describe current property use**: Inactive crude oil refinery containing various petroleum refining, storage and dispensing equipment and associated structures. Ongoing removal of refinery process equipment.

3.0 Involved Parties

a) Facility Owner:

Thriftway Company
501 Airport Drive, Suite 100
Farmington, New Mexico 87401
Phone: (505) 326-5571

b) Facility Contact:

Robert Moss
Thriftway Company
501 Airport Drive, Suite 100
Farmington, New Mexico 87401
Phone: (505) 326-5571
Email: rgmoss@redmesa.com

4.0 Consultant Information

Company Name:	Animas Environmental Services, LLC
Contact: Title:	Elizabeth McNally NM PE, Env. Engineer #15799
Contact: Title:	Ross Kennemer Sr. Project Manager/Principal
Address:	624 E. Comanche Farmington, New Mexico 87401 Phone: (505) 564-2281 Fax: (505) 324-2022 Email: emcnally@animasenvironmental.com Email: rkennemer@animasenvironmental.com

5.0 Background Information and Site Conditions

The Thriftway Refinery previously processed light sweet San Juan Basin crude oil but has not done so since about the mid-1990s. The facility also recently was used as a crude oil storage facility for Western Refining, formerly known as Giant Industries. Thriftway and Western are currently in the process of concluding Western's lease and tank use agreement, which includes removing the remaining stored crude oil and cleaning associated tanks and lines. The parties currently anticipate completing the tank and line cleaning during summer 2009. Most other process equipment and refinery infrastructure were removed from the facility in the late winter and spring of 2009. The remaining equipment will be sold, or removed as needed, to conduct the remediation activities.

5.1 Facility Location

The Thriftway Refinery is a small oil refinery located along County Road 5500, approximately three miles south of Bloomfield and one mile west of US Hwy 550, in San Juan County, New Mexico. The refinery is located between CR 5500 and Kutz Wash, which is north of CR 5500. The refinery is bordered on the east end by an unnamed tributary of Kutz Wash. The entire refinery process portion of property is enclosed within a chain-link fence. The general site location is shown on Figure 1 - Topographical Site Location Map and Figure 2 – Site Vicinity Map. The general site layout and infrastructure items are shown on Figure 3 - General Site Plan.

5.2 Facility Description and Operational History

The facility was constructed in the 1960s and was operated for the processing of light, sweet San Juan Basin crude oil until the mid 1990s. There has not been active product refining at the facility for several years. However, more recently, the facility has been used by Western Refining (formerly Giant Industries) for the storage of crude oil. Most of the facility infrastructure has recently been dismantled and the process equipment has been removed from the site.

5.3 Sensitive Receptors

The facility is located in a rural/agricultural area with some oil and gas production well pads in the vicinity. The closest residence is approximately one mile west of the facility. There are no known domestic water supply wells within a one-mile radius of the facility. No schools, day care centers, or nursing homes are located within 500 feet of the facility.

5.4 Surface Waters

Kutz Wash, an ephemeral drainage, borders the north property line and typically runs only during storm runoff or in the wet season. Kutz Wash discharges into the San Juan River (USGS Hydrologic Unit Catalog #14080101) approximately 1.5 miles northwest of the refinery. An unnamed ephemeral tributary of Kutz Wash borders the east property line and drains the areas to the southeast of the refinery. No other surface waters of measurable size are present in the site vicinity.

5.5 Geology/Hydrogeology

Bloomfield, San Juan County, New Mexico; is located along the San Juan River within the Colorado Plateau. The San Juan Basin is a structural depression containing deep Tertiary fill resting on rocks of the late Cretaceous age. The local geology consists of alluvial deposits composed of clays, silty sands, and poorly sorted sands with terrace gravels and cobbles. Strata are deposited predominantly in a flat-lying sequence in stream and river cuts throughout the plateau. Clay materials, such as clayey sands and silty clays, are common as nodules and lenses in the subsurface of this area.

The soil types within the subject area have been surveyed by the U.S. Department of Agriculture (USDA) Soil Conservation Service and are summarized in the Soil Survey Report for San Juan County, Eastern Part. Soil types for the subject area range from clay to sandy clay loam and developed soil profiles range from shallow to very deep. Slopes are level to gently sloping on floodplains and terraces. Soils are generally poorly drained. The parent material is typically alluvium derived from sandstone and shale. The soil types in the vicinity of the project area are Stumble Loamy Sand (St) and Fruitland Loam, 5 to 8 percent slopes (Fw).

Fruitland Loam soils typically consist of a surface layer of light brownish gray loam approximately 3 inches thick with a light olive brown to light gray sandy loam below that to about 60 inches below ground surface. Permeability is moderately rapid, and available water capacity is moderate.

The Stumble Loamy Sand is a deep, somewhat excessively drained soil with a surface layer that typically includes a yellowish brown loamy sand about 5 inches thick. The upper 24 inches below the surface layer is a pale brown and light yellowish brown sand and loamy sand. The lower depths, to about 81 inches below ground surface, is brownish yellow gravelly sand, gravelly loamy, sand and sand. Permeability of the Stumble soil is rapid, and available water capacity is low.

Site soils have been reported as loamy sand and light brown fine to medium grain sands. Shallow groundwater is present at the site at depths from 5 to 15 feet below ground surface (bgs). Hydraulic gradient has been measured as approximately 0.006 ft/ft in a northwesterly direction.

6.0 Summary of Past Site Work

6.1 Airstripper Installation

An airstripper was installed in the western portion of the facility in about 1992 and was used to treat groundwater recovered from an interceptor trench prior to discharge into evaporation ponds at the facility. During operation, influent and effluent water samples were collected at the airstripper on a monthly basis to calculate the hydrocarbon removal efficiency. Results of the monthly sampling events were then included within the annual reports. Due to declining removal efficiency of the airstripper, in conjunction with increasing mechanical problems, Thriftway proposed in the April 2008 Workplan to re-evaluate correction action alternatives and technologies for the site after additional site investigation and pilot study work at the site. No active remediation has been conducted at the facility since late 2007.

6.2 Annual Groundwater Monitoring and Sampling, 1996-2007

BioTech Remediation, Inc. (BioTech) conducted semi-annual groundwater monitoring and sampling at the site since 1996. Annual reports were prepared and submitted on behalf of Thriftway Company to the NMOCD. The most recent annual report, which covered 2007, was submitted to NMOCD and dated March 31, 2008.

The most recent such groundwater monitoring and sampling event was conducted by BioTech personnel in December 2007. A summary of historical groundwater measurement and water quality data are presented in Table 1. The data summarized below are taken from the 2007 Annual Report.

6.2.1 Measurement of Groundwater Elevations

Groundwater elevations recorded in December 2007 ranged from 5424.56 feet above mean sea level (amsl) in MW-20 to 5434.29 feet amsl in MW-13. Groundwater gradient was measured between MW-1 and MW-18, with a resulting magnitude of 0.007 ft/ft towards the northwest, which is consistent with historical data.

6.2.2 Measurement of Free Product

In December 2007, measured thicknesses of "non-aqueous phase liquid" (NAPL) or free product ranged from a sheen in MW-3 to a maximum of 1.32 feet in RW-24. Free product thickness contours for December 2007 were presented in Figure 4 of the 2007 Annual Report.

6.2.3 Volatile Organics

Groundwater samples collected as part of the December 2007 sampling event were for volatile organic compounds per EPA Method 8260B for several wells.

- Benzene concentrations were reported in excess of the New Mexico Water Quality Control Commission (WQCC) standard of 10 µg/L for MW-1, MW-2, MW-14, and RW-26. Benzene concentrations exceeding the WQCC standard (10 µg/L) ranged from 16 µg/L in MW-14 to 730 µg/L in MW-2. Benzene concentration contours for July and December 2007 were presented as Figures 5 and 6, respectively, in the 2007 Annual Report.
- Dissolved phase methyl-t-butyl ether (MTBE) was reported above the WQCC standard of 100 µg/L with 360 µg/L MTBE in MW-20. In the remaining wells that were sampled, MTBE was either below the laboratory detection limit or below applicable WQCC standards. Contours of the measured MTBE concentration for July and December 2007 were presented in Figure 7 of the 2007 Annual Report.
- Concentrations of total petroleum hydrocarbons (TPH) gasoline range organics (GRO) (C_6-C_{10}) ranged from below the laboratory detection limit in several wells up to 4.3 mg/L in MW-2. Reported TPH diesel range organics (DRO) (C_{10}-C_{22}) concentrations also ranged from below the laboratory detection limit in several wells up to 395 mg/L in MW-2.

6.2.4 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 polynuclear aromatic hydrocarbons (PAHs) per EPA Method 8270C as part of the December 2007 sampling event. Total naphthalene, including 1- and 2-methyl naphthalene, exceeded the WQCC standard of 30 µg/L in MW-2 with 272 µg/L.

6.2.5 RCRA Metals

The eight standard Resource Conservation and Recovery Act (RCRA) metals were analyzed by EPA Method 6020 and 7470 for groundwater samples collected from MW-1, MW-2, MW-10, MW-14, MW-18, and MW-20 through MW-22.

- Arsenic was detected above the WQCC standard of 0.10 mg/L in MW-18 with 0.108 mg/L. All other wells sampled for arsenic were below the WQCC standard.
- The reported results for barium, cadmium, chromium, lead, selenium, silver, and mercury were either below the applicable WQCC standards or below laboratory detection limits.

6.2.6 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 CaCO3), total dissolved solids (TDS), and forms of alkalinity.

- Measured TDS concentrations were above the WQCC standard of 1,000 mg/L in all wells sampled, with the highest TDS concentration reported in MW-22 (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 (68.4 mg/L). The highest sulfate concentration was reported in MW-22 (5,610 mg/L).
- Chloride concentrations did not exceed the WQCC standard of 250 mg/L in any of the wells sampled.
- Bicarbonate concentrations (as $CaCO_3$) ranged from 253 mg/L in MW-10 to 1,490 mg/L in MW-2.
- Carbonate concentrations (as $CaCO_3$) ranged from below the laboratory detection limit of 0.10 mg/L up to 3.1 mg/L 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.

6.3 Discharge Plan GW-55

Thriftway Company renewed the GW-55 Discharge Permit, and renewal of the permit was approved by NMOCD on June 4, 2008, and will expire on May 9, 2011.

6.4 Recent Site Activities, 2008 through 2009

6.4.1 Soil Test Pits, October 2008

In October 2008, AES and Biotech Remediation installed a grid-based network of 82 soil test pits to rapidly evaluate the approximate extent of soil and/or groundwater contamination expected to be encountered at the site and to assist in developing plans for a soil boring and monitoring well installation program.

The excavations were installed to an average depth of 10 to 12 feet below ground surface (bgs) using a backhoe. During soil test pit excavation, an AES field supervisor observed the excavated materials and described the soil/contamination conditions encountered during the excavation. In addition to visual observations, AES recorded volatile organic compounds (VOCs) with a photo-ionization detector (PID) organic vapor meter (OVM). Additionally, a select number of soil samples (approximately 10 percent of total number of test pits) were collected for laboratory analyses of VOCs per EPA Method 8260; TPH-GRO, DRO, and motor oil range organics (MRO) per EPA Method 8015B; PAHs per EPA Method 8270C; and RCRA 8 metals per EPA Method 6010B and

7471. Soil samples were analyzed at Hall Environmental Analysis Laboratory (Hall) in Albuquerque, New Mexico.

The highest soil concentrations were detected in Test Pit 49 (TP-49) with 26 mg/kg benzene, 83 mg/kg toluene, 18 mg/kg ethylbenzene, and 170 mg/kg xylene, with a total BTEX concentration of 297 mg/kg. Additionally, TP-49 had reported concentrations of 1,300 mg/kg GRO, 11,000 mg/kg DRO, and 12,000 mg/kg MRO. Soil analytical results for volatile organics and GRO, DRO, and MRO are presented in Table 2. Additional soil analytical results for PAHs and RCRA 8 metals are presented in Tables 3 and 4, respectively. The locations of the soil test pits and the laboratory analytical results for the test pit investigation are presented on Figure 4. Electronic copies of the laboratory analytical reports for the soil test pit samples are provided in Appendix A.

6.4.2 Soil Boring/Monitor Well Installation, December 2008

During November and December 2008, AES installed a network of groundwater monitoring wells at the site. Drilling operations were initiated using Biotech in November, but later subcontracted to Enviro-Drill, Inc. to complete the work in early December. Monitoring wells TW-1 through TW-44 (Note that well number TW-27 was not used) were installed upon completion of soil borings (SB-1 through SB-35, SB-36A, SB-36B, and excluding SB-27). In total, 44 soil borings were completed and 43 monitoring wells were installed. The soil borings and monitoring wells were installed in a grid-based pattern of east-west rows and north-south columns, such that borings/wells were installed at grid points spaced at approximate 200 ft intervals.

Boring/well completion depths ranged from approximately 10 ft bgs to approximately 30 ft bgs. Each monitoring well was completed at the approximate boring completion depth, with well screens of 10 to 15 ft in length extending a minimum of approximately 5 ft into the encountered water column. Washed silica sand (10/20) was used for the annular sand pack (extending 1 ft to 2 ft above the screened intervals), then a 2 ft seal of hydrated bentonite chips was placed above the sand interval. Monitoring well surface completions were completed by Biotech Remediation using 4" x 4" steel stickup well protectors set in concrete surface pads. The locations of the soil borings and groundwater monitoring wells are shown on Figure 5.

In order to better characterize site lithology, each boring was continuously sampled. Soil samples were collected using split-spoon samplers (2 ft length initially, then 5 ft length later) and field analyzed for hydrocarbon vapors with a PID-OVM. Subsurface lithology was observed to consist primarily of silty sand and fine to medium grained sand overlying coarse sand. Geological cross sections (A to A' and B to B') constructed from soil boring logs are presented as Figure 6.

Soil samples were also collected from a select number of borings for laboratory analyses, including volatile organics per EPA Method 8260, TPH-GRO, DRO, and MRO per EPA Method 8015M and RCRA 8 metals per EPA Method 6010 and 7471. Soil laboratory analytical results showed the highest benzene concentrations were reported in SB-21 with 7.1 mg/kg. The highest toluene, ethylbenzene, xylene, and GRO concentrations were reported in SB-22 at 10 ft bgs, with 78 mg/kg, 56 mg/kg, 410 mg/kg, and 2,500 mg/kg, respectively. The highest DRO concentration was reported in

SB-36 with 6,300 mg/kg DRO, and the highest MRO concentration was noted in SB-32 with 1,400 mg/kg.

Soil volatile organics and TPH concentrations are presented in Table 2, and RCRA 8 metal concentrations are included in Table 4. Soil analytical results for volatiles, TPH, and lead are also presented on Figure 5. Observations of encountered lithology, PID-OVM readings, and monitor well construction details are presented on the soil boring logs located in Appendix B.

6.4.3 Groundwater Monitoring and Sampling, December 2008

Groundwater samples were collected from the newly installed monitoring well network in December 2008. Samples were not collected from wells that contained a free product phase (i.e. non-aqueous phase liquid) as measured by an electronic water level/interface probe.

Groundwater Measurements and Water Quality Data

Depth to groundwater measurements for all wells were recorded prior to sampling activities. Top of casing (TOC) elevations had been surveyed upon well completion by a New Mexico licensed Professional Surveyor. Depth to groundwater measurements varied between 3.07 ft below TOC in MW-21 down to 30.53 ft below TOC in TW-1. Groundwater elevations across the site ranged from 5423.93 ft amsl in MW-5 to 5441.05 ft amsl in TW-1. Based on groundwater elevation data, a general hydraulic gradient 0.006 ft/ft to the northwest has been estimated for the site and is consistent with historical data. Groundwater measurement data are included in Table 5, and groundwater elevations and contours are included as Figure 7.

Following water level measurement, temperature, pH, and conductivity were recorded for each well to be sampled. All data was recorded onto Water Sample Collection Forms upon collection. Groundwater temperature ranged between 8.345°C (MW-20) and 15.75°C in (TW-44). Groundwater pH measurements were recorded between 6.16 (TW-41) and 7.48 (TW-34), and conductivity ranged between 2.772 mS (TW-1) and 10.96 mS (MW-22). Depth to groundwater measurements and water quality data are presented in Table 5.

Free Product Thickness Measurements

In January 2009, measured thicknesses of free product ranged from a sheen in several wells (TW-24 and TW-36) up to 1.29 ft in TW-32. Free product was measured in a total of 20 wells during the January 2009 gauging event.

Corrected groundwater elevations (Hc) for wells with measured free product 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/gasoline mixture, assumed to be 0.788 (g/ml)

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

Free product measurements are summarized in Table 5, and free product thickness contours for January 2009 are presented in Figure 8.

Groundwater Analytical Results

Once each well was determined to be stable based on recorded water quality parameters, a groundwater sample was collected from each well with a new disposable bailer equipped with a slow release valve and transferred into appropriate sample containers, labeled accordingly, and documented on Water Sample Collection Forms. A Chain of Custody Record was then completed, and samples were transported to the analyzing laboratory in chilled and insulated coolers below 6°C. Water Sample Collection forms are included in Appendix C.

Groundwater samples collected as part of the December 2008 sampling event were analyzed for VOCs per EPA Method 8260B. A summary of the reported laboratory results for VOCs follows:

- Significant benzene concentrations were reported in TW-8 (120 µg/L), TW-37 (820 µg/L), TW-38 (140 µg/L), and TW-41 (480 µg/L).
- The highest toluene concentration was reported at 1,700 µg/L in TW-7.
- All ethylbenzene concentrations were below the WQCC standard of 750 µg/L or were below laboratory detection limits.
- Total xylene concentrations were above the WQCC standard in TW-7 (4,200 µg/L), TW-8 (950 µg/L), TW-12 (1,700 µg/L), TW-37 (1,800 µg/L) and TW-41 (4,000 µg/L).
- MTBE concentrations at or above the WQCC standard of 100 µg/L were reported in MW-20 (170 µg/L), MW-21 (100 µg/L), TW-37 (180 µg/L), TW-38 (190 µg/L), TW-42 (130 µg/L), TW-43 (1,700 µg/L), and TW-44 (330 µg/L).
- Dissolved phase total naphthalene concentrations above the WQCC were also reported in TW-7 (308 µg/L), TW-8 (92 µg/L), TW-12 (317 µg/L), TW-36 (91.9 µg/L), and TW-44 (245 µg/L).

Groundwater analytical results for volatile organics, TPH-GRO, DRO, and MRO, and for total and dissolved lead are summarized and presented in Table 6 and on Figure 9. Electronic groundwater analytical laboratory reports are included in Appendix A.

6.4.4 MPE Pilot Study Well Installation, February 2009

On February 4, 2009, AES installed one multi-phase extraction (MPE) well and three vacuum response observation wells (OW-1 through OW-3) southeast of the refinery central reformer/processing area, near the new monitoring well TW-21, in order to determine radius of vacuum influence, subsurface air movement, and product and groundwater production rates. The MPE and OW wells were installed using a Mobile B-57 truck-mounted drill rig with a hollow-stem augers and were logged from samples

collected with a standard 24-inch split spoon sampler. Pilot study well locations are presented on Figure 10.

MPE-1 was completed as a 2-inch diameter well and screened between 10 and 20 ft bgs. Observation wells OW-1 through OW-3 were installed in a radial pattern at distances of 10, 20 and 40 ft from MPE-1. Additionally, RW-25, TW-21, and RW-24, located 50, 80, and 81 ft, respectively, from MPE-1 were monitored for vacuum response. Observation wells OW-1, OW-2, and OW-3 were screened from 9 ft to 14 ft bgs. Well completion diagrams for MPE-1 and OW-1 through OW-3 are included on Figure 10.

6.4.5 Aquifer Slug Testing, April 2009

On April 28 to 29, 2009, falling head and rising head aquifer slug tests on four monitoring wells were completed to determine average aquifer hydraulic parameters across the site. Tests were conducted at TW-3, TW-18, TW-41 and TW-44. Prior to conducting the tests, the static water levels in each well were gauged and recorded.

The falling head tests were conducted by first inserting a weighted slug of concrete-filled 1.25-inch PVC, measuring 4 ft in length fully into the water column in the test well. Immediately after inserting the slug, water levels were then recorded periodically (initially at 30-second, then 1-minute intervals) until the water level in the well returned to the pre-test measured level.

Rising head tests were conducted last for each well by measuring the starting water level elevation then removing the slug and periodically (30-second, then 1-minute intervals) gauging the water level depth. Slug test data were entered into the Starpoint Software Super-Slug modeling program and analyzed using the Bouwer-Rice method. Based on the data, estimates of the aquifer parameters are as follows:

Parameter	*TW-3 Falling Head*	*TW-3 Rising Head*	*TW-18 Falling Head*	*TW-18 Rising Head*	*TW-41 Falling Head*	*TW-41 Rising Head*	*TW-44 Falling Head*	*TW-44 Rising Head*
Hydraulic Conductivity (ft/day)	434.8	167.1	12.52	6.98	260.2	20.88	6.98	0.99
Transmissivity (gal/day/ft)	19,510	7,499	468.1	261.1	9,731	781	261.1	37.37

Based upon a review of slug test data, rising head data from TW-44 is not considered to be as reliable due to the low values that were observed. Aquifer slug test data are presented in Appendix D.

7.0 Multi-Phase Extraction Pilot Study, February 2009

7.1 Overview

A Multi-Phase Extraction (MPE) pilot test utilizing an internal combustion engine (ICE) manufactured by Remediation Services International (RSI), Ventura, California was conducted in February 2009. The MPE unit consisted of a trailer-mounted high vacuum extraction system that utilizes a propane-fired engine and thermal oxidizer for vapor extraction and destruction of up to 35 lbs/hr at 100 standard cubic feet per minute (SCFM). Ancillary equipment used during the pilot study included a 500-gallon propane tank and an existing 20,000-gallon above ground storage tank to contain produced water and free product. The RSI unit is fully automated with vacuum and air flow controls and a data logger.

AES conducted the MPE pilot study for approximately 24 continuous hours between February 5 and 6, 2009, with vacuum extraction at MPE-1 while measuring vacuum responses at TW-21, RW-24, RW-25 and the three observation wells, OW-1 through OW-3. During the pilot study, the MPE unit was operated at an average of 2,000 revolutions per minute (RPM), which produced an applied vacuum (extraction) that ranged from 20 to 100 inches of water (in-H_2O) and an extraction flow rate of 10 to 13 SCFM from the MPE well.

7.2 Pilot Study

AES began the MPE pilot study at 10:30 a.m. on February 5, 2009. After allowing approximately 1.5 hours for unit operation to stabilize, AES began recording data at 12:00 noon with the MPE unit operating at an applied vacuum to MPE-1 of 20 in-H_2O. During the test, AES increased vacuum pressures to 40 inH_2O at the start of test hour #2 (1:00 PM on February 5), then to 90 in-H_2O at the start of test hour #6 (5:00 PM on February 5), then to 100 in-H_2O at the start of test hour #20 (7:00 AM on February 6). The vacuum pressure remained at 20 in-H_2O from test hour #20 through the remainder of the test event (concluded at 22.5 hours; 10:30 AM on February 6). During the MPE test, AES recorded hourly measurements to assist with the study evaluation. These measurements included the following:

- Extraction well flow rate (SCFM);
- Extraction well vacuum (in-H_2O);
- Energy value of extracted vapors measured in British Thermal Units per hour (BTU/Hr);
- Approximate vapor concentration measured in parts per million volume (ppmv);
- Pre-catox air temperature (°F) and post-catox air temperature (°F);
- Post-catox vapor concentration measured in parts per million (ppm);
- Wellhead vacuum (in-H_2O) at observation wells (OW-1, OW-2, OW-3; TW-21, RW-24 and RW-25);
- Volume of fluids extracted measured in gallons per hour.

Figure 10 presents the pilot study equipment layout and RSI system operations data, including system parameters monitored during the pilot study.

7.3 Pilot Study Results

The MPE pilot study was operated continuously for 24 hours at MPE-1 to evaluate the effective radius of vacuum influence. MPE pilot study results are included on Figure 10 and are further summarized in Appendix E.

7.3.1 Vapor Concentration and Composition

Extracted vapor concentrations were recorded by the Phoenix 1000 automation system, which presents real-time system operating parameters recording a "snapshot" every 30 minutes throughout the duration of the pilot study. Extracted vapor concentrations ranged from 11,200 ppmv to 19,800 ppmv. Catox temperatures ranged from 726°F to 809°F.

7.3.2 Vacuum Influence

Vacuum influence during extraction at MPE-1 was observed at all observation wells when 40 in-H_2O vacuum was applied. The maximum observed vacuum response was 3.2 in-H_2O at OW-1 (located 10 ft from MPE-1), and the minimum observed response was 0.2 in-H_2O at OW-3 (40 ft from MPE-1). When 100 in-H_2O vacuum was applied to MPE-1, maximum observed vacuum response was 7.2 in-H_2O at OW-1, and the minimum observed response was 0.2 in-H_2O at RW-24 at TW-21 (approximately 80 ft from MPE-1). A summary of vacuum measurements taken during the pilot study is included on Figure 10 and in Appendix E.

7.3.3 MPE Flow Rates

Groundwater and free product production and vapor flow rates were monitored and recorded during pilot study activities. A total volume of 600 gallons of groundwater was recovered during the 24 hour pilot study, which corresponds to an average groundwater production rate of 0.42 gallons per minute (gpm) from extraction well MPE-1. Additionally, 13 gallons of free product were recovered from MPE-1 during the test, which is a rate of about 0.5 gallons per hour.

Vapor extraction flow rates averaged approximately 11 SCFM. The cumulative process flow was approximately 16,736 standard cubic feet (SCF), which was processed over the 24 hour duration of the pilot study. Vapor extraction flow rates observed during the pilot study are included in Figure 10 and in Appendix E.

7.3.4 Hydrocarbon Mass Removal Rates

The total hydrocarbon mass removal observed during the 24 hour MPE pilot study was 79.73 lbs of fuel hydrocarbons recovered as vapor and 80.6 lbs of fuel hydrocarbons recovered as free product (160.33 lb/day), which equates to a mass removal rate of 6.7 pounds per hour (lb/hr) from one well. RSI operational data are presented in Appendix E.

7.3.5 Hydrocarbon Destruction/Removal Efficiencies

Destruction/removal efficiencies (DRE) for the ICE system were calculated using the following equation:

$$DRE = \frac{[TVH_i] - [TVH_e]}{[TVH_i]} \times 100\%$$

Where: $[TVH_i]$ = Average Concentration of Total Volatile Hydrocarbons – Influent (ppm) – 14,454 ppmv

$[TVH_e]$ = Average Concentration of Total Volatile Hydrocarbons – Effluent (ppm) – 166 ppmv

$$DRE = \frac{14{,}454 - 166}{14{,}454} \times 100\% = 98.85\%$$

8.0 Conceptual Site Model and Corrective Action Standard

8.1 Conceptual Site Model

A conceptual site model (CSM) has been prepared using existing site information and data. The CSM was developed in accordance with ASTM International E-1739 Standard Guide for Risk-Based Corrective Action Applied at Petroleum Release Sites.

The current use of the site, which is classified as commercial/industrial land, includes a former petroleum refining operation. The current owner has no plans to change property use in the future and, if the property is eventually sold, is willing to record deed environmental use restrictions to ensure this aspect of the remediation plan exists in perpetuity. No residential homes or sensitive receptors are located within areas of dissolved phase contamination associated with this facility.

Although only very small portions of the site are covered with impervious pavement (e.g., concrete and/or asphalt), inhalation, dermal contact, or ingestion of surficial or near surface soils do not form complete exposure pathways because all soil contamination is at depths that preclude completion of these pathways (greater than 5 ft on average).

Volatilization and vapor migration of contaminants from subsurface soils do not present complete exposure pathways for indoor inhalation for either on-site or off-site buildings. Soil vapors traveling along buried utilities would have only very limited potential to impact on-site construction workers (pipeline employees); other receptors for both on-site and off-site locations would have no exposure potential related to utility corridors.

Volatilization and vapor migration of free product or contaminated groundwater also are not complete exposure pathways for indoor inhalation (on-site and off-site industrial or commercial workers) under current and future land uses; although outdoor inhalation (industrial or construction worker) could potentially be complete where work to be

required in the area of free product or dissolved-phase groundwater contamination. Natural attenuation of the downgradient edge of the dissolved-phase groundwater plume appears to limit migration from the source area towards off-site receptors such as Kutz Wash. Because no groundwater contamination reaches the wash, the exposure pathway to off-site receptors is currently incomplete and should also remain incomplete under anticipated future conditions because no new releases or alterations to the flow regime are likely to occur.

Based on the above factors, the site conditions present potential exposure pathways primarily for on-site industrial or construction workers for both current and future land uses. No complete exposure pathways exist for off-site residential populations, on-site or off-site commercial workers, or off-site construction workers. Note that there are no current residential homes on-site, and future plans for the property do not include residential uses.

8.2 Corrective Action Standard

The corrective action standard for each contaminant of concern (COC) was based upon an evaluation and comparison with New Mexico Soil Screening Levels (SSLs) for industrial exposure presented within the NMED Hazardous Waste Bureau and Groundwater Quality Bureau Voluntary Remediation Program's *Technical Background Document for Development of Soil Screening Levels, Version 4.0 (*2006). COCs identified for groundwater at the site include benzene, toluene, ethylbenzene, xylene, MTBE, naphthalene, all of which have been reported at concentrations greater than the applicable WQCC standards. Benzene, toluene, ethylbenzene, and xylene concentrations in soil have also been reported to exceed applicable industrial SSLs, and total BTEX and TPH concentrations exceed the NMOCD action levels of 50 mg/kg total BTEX and 100 mg/kg TPH. Therefore, these compounds are identified as COCs in the vadose zone at the site. Because the site is utilized as commercial/ industrial and will not be used as residential (currently or in the future), industrial SSLs are being proposed for soil cleanup standards, and WQCC standards are proposed for groundwater cleanup standards.

Groundwater and soil COCs, corresponding cleanup standards, the tier level used to determine the cleanup standard, and the remedial alternative intended to achieve the cleanup standard are presented below. Note that any additional COCs identified during the course of site cleanup will utilize the applicable WQCC standard for groundwater or industrial SSL for soil.

Contaminants of Concern and Cleanup Standards for Soil and Groundwater at Former Thriftway Refinery, Bloomfield, NM

Contaminant of Concern	*Proposed Groundwater Cleanup Standard (WQCC Standard) (µg/L)*	*Proposed Soil Cleanup Standard* (mg/kg)*
Benzene	10	25.8
Toluene	750	252
Ethylbenzene	750	128
Xylene	620	82.0
MTBE	100	NE
Naphthalene	30	300
Total BTEX	-	50 (NMOCD)
TPH	-	100 (NMOCD)

*Industrial Soil Screening Levels (SSLs) (NMED, 2006)

9.0 Estimated Petroleum Hydrocarbon Contaminant Mass

The estimated mass of petroleum hydrocarbons, based upon the most recent groundwater and soil analytical results, is approximately 1,618,061 lbs and is broken down as follows:

- Vadose zone sorbed and vapor = 261,313 lbs
- Free product floating on water (218,790 gallons) = 1,356,500 lbs
- Dissolved BTEX, MTBE, EDC, and naphthalene = 247.8 lbs

9.1 Groundwater

The estimated petroleum hydrocarbon contaminant mass in groundwater was calculated as follows:

Assumptions:

Free Phase Product
585,000 ft^2 NAPL Plume by 0.25 ft NAPL thickness
585,000 ft^2 X 0.25 ft = 146,250 ft^3
Assume 20% porosity = 29,250 ft^3 X 7.48 = 218,790 gallons NAPL
X 6.2 lbs/gallon = **1,356,498 lbs petroleum hydrocarbons**

Dissolved Phase
Total average BTEX, MTBE, EDC, and naphthalene concentrations in groundwater are approximately 4,800 µg/L.

Area of dissolved phase plume (approximately 19 acres)
= 827,640 ft^2

Average height of water column in groundwater monitoring wells = 5 ft
(As measured in January 2009)

Volume of water within the dissolved phase plume
(Assume soil porosity = 0.2)
= (827,640 ft^2) X 5 ft
= 4,138,200 ft^3 X 0.2
= 827,640 ft^3

Convert to gallons of water within dissolved phase plume
= 827,640 ft^3 X 7.48 gallons/ ft^3
= 6,190,747 gallons

Convert to pounds of hydrocarbons
= (6,190,747 gallons) X $\frac{8.34 \text{ pounds}}{\text{(gallons)}}$ X $\frac{4{,}800 \text{ parts}}{(1 \times 10^9 \text{ parts})}$

= **247.8 lbs petroleum hydrocarbons - dissolved phase plume**

9.2 Soils

The estimated petroleum hydrocarbon contaminant mass for soils was calculated as follows:

Assumptions:
The total average TPH concentration in soil is about 3,000 mg/kg.

Approximate area of source soils/vadose zone contamination (assuming approximately 10 acres impacted)
= 435,600 ft^2

Average thickness of impacted vadose zone over the entire area = 3 ft

Volume of soil within the impacted vadose zone area
= (435,600 ft^2) X 2 ft
= 871,200 ft^3

Convert to lbs of soil within the vadose zone plume
(Assume density of soil is approximately 100 lbs per cubic foot)
= 871,200 ft^3 X 100 lbs/ft^3
= 87,210,000 lbs

Convert to lbs of hydrocarbons
= (87,210,000 lbs) X $\frac{\text{(kg)}}{(1 \times 10^6 \text{ mg})}$ X $\frac{3{,}000 \text{ mg}}{\text{(kg)}}$

= **261,300 lbs petroleum hydrocarbons - vadose zone**

9.3 Soil Vapors

The estimated mass of petroleum hydrocarbons present within soil vapors in the vadose zone was calculated as follows:

Assumptions:
Total average TPH gasoline range organic (GRO) concentrations in soil vapors are 780 ppmv (based on average OVM/PID in soil borings within soil contamination zone).

Approximate area of source soils/vadose zone contamination (assuming approximately 10 acres impacted)

= 435,600 ft^2

Average thickness of vapor impact in vadose zone over the entire area = 3 feet

Volume of soil within the vadose zone plume

= (435,600 ft^2) X 3 ft

= 1,310,000 ft^3

Pore volume within source soils/vadose zone contamination
(Assume soil porosity = 0.2)

= 1,310,000 ft^3 X 0.2

= 262,000 ft^3

Convert to lbs of hydrocarbons

$$= (262{,}000\ ft^3) \times \frac{780\ \mu g}{L} \times \frac{28.317\ L}{1\ ft^3} \times \frac{1 kg}{10^9\ \mu g} \times \frac{2.205\ lb}{1\ kg}$$

= **12.8 lbs petroleum hydrocarbons - soil pore spaces**

10.0 Remediation Alternatives

AES considered several remedial alternatives in developing the most effective remedial strategy for the portions of the site which will be addressed first, i.e. the areas with significant free product (i.e. NAPL) thicknesses and source soils in addition to the downgradient edge of the dissolved phase plume. Remedial alternatives evaluated included: 1) excavation and off-site disposal of hydrocarbon contaminated soils within the areas of significant free product; 2) soil vapor extraction with air sparging (for areas outside of significant free product); 3) high vacuum multi-phase extraction to remove free product, soil vapors, and dissolved phase contaminants in source areas; and 4) phytoremediation for polishing of downgradient edge of dissolved phase plume and providing hydraulic control of potential plume migration.

10.1 Soil Excavation and Off-Site Disposal of Source Soils

The first remedial alternative evaluated consisted of excavating on-site source soils in conjunction with subsequent enhanced monitored natural attenuation of dissolved phase contaminants. It was estimated that approximately 120,000 cubic yards of contaminated soils would have to be removed and transported to an off-site disposal facility. Excavation and disposal of source soils would eliminate the need for further vadose zone remediation; however, remaining free product and dissolved phase contamination would still have to be addressed in the source area.

10.2 Soil Vapor Extraction (SVE) with Air Sparging (AS)

Soil vapor extraction (SVE) consists of applying a low pressure vacuum across the vadose zone while simultaneously injecting ambient air into the saturated zone to encourage volatilization of contaminants from the saturated zone into the vadose zone. The SVE vacuum rates remain low in order to prevent excessive production of water (upwelling or mounding).

10.3 Multi-Phase Extraction (MPE) Remediation in Source Area

The third remedial alternative evaluated consists of high vacuum MPE using an internal combustion engine (ICE). This remedial option would provide an effective method to remove free product, including heavier and less volatile compounds, and remediate contaminated saturated and unsaturated soils and groundwater within the source area.

10.4 Phytoremediation for Hydraulic Control and Treatment of Down-Gradient Edge of Dissolved Phase Plume

Phytoremediation is a process that uses plants to remove, transfer, stabilize, or destroy petroleum hydrocarbon or other contaminants in soil, sediment, and groundwater. The mechanisms of phytoremediation include enhanced rhizosphere biodegradation (takes place in soil or groundwater immediately surrounding plant roots), phytoextraction (also known as phytoaccumulation, the uptake of contaminants by plant roots and the

translocation/accumulation of contaminants into plant shoots and leaves), phytodegradation (metabolism of contaminants within plant tissues), and phytostabilization (production of chemical compounds by plants to immobilize contaminants at the interface of roots and soil) (USEPA, 1999). Phytoremediation applies to all biological, chemical, and physical processes that are influenced by plants (including the rhizosphere) and that aid in cleanup of the contaminated substances. Plants can be used in site remediation, both through the mineralization of toxic organic compounds and through the accumulation and concentration of heavy metals and other inorganic compounds from soil into aboveground shoots. Phytoremediation may be applied in situ or ex situ, to soils, sludges, sediments, other solids, or groundwater. Shallow groundwater conditions in the downgradient (i.e. dissolved phase) portion of the site in conjunction with low to moderate dissolved phase contaminant concentrations present the potential for phytoremediation applications.

11.0 Selection of Remediation Alternatives

The objectives of the remediation strategies presented in the CAP are to reduce the concentrations of petroleum hydrocarbons in soil and groundwater to meet applicable standards and to mitigate impacts associated with potentially complete exposure pathways. A feasibility analysis for site remediation was conducted to identify the most effective remedial technology or combination of technologies based upon technical feasibility, cost effectiveness, permissibility (institutional or physical constraints), the current use of the property and the current use of surrounding properties.

The remediation alternatives in the previous section were evaluated based upon the following criteria: necessary, reasonable, technically feasible, and cost effective. A summary of the evaluation of remedial technologies is presented below:

Summary Remedial Technologies
for Former Thriftway Refinery, Bloomfield, NM

Remediation Alternative	*Necessary*	*Reasonable*	*Technically Feasible*	*Cost Effective*
1. Excavation of On-Site Source Soils	Yes	No	N/A	N/A
2. Soil Vapor Extraction/ Air Sparging for Areas Outside of Free Product	Yes	No	N/A	N/A
3. MPE in Source Area to Remove Free Product, Soil Vapors, and Dissolved Phase	Yes	Yes	Yes	Yes
4. Phytoremediation at Downgradient Dissolved Phase Edge	Yes	Yes	Yes	Yes

Remediation Alternative 1 was not selected because it will not best adequately mitigate free product within the source area. Excavation of on-site source soils would remove petroleum contaminated soils from the vadose zone which currently provide a continued source for both soil vapor migration and for groundwater contamination. However, remaining free product will continue to serve as ongoing source for soil vapors and dissolved phase contaminants.

Remediation Alternative 2 was not selected because: 1) low vacuum pressures would not allow for removal of less volatile compounds; 2) low air sparge injection flows would not allow for partitioning of less volatile compounds; and 3) air sparge injection flows may cause plume migration towards Kutz Wash and would decrease ability to maintain hydraulic control at the site.

Remediation Alternative 3 was selected because: 1) results of the MPE pilot study showed that MPE is technically feasible and will achieve a significant radius of influence (approximately 40 feet) within the fine to medium grained sand and silty sand at the site; 2) MPE will be effective in removing soil vapors, free product and dissolved phase contaminants, where the vadose and saturated zones have been impacted by petroleum hydrocarbons; and 3) the technology can be implemented in a phased approach over the next few years.

Remediation Alternative 4 was selected because: 1) phytoremediation allows for maintaining hydraulic control of the site, ensuring that dissolved phase contaminants will not migrate further down-gradient and possibly reach Kutz Wash; and 2) phytoremediation will improve the visual aspect of the area for nearby residents and traffic on CR 5500.

12.0 Proposed Remediation System Installation and Operations Overview

Based on cost effectiveness and the ability to achieve the desired remediation standards in a reasonable time period, operation of a high vacuum MPE system is considered the most appropriate site remediation strategy. In general, the proposed system will include an ICE unit with two engines to extract soil vapors, free product, and contaminated groundwater from an eventual total of 196 extractions wells. Remediation work will be completed in 10 separate phases, with about 20 wells per phase, and each phase will require approximately four months of vacuum extraction to complete. Work will begin in the most up-gradient portion of the source area and free product plume (Phase 1) and then proceed to the down-gradient edge of the free product plume, which will be addressed in the later phases of MPE operations.

Waste streams associated with operations include soil vapor, free product, and contaminated groundwater. Approximately 98 percent of the recovered soil vapor will be used as fuel for the ICE unit or destroyed by catalytic oxidization. A small portion of the free product recovered will partition to vapor phase during processing and storage and will also be used as fuel for the ICE unit. The remainder of free product will be stored on-site and continued to be used as a partial supplemental fuel source (along with

propane). Groundwater extraction rates will be kept to a minimum (less than 0.5 gpm per well), and water that is produced will be evaporated within the two existing lined ponds, which are allowed under GW-55 Permit for the facility.

Based on the MPE pilot study results and the estimated contaminant mass to be removed, approximately 3.6 years will be required to complete the 10 remediation phases. However, it is expected that contaminant rebound will occur within some areas, and additional operation time of as much as two years may be required. Estimated remediation time (3.6 years) was estimated as follows:

Assumptions:

1. A total of 1,618,061 lbs of hydrocarbon mass to be removed.
2. Operate 10 extraction wells at a time (of the total number of wells from each MPE phase) from which 60 lbs of hydrocarbons will be extracted per hour.
3. Only 80 percent run-time will be achieved due to operations and maintenance (O&M).

Remediation Time

$$= \frac{1{,}618{,}061 \text{ lbs}}{60 \text{ lbs/hour}} = 26{,}968 \text{ hours}$$

$$= \frac{26{,}968 \text{ hours}}{24 \text{ hours}} = 1{,}124 \text{ days}$$

$$= \frac{1{,}124 \text{ days}}{365 \text{ days}} = 3 \text{ years}$$

$$= 3 \text{ years} + (3 \times 1.20) = 3.6 \text{ years}$$

12.1 Health and Safety Plan

AES has a Health and Safety Program in place to ensure the health and safety of all AES employees. The Health and Safety Program defines safety practices and procedures to be instituted in all AES work places, as applicable. The program meets the requirements promulgated by the Occupational Safety and Health Act (OSHA). All AES personnel are appropriately trained in accordance with OSHA 40 CFR 1910.120.

AES will prepare and implement a comprehensive site-specific health and safety plan (HASP) for the installation and operation of the remediation system. All employees, subcontractors, and visitors will be required to read and sign the HASP to acknowledge their understanding of the information contained in it. The HASP will be implemented and enforced on site by the assigned Site Safety and Health Officer. During the installation phases, daily tailgate safety meetings will be held and documented and will address specific health and safety concerns or issues.

12.2 Department Notification

AES will provide the NMOCD with written notification at least seven days before initiating any major field activities, such as extraction well installations and changes in work phases, so that an NMOCD representative may be on-site to observe scheduled site activities. Additionally, AES will also provide written notification to the site owners/operators of scheduled field activities.

12.3 Utilities Notification

Prior to initiating excavation or drilling activities, AES will contact New Mexico One Call (NMOC) to locate utilities on- and off-site in the vicinity of the proposed well locations. AES will contact separately any entity not participating in New Mexico One Call to locate utilities. Scheduled site activities will commence following utility clearance.

12.4 Operations Area Surface Preparation

Prior to beginning work on each phase, the surface area within that phase will be moderately graded to facilitate the installation of the extraction wells and the movement of the mobile remediation equipment within the area during MPE operations. Site surface preparation will include leveling of soil berms and removal of any concrete surfacing or dense vegetation. During this work, extreme care will be taken not to damage existing monitoring wells.

12.5 MPE Well Installation

A total of 196 extraction wells (MPE-1 through MPE-196) will be installed during the 10 phases of MPE operations, and each phase will include 11 to 24 wells. Note that not all MPE extractions wells will be installed at once; rather, MPE wells will be installed just prior to the start of each respective MPE phase. MPE wells will be located on 60 ft centers to provide a full radius of effective influence of up to 40 ft. All MPE wells will be completed to 3 ft above grade and manifolded together with 2-inch diameter vacuum hose, which will be placed on the ground surface. Signs and temporary fence will be used in areas where occasional authorized traffic occurs, to prevent damage to the vacuum hoses. The proposed MPE system is included on Figure 11.

12.5.1 Soil Boring Installation

AES proposes to employ a New Mexico licensed driller with a Mobile B-57 rig equipped with 7.25-inch diameter hollow-stem augers for installing the MPE wells. The wells will be installed to an estimated average depth of 20 ft bgs and will include 10 ft of slotted (0.010-inch) screen and 13 ft of blank casing and riser. All drilling and site work will be conducted in accordance with AES's Standard Operating Procedures (SOPs) – Hollow Stem Auger Drilling and applicable ASTM standards.

12.5.2 Field Screening and Lithologic Logging

During MPE well installation, soils will be logged for subsurface lithology by examining the drill cuttings in order to assist in proper MPE well construction and placement. Lithologic descriptions and OVM measurements will be recorded onto soil boring logs.

12.5.3 MPE Well Installation, Development and Surveying

MPE Well Installation

All MPE wells will be constructed with Schedule 40 PVC with 10 ft of slotted (0.010-inch) screen set to intersect free product and groundwater. The annulus of the screened portion of the MPE wells will be filled with 10/20 Colorado silica sand from approximately the bottom of the well up to 2 ft above the top of the screened interval. A 2-ft thick bentonite seal will be placed on top of the sand, and the remaining annular space will be filled with cement grout to the surface (approximately 6 ft). The wells will be completed at 3 ft above grade with a steel surface riser. All well casing and screen will be delivered to the site in factory-sealed containers. The MPE wells will be constructed in accordance with AES's SOPs for Well Installation and ASTM D5092-9. MPE well construction details are illustrated on Figure 11.

MPE Well Development

Following installation, the MPE wells will be developed by a combination of surging and pumping techniques. Well development will include free product and groundwater measurements taken before and after development to provide information on free product thicknesses, groundwater elevations, and the operating parameters of the MPE system. It is estimated that approximately 25 gallons of water will be generated during the development of each MPE well. Groundwater purged from the wells will be placed in the two lined ponds for evaporation. The MPE wells will be developed in general accordance with AES's SOP - Well Installation and Development and applicable ASTM standards.

MPE Well Surveying

A New Mexico licensed surveyor will survey and tie the newly installed MPE wells to an existing USGS benchmark and to other site monitoring wells and features. Elevations will be recorded to the nearest 0.01 foot with reference to mean sea level. Survey data will be used to develop as-built drawings of the remediation system.

12.6 Equipment Decontamination

All downhole drilling equipment (i.e. augers and rods) will be cleaned with a high-pressure washer between borings. All decontamination and rinse water will be collected and placed in the lined ponds for evaporation. Decontamination procedures will follow AES' SOPs for equipment decontamination.

12.7 Drilling Waste Characterization and Disposal

12.7.1 Waste Disposal

AES estimates that approximately 50 cubic yards of drill cuttings will be generated during the installation of the MPE wells. Drill cuttings are expected to be contaminated and will be placed in a 10 cubic yard trailer as they are generated. Drill cuttings will then be characterized and disposed of at the Envirotech Landfarm, located south of Bloomfield, New Mexico.

12.7.2 Drilling Waste Laboratory Analyses

A soil sample obtained from the drill cuttings will be collected and analyzed for waste profiling purposes by the fixed-base laboratory for parameters required by the disposal facility.

12.8 MPE Remediation System

The MPE remediation system has been designed based on a recent site characterization investigation and MPE pilot study. A total of 196 extraction wells, MPE-1 through MPE-196, will be utilized for remediation of the saturated and vadose zones. A drop tube connected to the vacuum extraction piping will be used to extract vapor and liquid from each remediation well. An applied vacuum at each remediation well will remove soil vapor, free product, and groundwater out of the well and to the remediation system.

The soil and groundwater remediation system has been designed to simultaneously operate up to 10 extraction wells at a time. The spacing of the remediation wells is based on a conservative estimated radius of influence (ROI) of 40 ft. Based on the results of the MPE pilot test, a well head vacuum of up to 25 in-H_2O was required to obtain an average ROI of 40 ft (0.5 in-H_2O observed at 40 ft from extraction well).

The remediation system will process approximately 100 SCFM of soil gas and ambient air at a well head vacuum of 25 in-H_2O. Approximately 98 percent of the recovered soil vapor will be used as fuel for the ICE unit or destroyed by catalytic oxidization. A small portion of the free product recovered will partition to vapor phase during processing and storage and will be used as fuel for the ICE unit. The remainder of free product will be stored on-site and continued to be used as a partial fuel source (along with propane) for the RSI unit. Groundwater extraction rates will be kept to a minimum (less than 0.5 gpm per well), and water that is produced will be evaporated within the two existing lined ponds, which are permitted under the facilty discharge plan (GW-55).

The MPE system will consist of a RSI S.A.V.E. and compressive thermal oxidizer for vapor destruction. A supplemental propane fuel source, system telemetry and software, and regulator will allow for continuous operation in the event that soil vapors fall below the engine requirement of 5,000 ppm total petroleum hydrocarbons. The MPE system will also have a "Project Manager" system control and telemetry package that will allow equipment to be monitored and operated remotely via a telephone modem.

Miscellaneous engine gauges, programmed with safety shutdown procedures, will also be installed on the system. Additional equipment specifications are as follows, and complete system specifications are included in Figure 11.

- Internal combustion engines: Two modified Ford 460 engines to create up to 20 in-Hg vacuum (each engine); maximum soil vapor abatement 260 scfm @ 16,000 ppmv loaded V4; maximum soil vapor abatement 100 scfm @ 16,000 ppmv unloaded V4; total BTU destruction rate 300,000 - 900,000 BTU/hr per engine; with 15 to 25 lbs/hour hydrocarbon destruction rate per engine.

- Phoenix 1000 controller: Starts the engine running on dilution air and alternate fuel through an idle and warm-up period. After warm-up, the system slowly begins opening the valve from the MPE wells. As the valve is opening, the controller constantly adjusts all of the other valves to maintain the set rpm and to hold a near stoichiometric fuel ratio in the engine. The system continuously increases the flow from the MPE wells while decreasing the alternative fuel and dilution air inlet valves. If vapors from the MPE system are rich (i.e. high concentration of hydrocarbons), the alternate fuel valve will eventually close. The controller will close the dilution air valve if the MPE vapor stream is lean.

The MPE system design, installation, operation, maintenance, monitoring, evaluation, optimization, and reporting will be conducted in a manner consistent with established industry standards, technical guidance documents, and vendor specifications. AES has utilized the U.S. Army Corps of Engineers (USACE) Engineering and Design Manual (EM 110-0-4010) for Multi-Phase Extraction (2002) to assist in system design.

12.9 Air Quality Monitoring and Sampling

Routine air monitoring and sampling will be conducted at the inlet and outlet of the RSI unit. Upon startup, representative grab samples will be collected and analyzed for volatile organic compounds per EPA Method 8260, BTEX per EPA Method 8021B, and GRO and DRO per EPA Method 8015M in accordance with a testing plan developed in consultation with the NMED Air Quality Bureau. After startup, samples will be collected on a periodic basis for the duration of MPE operations. Grab samples from the inlet and outlet will be analyzed for TPH (GRO and DRO) and BTEX per EPA Methods 8015 and 8021, respectively. All samples will be analyzed at Hall Environmental Analysis Laboratory (Hall), in Albuquerque, New Mexico.

12.10 Phytoremediation at Down-Gradient Edge of Dissolved Phase Plume

Phytoremediation will be implemented as a plume migration barrier for down-gradient control of the groundwater contaminant plume. AES has met and consulted with the New Mexico State University (NMSU) Agricultural Science Center in Farmington regarding the use of their hybrid poplars cultivar for this application. NMSU has worked locally with the Navajo Agricultural Products Industry (NAPI) to develop local cultivars suited to the arid and high alkalinity conditions of the area. According to Dr. Mick O'Neill, superintendent of the NMSU Ag Center, beginning in 2002 NMSU researchers worked with NAPI to test 20 different poplar clones and identified a few that grew very well in this area. One clone, named OP-367, was reported to have grown to a height of 15 ft in 16 months and reached 40 ft in height by the age of four years. The NMSU Ag Center has agreed to make plant material from their research plots available for the application proposed in this CAP and NMSU staff will also be able to provide consultation regarding plant installation and maintenance.

12.10.1 Agronomic Evaluation

The performance of phytoremediation system is contingent on soil quality, which in turn depends on the physical, chemical, and biological parameters of the soil. Physical characteristics of the soil include compactness (bulk density), texture, and permeability,

and chemical parameters include fertility, salinity, and presence of phytotoxic elements or compounds. Biological factors, including plant and chemical interactions with bacteria, fungi, insects, and burrowing animals, also need to be assessed for an effective phytoremediation project.

Prior to plantings in the spring of 2010, and in consultation with NMSU, a representative number of soil samples from the area proposed for phytoremediation will be collected and analyzed for:

- available nutrients, including nitrogen, phosphorus, potassium, calcium, sulfur etc.;
- particle size distribution;
- bulk density;
- salinity;
- oxidation/reduction (redox) potential;
- microorganism(s) present for degradation;
- cation exchange capacity;
- pH; and
- organic matter content.

Results of the soil analyses may indicate that certain amendments would be beneficial to the soil before pole planting begins. One method of improving soil quality is to place composted woody material in the planting trench with the poles as they are planted. The compost will provide a nutrient source for the trees, improve the drought tolerance of the plantings, and enhance the contaminant buffering potential of the phytobarrier due to the high organic content and large surface area of the compost material.

12.10.2 Installation Plan

Based on consultation with NMSU, an initial planting of approximately 1,150 locally derived hybrid poplar poles will be installed in trenches dug along the north and west property boundaries (see 'minimum planting area', Figure 12). The poles will be 8 to 10 ft in length and will be cut from live, dormant trees one to two days prior to planting. Cut poles will be kept moist and stored in a cool area out of direct sunlight until planting. Based on the results of the initial planting, later plantings may also be conducted in the additional areas identified on Figure 12.

Planting trenches will be created using a powered trencher capable of cutting a trench to at least 7 ft bgs. Prior to trenching, AES will ensure that all utilities are located in accordance with New Mexico One Call procedures. Utility representatives will be requested to be on-site during trench installation if needed. Trenches will be installed with an interval of 6 ft between trench lines and trees will be spaced at 6-foot intervals along the trenches. The total width of plantings will be approximately 24 ft. As previously noted, wood-based compost will be added to the trench as the soil is backfilled around the poles in order to improve soil quality and drought tolerance.

Areas between the poplars will be infilled with grass species, e.g. Bermuda grass (*Cynodon sp.*), Alkali sacaton (*Sporobolus airoides*), Alkali muhly (*Muhlenbergia asperifolia*), or other suitable grasses or sedges, to aid in groundwater uptake and

invasive species control (e.g., Saltcedar/*Tamarix ramosissima*). All planting will be undertaken during spring, preferably during the month of April, but no later than May 15th. Irrigation of all plantings will be conducted, as needed, to maintain survivability of the plantings and will include manual irrigation initially followed by installation of an automated drip irrigation system using water produced from an on-site irrigation well (to be installed).

The irrigation well will be installed by Biotech in an up-gradient portion of the site. AES proposes installing the well to a depth of approximately 60 ft bgs and intends to locate the well near test well TW-6 to the east of the entrance gate. AES will install a solar panel to power a 12-volt purge pump capable of pumping water from a depth of up to 75 feet. The pump discharge will be connected to flexible black waterline pipe that will be routed from the well location to a series of drip irrigation lines distributed throughout the planting area. The pump will be controlled with a timer so that pumping rates can be optimized for the needs of the plantings and the season.

In order to aid in monitoring the effectiveness of the phytoremediation, AES will install a series of grouped 1-inch diameter piezometers in the same trench as the poles when the poles are planted. Each piezometer group will consist of three piezometers: one in the upgradient trench, one in the middle interior trench, and one in the downgradient trench. AES anticipates installing three piezometer groups: one near the east end of the initial planting area, one near the northwest corner of the property, and one near the southwest corner of the initial planting area. The piezometers will be constructed of PVC and will consist of a 2.5 ft long slotted screen and 5 ft blank. For a distance of 2 ft on either side of a piezometer, the trench will be backfilled entirely with sand (no compost).

12.10.3 Maintenance Plan

A maintenance plan for the phytoremediation area will be developed and include inspection of groundwater, nearby surface water (if present) in Kutz Wash, meteorological, and plant monitoring equipment and the plants themselves. Maintenance of plants and cover vegetation (USEPA) will include:

- Mowing or trimming ground cover vegetation, if necessary, may greatly enhance growth of trees. Note that mowing or trimming may only be necessary when herbaceous plant competition becomes detrimental to trees;
- Fertilizing the area based on the soil monitoring results;
- Following an animal control plan to keep out deer, burrowing animals, etc.;
- Pruning and replacing trees, as necessary.

12.11 Monitoring and Sampling Plan

12.11.1 Semi-Annual Groundwater Monitoring and Sampling During Active Remediation

BioTech will conduct semi-annual groundwater monitoring and sampling to monitor site progress during operation of the MPE system. All recently installed wells will be sampled semi-annually for volatile organics per EPA Method 8260 and GRO, DRO, and MRO per EPA Method 8015M. Additionally, wells will be sampled on an annual basis for anions/cations, including calcium, magnesium, potassium, sodium, bromide, chloride, fluoride, sulfate, specific conductance, hardness (as $CaCO_3$), and TDS, and also for RCRA 8 metals. Groundwater monitor wells will be sampled in general accordance with the AES's SOPs - Groundwater Monitor Well Purging and Sampling, and applicable ASTM standards. All groundwater field data, including temperature, conductivity, oxidation reduction potential, DO, and pH, will be recorded onto Water Sample Collection forms.

12.11.2 Phytoremediation Progress Monitoring

AES will initially conduct monthly inspection of planted species to monitor progress. Inspections will include visual observation of indicators of plant health such as the percent survival, leaf yellowing or browning, and average height of plants per plot (measured from main stem to tip of leader). A series of agronomic samples will be collected annually within the active phytoremediation area to evaluate ongoing soil amendment/fertilizer requirements. AES intends to work with NMSU to collect the necessary samples, but proposes no less than two samples per planted acre for this purpose. In addition, the piezometer system installed within the phytoremediation area will be used to gauge water levels and collection of samples for BTEX analyses (EPA Method 8021) for semi-annual progress reporting.

12.12 Reporting

12.12.1 Remedial Progress Reports

Remedial progress reports will be prepared to provide NMOCD updates regarding the status and progress of the various remedial actions undertaken at the site. The reports will generally include the following:

- Description of all work performed for the reporting time frame;
- Results of groundwater monitoring data, including all procedures, results, and documentation;
- Site plan showing monitoring and sampling collection locations of data collected;
- Results of phytoremediation inspections and maintenance efforts;
- An evaluation and interpretation of cumulative remedial progress towards achieving intermediate performance based goals;
- An updated projection of the time frame for attaining intermediate performance goals;

- When appropriate, final remediation goals for each contaminated media;
- All goals based on contaminant statistical data trends regarding contaminant concentrations (including groundwater trends);
- An updated conceptual site model that incorporates updated periodic monitoring and sampling data;
- Analyses, evaluations, and performance-based recommendations based upon the results of the MPE system operations during the applicable monitoring period;
- Estimated time until response activities, including remediation and verification monitoring, will demonstrate that the concentration of each COC is at or below the applicable cleanup standard;
- Proposed future activities.

Subsequent Remedial Progress Reports will be prepared on a semi-annual basis and submitted to NMOCD within 45 calendar days following the end of each semi-annual reporting period (January through June and July through December of each calendar year) while the corrective action is in progress.

13.0 Proposed Schedule

Initial corrective action scheduling will follow the proposed timeline:

Task Description	***Days from CAP Submittal to NMOCD***
Phase 1 MPE Well Installation	60 days
Phase 1 MPE System Startup	90 days
Semi-Annual Groundwater Monitoring	June 2009
1st Semi-Annual Report	August 15, 2009
Phase 2 MPE Well Installation	October 2009
Phase 2 MPE System Startup	November 2009
Semi-Annual Groundwater Monitoring	December 2009
2nd Semi-Annual Report	February 15, 2010
Phytoremediation Pole Plantings	April 2010

In the event that site cleanup levels are not achieved, additional corrective action efforts at the site will be initiated in consultation with NMOCD.

14.0 CAP Amendments or Modifications

This CAP has been formulated and prepared based upon current site conditions and information. In the event that site conditions change or new site information becomes available, Thriftway Company reserves the right to submit a CAP amendment or modification for review by NMOCD to ensure that corrective action is conducted in a reasonable, necessary and cost-effective manner.

15.0 Conclusions

Based upon consideration of site-specific information and conditions, the remedial option including installation and operation of a MPE remediation system augmented with a phytoremediation-based barrier for groundwater contamination migration will promote the protection of public health, welfare and the environment, and, to the extent practicable, provides for the control, management or cleanup of regulated substances so as to allow the maximum beneficial use of the water and soil of this state; and is reasonable, necessary, cost-effective, and technically feasible.

16.0 Certification

I, the undersigned, am personally familiar with the information submitted in this Corrective Action Plan prepared on behalf of Thriftway Company for the Former Thriftway Refinery located at 626 CR 5500, Bloomfield, San Juan County, New Mexico. I attest that it is true and complete to the best of my knowledge.

EM for Blaine Watson

Blaine Watson, P.G.
Sr. Project Manager

Ross Kennemer,
Environmental Scientist, Principal

Elizabeth D. McNally

Elizabeth McNally, P.E.
Principal

17.0 References

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TABLE 1
SUMMARY OF HISTORICAL 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)*	GW Elev. (ft amsl)	pH	Conductivity (mS)	Dissolved Oxygen (mg/L)	Temp. (°C)	Purge Volume (gallons)
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
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

TABLE 1
SUMMARY OF HISTORICAL 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)*	GW Elev. (ft amsl)	pH	Conductivity (mS)	Dissolved Oxygen (mg/L)	Temp. (°C)	Purge Volume (gallons)
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
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

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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-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-5	19-Dec-08	5428.97		5.04				6.76	7.748	4.02	11.73	0.25
MW-6	3-May-01	5430.70		5.15			5425.55	7.3	1.35	5.33	54.9	5
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	

TABLE 1
SUMMARY OF HISTORICAL 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)*	GW Elev. (ft amsl)	pH	Conductivity (mS)	Dissolved Oxygen (mg/L)	Temp. (°C)	Purge Volume (gallons)
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
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-8	19-Dec-08	5433.04	Not Sampled - Filled with Roots									
MW-9	30-Jan-02	5436.69		NS	Well not located							

TABLE 1
SUMMARY OF HISTORICAL 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)*	GW Elev. (ft amsl)	pH	Conductivity (mS)	Dissolved Oxygen (mg/L)	Temp. (°C)	Purge Volume (gallons)
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-9	19-Dec-08	5436.69		5.91			5430.78	6.36	6.368	6.29	9.69	Low yield
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
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-10	19-Dec-08	5437.78		5.09			5432.69	6.73	5.439	6.27	9.79	0.25

TABLE 1
SUMMARY OF HISTORICAL 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)*	GW Elev. (ft amsl)	pH	Conductivity (mS)	Dissolved Oxygen (mg/L)	Temp. (°C)	Purge Volume (gallons)
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
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

TABLE 1
SUMMARY OF HISTORICAL 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)*	GW Elev. (ft amsl)	pH	Conductivity (mS)	Dissolved Oxygen (mg/L)	Temp. (°C)	Purge Volume (gallons)
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
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

TABLE 1
SUMMARY OF HISTORICAL 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)*	GW Elev. (ft amsl)	pH	Conductivity (mS)	Dissolved Oxygen (mg/L)	Temp. (°C)	Purge Volume (gallons)
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
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				

TABLE 1
SUMMARY OF HISTORICAL 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)*	GW Elev. (ft amsl)	pH	Conductivity (mS)	Dissolved Oxygen (mg/L)	Temp. (°C)	Purge Volume (gallons)
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
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

TABLE 1
SUMMARY OF HISTORICAL 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)*	GW Elev. (ft amsl)	pH	Conductivity (mS)	Dissolved Oxygen (mg/L)	Temp. (°C)	Purge Volume (gallons)
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
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-20	21-Jan-09	5430.45		5.86			5424.59	6.73	5.996	3.58	8.34	0.5
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

TABLE 1
SUMMARY OF HISTORICAL 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)*	GW Elev. (ft amsl)	pH	Conductivity (mS)	Dissolved Oxygen (mg/L)	Temp. (°C)	Purge Volume (gallons)
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-21	19-Dec-08	5428.62		3.43			5425.19	6.79	7.562	9.78	11.04	1.25
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
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-22	19-Dec-08	5430.75		4.65			5426.10	6.62	10.96	5.55	9.88	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

TABLE 1
SUMMARY OF HISTORICAL 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)*	GW Elev. (ft amsl)	pH	Conductivity (mS)	Dissolved Oxygen (mg/L)	Temp. (°C)	Purge Volume (gallons)
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
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

TABLE 1
SUMMARY OF HISTORICAL 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)*	GW Elev. (ft amsl)	pH	Conductivity (mS)	Dissolved Oxygen (mg/L)	Temp. (°C)	Purge Volume (gallons)
MW-26		5447.26	DESTROYED									
MW-27	1-Feb-02	5449.01	Dry	Dry								
MW-27	29-Jul-02	5449.01	Dry	Dry								
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

TABLE 1
SUMMARY OF HISTORICAL 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)*	GW Elev. (ft amsl)	pH	Conductivity (mS)	Dissolved Oxygen (mg/L)	Temp. (°C)	Purge Volume (gallons)
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
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

TABLE 1
SUMMARY OF HISTORICAL 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)*	GW Elev. (ft amsl)	pH	Conductivity (mS)	Dissolved Oxygen (mg/L)	Temp. (°C)	Purge Volume (gallons)
RW-25	28-Jul-04	5448.68	16.50	16.52	0.02	5432.18	5432.15					No Sample
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
T-17-1	08-Apr-05	5452.41		17.61			5434.80					No Sample

TABLE 1
SUMMARY OF HISTORICAL 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)*	GW Elev. (ft amsl)	pH	Conductivity (mS)	Dissolved Oxygen (mg/L)	Temp. (°C)	Purge Volume (gallons)
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

TABLE 2.
SUMMARY OF VOC and TPH SOIL ANALYTICAL RESULTS
Thriftway Refinery, 626 CR 5500, Bloomfield, New Mexico

Sample ID	Date Sampled	Sample Depth	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	Naph-thalene	GRO	DRO	MRO
		(feet)	*(mg/kg)*	*(mg/kg)*	*(mg/kg)*	*(mg/kg)*	*(mg/kg)*	*(mg/kg)*	*(mg/kg)*	*(mg/kg)*	*(mg/kg)*
		Analytical Method	***8260B***	***8260B***	***8260B***	***8260B***	***8260B***	***8260B***	***8015B***	***8015B***	***8015B***
		NMOCD Action Level	***50***				***NE***	***NE***	***100***		
		NMED SSL - Industrial	***25.8***	***252***	***128***	***82.0***	***NE***	***300***	***NE***	***NE***	***NE***
		NMED SSL - GW Leaching DAF 1	***0.00100***	***1.08***	***1.01***	***0.103***	***NE***	***0.0197***	***NE***	***NE***	***NE***
TP-1	02-Oct-08	11	<0.050	<0.050	<0.050	<0.10	<0.050	<0.10	<5.0	<10	<50
TP-33	07-Oct-08	10	<0.050	<0.050	<0.050	<0.10	<0.050	<0.10	<5.0	15	60
TP-40	07-Oct-08	1	<0.050	<0.050	<0.050	<0.10	<0.050	<0.10	<5.0	11	69
TP-48	06-Oct-08	5.5	<0.50	<0.50	2.5	14	<0.50	19	**850**	**2,900**	**2,700**
TP-49	03-Oct-08	11	**26**	**83**	**18**	**170**	<0.50	12	**1,300**	**11,000**	**12,000**
TP-53	06-Oct-08	4	**13**	**3.2**	**8.9**	**76**	<0.50	6.2	**570**	**6,400**	**8,300**
TP-63	03-Oct-08	10	<1.0	<1.0	1.4	4.2	<1.0	5.6	**560**	**3,800**	**3,500**
TP-75	06-Oct-08	5	<1.0	<1.0	<1.0	<2.0	<1.0	<2.0	**580**	**1,400**	**1,700**
SB-1	17-Nov-08	20-21.5	<0.050	<0.050	<0.050	<0.10	<0.050	<0.10	<5.0	**69**	**200**
SB-4	01-Dec-08	15	<0.050	<0.050	<0.050	<0.10	<0.050	<0.10	<5.0	<10	<50
SB-6	02-Dec-08	18-19	<0.050	<0.050	<0.050	<0.10	<0.050	<0.10	<5.0	<10	<50
SB-8	01-Dec-08	15	<0.25	<0.25	0.76	6.7	<0.25	<0.050	**120**	**750**	<500
SB-10	02-Dec-08	11.5-12.5	<0.50	<0.50	**22**	**54**	<0.50	10	**1,800**	<10	<50
SB-13	03-Dec-08	17-18	<0.10	<0.10	<0.10	1.3	<0.10	0.40	**26**	**670**	**220**
SB-14	03-Dec-08	14-15	<2.5	<2.5	**21**	**180**	<2.5	8.4	**1,400**	**2,700**	<500
SB-17	03-Dec-08	7	<0.050	<0.050	<0.050	<0.10	<0.050	<0.050	<5.0	<10	<50
SB-20	04-Dec-08	13	<0.50	**7.3**	**8.9**	**65**	<0.50	4.5	**580**	**1,500**	<500
SB-21	05-Dec-08	12-14`	**7.1**	**12**	**7.5**	**40**	<0.50	1.9	**500**	**3,800**	<500
SB-22	10-Dec-08	10-11`	**6.2**	**78**	**56**	**410**	<5.0	<10	**2,500**	**2,900**	<500
SB-24	05-Dec-08	4-6`	<0.25	0.56	1.4	7.6	<0.25	1.2	**260**	**1,000**	<500
SB-25	09-Dec-08	9-10`	<0.50	<0.50	3.7	26	<0.50	2.8	**490**	**1,600**	<500
SB-28	08-Dec-08	11-12`	3.8	<2.5	9.3	<5.0	<2.5	7.8	**550**	**2,200**	<500
SB-29	09-Dec-08	8-9`	<1.0	<1.0	<1.0	44	<1.0	11	**1,800**	**6,800**	<1000
SB-31	09-Dec-08	4-5`	<0.050	<0.050	<0.050	<0.10	<0.050	<0.10	<5.0	**620**	**1,100**

TABLE 2.
SUMMARY OF VOC and TPH SOIL ANALYTICAL RESULTS
Thriftway Refinery, 626 CR 5500, Bloomfield, New Mexico

Sample ID	Date Sampled	Sample Depth	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	Naph-thalene	GRO	DRO	MRO
		(feet)	*(mg/kg)*	*(mg/kg)*	*(mg/kg)*	*(mg/kg)*	*(mg/kg)*	*(mg/kg)*	*(mg/kg)*	*(mg/kg)*	*(mg/kg)*
		Analytical Method	***8260B***	***8260B***	***8260B***	***8260B***	***8260B***	***8260B***	***8015B***	***8015B***	***8015B***
		NMOCD Action Level	***50***				***NE***	***NE***	***100***		
		NMED SSL - Industrial	***25.8***	***252***	***128***	***82.0***	***NE***	***300***	***NE***	***NE***	***NE***
		NMED SSL - GW Leaching DAF 1	***0.00100***	***1.08***	***1.01***	***0.103***	***NE***	***0.0197***	***NE***	***NE***	***NE***
SB-32	09-Dec-08	7.5-8	3.4	<0.50	4.1	29	<0.50	3.2	**410**	**2,900**	**1,400**
SB-33	04-Dec-08	8-9`	<0.050	<0.050	<0.050	<0.10	<0.050	<0.10	<5.0	**710**	<50
SB-34	10-Dec-08	13-14	<0.050	<0.050	<0.050	<0.10	<0.050	<0.10	<5.0	<10	<50
SB-35	10-Dec-08	11-12`	<0.25	<0.25	<0.25	<0.50	<0.25	<0.50	<100	**800**	<500
SB-36	10-Dec-08	9-10`	<0.25	<0.25	<0.25	<0.50	<0.25	<0.50	<100	**6,300**	<1000
SB-38	08-Dec-08	7-8`	**1.1**	<1.0	**9.4**	**56**	<1.0	2.7	**580**	**1,600**	<500
SB-43	04-Dec-08	9	<0.050	<0.050	<0.050	<0.10	<0.050	<0.10	<5.0	<10	<50

NOTE: NE = Not Established
GRO = Gasoline Range Organics
DRO = Diesel Range Organics
MRO = Motor Oil Range Organics

TABLE 3
SUMMARY OF SOIL POLYNUCLEAR AROMATIC HYDROCARBONS (PAHs), October 2008
Thriftway Refinery, 626 CR 5500, Bloomflield, New Mexico

Sample ID Sample Depth (ft)	Date Sampled	Acenaphthene (mg/kg)	Acenaphthylene (mg/kg)	Anthracene (mg/kg)	Benzo (a) anthracene (mg/kg)	Benzo (a) pyrene (mg/kg)	Benzo (b) fluoranthene (mg/kg)	Benzo (g,h,I) perylene (mg/kg)	Benzo (k) fluoranthene (mg/kg)	Chrysene (mg/kg)	Dibenzo (a,h) anthracene (mg/kg)	Fluoranthene (mg/kg)
Analytical Method		*8270C*	*8270C*	*8270C*	*8270C*	*8270C*	*8270C*	*8270C*	*8270C*	*8270C*	*8270C*	*8270C*
NMED SSL - Industrial		*33,500*	*NE*	*100,000*	*23.40*	*2.34*	*23.4*	*NE*	*234*	*2,310*	*2.34*	*24,400*
NMED SSL - GW Leaching DAF 1		*2.75*	*NE*	*81.1*	*0.543*	*0.139*	*1.68*	*NE*	*16.8*	*17.4*	*0.52*	*235*
TP-1 @ 11	2-Oct-08	<2.0	<0.20	<0.20	<0.20	<0.20	<0.20	<0.50	<0.20	<0.20	<0.20	<0.25
TP-63 @ 10	3-Oct-08	0.33	<0.20	<0.20	<0.20	<0.20	<0.20	<0.50	<0.20	<0.20	<0.20	<0.25
TP-49 @ 11	3-Oct-08	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.5	<1.0	<1.0	<1.0	<1.3
TP-48 @ 5.5	6-Oct-08	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.5	<1.0	<1.0	<1.0	<1.3
TP-75 @ 5	6-Oct-08	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.50	<0.20	0.26	<0.20	<0.25
TP-53 @ 4	6-Oct-08	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.5	<1.0	<1.0	<1.0	<1.3
TP-40 @ 1	7-Oct-08	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.50	<0.20	<0.20	<0.20	<0.25
TP-33 @ 10	7-Oct-08	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.50	<0.20	<0.20	<0.20	<0.25

NE- Not Established

TABLE 3
SUMMARY OF SOIL POLYNUCLEAR AROMATIC HYDROCARBONS (PAHs), October 2008
Thriftway Refinery, 626 CR 5500, Bloomflield, New Mexico

Sample ID / Sample Depth (ft)	Date Sampled	Fluorene (mg/kg)	Indeno(1,2,3-cd)pyrene (mg/kg)	Naphthalene (mg/kg)	Phenanthrene (mg/kg)	Pyrene (mg/kg)
Analytical Method		*8270C*	*8270C*	*8270C*	*8270C*	*8270C*
NMED SSL - Industrial		*26,500*	*23.4*	*300*	*20,500*	*30,900*
NMED SSL - GW Leaching DAF 1		*2.93*	*4.73*	*0.0197*	*23.2*	*18.6*
TP-1 @ 11	2-Oct-08	<0.50	<0.25	<0.20	<0.20	<0.20
TP-63 @ 10	3-Oct-08	0.94	<0.25	3.9	2.0	<0.20
TP-49 @ 11	3-Oct-08	2.7	<1.3	8.0	4.0	<1.0
TP-48 @ 5.5	6-Oct-08	<2.5	<1.3	3.9	2.4	<1.0
TP-75 @ 5	6-Oct-08	1.0	<0.25	<0.20	<0.20	<0.20
TP-53 @ 4	6-Oct-08	<2.5	<1.3	7.2	1.2	<1.0
TP-40 @ 1	7-Oct-08	<0.50	<0.25	<0.20	<0.20	<0.20
TP-33 @ 10	7-Oct-08	<0.50	<0.25	<0.20	<0.20	<0.20

NE- Not Established

TABLE 4
SUMMARY OF SOIL METALS
Thriftway Refinery, 626 CR 5500, Bloomfield, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	Arsenic (mg/kg)	Barium (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Lead (mg/kg)	Selenium (mg/kg)	Silver (mg/kg)	Mercury (mg/kg)
		Analytical Methods	*6010B*	*6010B*	*6010B*	*6010B*	*6010B*	*6010B*	*6010B*	*7471*
		NMED SSLs - Industrial	*17.7*	*100,000*	*564*	*NE*	*800*	*5,680*	*5,680*	*100,000*
		NMED SSLs - GW Leaching DAF 1	*0.0145*	*301*	*1.37*	*NE*	*NE*	*0.952*	*1.57*	*0.105*
TP-1	2-Oct-08	11	1.6	140	<0.5	<2.5	<2.5	<5.0	<0.5	<0.05
TP-63	3-Oct-08	10	1.9	120	<0.5	<2.5	3.30	<5.0	<0.5	<0.05
TP-49	3-Oct-08	11	4.4	313	<0.5	10.9	26.1	<5.0	<0.5	<0.05
TP-48	6-Oct-08	5.5	2.6	158	<0.5	5.8	11.2	<5.0	<0.5	<0.05
TP-75	6-Oct-08	5	0.9	95.2	<0.5	<2.5	<2.5	<5.0	<0.5	<0.05
TP-53	6-Oct-08	4	3.0	145	<0.5	5.4	8.9	<5.0	<0.5	<0.05
TP-40	7-Oct-08	1	2.0	142	<0.5	5.2	8.0	<5.0	<0.5	<0.05
TP-33	7-Oct-08	10	1.9	158	<0.5	<2.5	3.2	<5.0	<0.5	<0.05
SB-1	17-Nov-08	20-21.5	<2.5	110	<0.10	2.3	2.5	<2.5	<0.25	<0.033
SB-4	1-Dec-08	15	<13	130	<0.50	2.2	2.8	<13	<1.3	<0.033
SB-8	1-Dec-08	15	<13	160	<0.50	3.3	3.4	<13	<1.3	<0.033
SB-10	2-Dec-08	11.5-12.5	<13	130	<0.50	3.5	3.9	<13	<1.3	<0.033
SB-6	2-Dec-08	18-19	<13	120	<0.50	5.1	6.0	<13	<1.3	<0.033
SB-14	3-Dec-08	14-15	<13	150	<0.50	2.2	3.5	<13	<1.3	<0.033
SB-17	3-Dec-08	7	<13	200	<0.50	2.0	2.9	<13	<1.3	<0.033
SB-13	3-Dec-08	17-18	<13	93	<0.50	1.6	1.4	<13	<1.3	<0.033
SB-20	4-Dec-08	13	<13	150	<0.50	6.2	5.0	<13	<1.3	<0.033
SB-21	5-Dec-08	12-14`	<13	220	<0.50	5.9	6.4	<13	<1.3	<0.033
SB-22	10-Dec-08	10-11`	<2.5	120	<0.099	3.8	6.2	<12	<0.25	<0.033
SB-24	5-Dec-08	4-6`	<13	190	<0.50	6.5	7.5	<13	<1.3	<0.033
SB-25	9-Dec-08	9-10`	<2.5	160	<0.099	1.5	2.9	<12	<0.25	<0.033
SB-28	8-Dec-08	11-12`	<2.5	180	<0.099	2.0	2.5	<12	<0.25	<0.033
SB-29	9-Dec-08	8-9`	<2.5	96	<0.099	0.81	3.0	<12	<0.25	<0.033
SB-31	9-Dec-08	4-5`	<2.5	160	<0.10	1.2	2.0	<12	<0.25	<0.033

TABLE 4
SUMMARY OF SOIL METALS
Thriftway Refinery, 626 CR 5500, Bloomfield, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	Arsenic (mg/kg)	Barium (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Lead (mg/kg)	Selenium (mg/kg)	Silver (mg/kg)	Mercury (mg/kg)
Analytical Methods			*6010B*	*6010B*	*6010B*	*6010B*	*6010B*	*6010B*	*6010B*	*7471*
NMED SSLs - Industrial			*17.7*	*100,000*	*564*	*NE*	*800*	*5,680*	*5,680*	*100,000*
NMED SSLs - GW Leaching DAF 1			*0.0145*	*301*	*1.37*	*NE*	*NE*	*0.952*	*1.57*	*0.105*
SB-32	9-Dec-08	7.5-8	<2.5	140	<0.10	1.8	2.3	<12	<0.25	<0.033
SB-33	4-Dec-08	8-9`	<13	120	<0.50	1.7	3.1	<13	<1.3	<0.033
SB-34	10-Dec-08	13-14	2.9	84	<0.10	4.4	3.0	<12	<0.25	<0.033
SB-35	10-Dec-08	11-12`	<2.5	63	<0.099	2.3	2.5	<12	<0.25	<0.033
SB-36	10-Dec-08	9-10`	<12	89	<0.50	3.5	5.6	<12	<1.2	<0.033
SB-38	8-Dec-08	7-8`	<2.5	97	<0.099	1.4	1.8	<12	<0.25	<0.033
SB-43	4-Dec-08	9	<13	100	<0.50	2.7	3.1	<13	<1.3	<0.033

Note: * = Concentrations reported are in mg/kg
NA = Not Analyzed

TABLE 5
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)	Purge Volume (gallons)
TW-1	15-Dec-08	5471.58		27.95		5443.63	6.24	2.772	7.51*	14.64	0.25
TW-1	26-Jan-09	5471.58		30.53	0	5441.05	NM	NM	NM	NM	NM
TW-2	15-Dec-08	5469.31		28.91	0	5440.40	6.63	4.421	3.60	13.08	1.25
TW-2	26-Jan-09	5469.31		28.80	0	5440.51	NM	NM	NM	NM	NM
TW-3	15-Dec-08	5468.14		27.99	0	5440.15	6.63	4.249	2.01	14.44	1.25
TW-3	26-Jan-09	5468.14		27.87	0	5440.27	NM	NM	NM	NM	NM
TW-4	16-Dec-08	5458.72		19.16	0	5439.56	6.67	7.258	4.09	13.40	1.25
TW-4	26-Jan-09	5458.72		NM			NM	NM	NM	NM	NM
TW-5	15-Dec-08	5465.18		25.54	0	5439.64	6.56	3.704	3.26	14.25	1.25
TW-5	26-Jan-09	5465.18		25.44	0	5439.74	NM	NM	NM	NM	NM
TW-6	15-Dec-08	5463.57		24.78	0	5438.79	6.50	4.719	0.99	14.50	1.25
TW-6	26-Jan-09	5463.57		24.67	0	5438.90	NM	NM	NM	NM	NM
TW-7	15-Dec-08	5461.17		22.25	0	5438.92	6.47	5.302	0.82	14.88	1.25
TW-7	26-Jan-09	5461.17		22.14	0	5439.03	NM	NM	NM	NM	NM
TW-8	16-Dec-08	5458.29		19.76	0	5438.53	6.42	5.575	0.51	12.78	1.25
TW-8	26-Jan-09	5458.29		19.62	0	5438.67	NM	NM	NM	NM	NM

TABLE 5
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)	Purge Volume (gallons)
TW-9	16-Dec-08	5450.61		12.20	0	5438.41	6.90	3.473	2.27	14.53	1.25
TW-9	26-Jan-09	5450.61		12.05	0	5438.56	NM	NM	NM	NM	NM
TW-10	16-Dec-08	5450.16		12.42	0	5437.74	6.49	3.876	0.98	11.97	1.25
TW-10	26-Jan-09	5450.16		12.25	0	5437.91	NM	NM	NM	NM	NM
TW-11	16-Dec-08	5456.31		18.12	0	5438.19	6.75	6.941	1.41	14.32	1.25
TW-11	26-Jan-09	5456.31		18.02	0	5438.29	NM	NM	NM	NM	NM
TW-12	15-Dec-08	5460.44		22.44	0	5438.00	6.49	4.247	0.95	16.15	1.25
TW-12	26-Jan-09	5460.44	22.34	22.44	0.1	5438.08	NM	NM	NM	NM	NM
TW-13	16-Dec-08	5458.17	20.64	21.48	0.84	5437.34	Not Sampled - NAPL Present				
TW-13	26-Jan-09	5458.17	20.52	21.46	0.94	5437.44	NM	NM	NM	NM	NM
TW-14	16-Dec-08	5454.24		16.82	0	5437.42	Not Sampled - Sheen of NAPL present				
TW-14	26-Jan-09	5454.24	16.71	17.02	0.31	5437.46	NM	NM	NM	NM	NM
TW-15	16-Dec-08	5450.44		13.15	0	5437.29	6.69	6.647	1.25	13.17	1.25
TW-15	26-Jan-09	5450.44		12.99	0	5437.45	NM	NM	NM	NM	NM
TW-16	16-Dec-08	5448.45		8.76	0	5439.69	6.71	6.593	1.64	14.90	1.25

TABLE 5
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)	Purge Volume (gallons)
TW-16	26-Jan-09	5448.45		11.11	0	5437.34	NM	NM	NM	NM	NM
TW-17	16-Dec-08	5446.24		9.99	0	5436.25	6.68	6.643	1.26	14.10	1.25
TW-17	26-Jan-09	5446.24		9.82	0	5436.42	NM	NM	NM	NM	NM
TW-18	16-Dec-08	5452.73		16.40	0	5436.33	6.65	5.094	0.88	16.42	1.25
TW-18	26-Jan-09	5452.73		16.29	0	5436.44	NM	NM	NM	NM	NM
TW-19	16-Dec-08	5458.49	22.15	22.62	0.47	5436.24	Not Sampled - NAPL Present				
TW-19	26-Jan-09	5458.49	22.01	22.57	0.56	5436.36	NM	NM	NM	NM	NM
TW-20	17-Dec-08	5453.74	15.14	15.86	0.72	5438.44	Not Sampled - NAPL Present				
TW-20	26-Jan-09	5453.74	17.36	18.62	1.26	5436.10	NM	NM	NM	NM	NM
TW-21	17-Dec-08	5451.85	15.42	17.19	1.77	5436.04	Not Sampled - NAPL Present				
TW-21	26-Jan-09	5451.85	16.35	16.94	0.59	5435.37	NM	NM	NM	NM	NM
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	5435.37	NM	NM	NM	NM	NM
TW-23	18-Dec-08	5443.64		6.60	0	5437.04	7.09	6.727	3.77	13.65	1.25
TW-23	26-Jan-08	5443.64		8.73	0	5434.91	NM	NM	NM	NM	NM

TABLE 5
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)	Purge Volume (gallons)
TW-24	17-Dec-08	5444.79		10.97	0	5433.82	6.21	5.942	4.88	15.60	1.25
TW-24	26-Jan-09	5444.79	11.84	11.85	0.01	5432.95	NM	NM	NM	NM	NM
TW-25	17-Dec-08	5448.80	14.13	14.62	0.49	5434.56	Not Sampled - NAPL Present				
TW-25	26-Jan-09	5448.80	14.05	14.41	0.36	5434.67	NM	NM	NM	NM	NM
TW-26	17-Dec-08	5450.34	13.49	14.47	0.98	5436.63	Not Sampled - NAPL Present				
TW-26	26-Jan-09	5450.34	15.80	16.76	0.96	5434.33	NM	NM	NM	NM	NM
TW-28	17-Dec-08	5449.24	15.37	15.96	0.59	5433.74	Not Sampled - NAPL Present				
TW-28	26-Jan-09	5449.24	15.28	15.79	0.51	5433.85	NM	NM	NM	NM	NM
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
TW-30	18-Dec-08	5437.93		5.90	0	5432.03	6.46	6.328	6.25*	12.89	1.25
TW-30	26-Jan-09	5437.93		5.69	0	5432.24	NM	NM	NM	NM	NM
TW-31	16-Dec-08	5438.54		7.03	0	5431.51	6.37	7.298	2.97	14.00	1.25
TW-31	26-Jan-09	5438.54		6.94	0	5431.60	NM	NM	NM	NM	NM
TW-32	17-Dec-08	5441.61	7.22	8.79	1.57	5434.04	Not Sampled - NAPL Present				
TW-32	26-Jan-09	5441.61	9.02	10.31	1.29	5432.30	NM	NM	NM	NM	NM

TABLE 5
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)	Purge Volume (gallons)
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
TW-34	18-Dec-08	5455.80		19.82	0	5435.98	7.48	6.744	3.97	14.29	1.25
TW-34	26-Jan-09	5455.80		19.74	0	5436.06	NM	NM	NM	NM	NM
TW-35	18-Dec-08	5449.14		15.21	0	5433.93	7.04	7.929	4.39	14.98	1.25
TW-35	26-Jan-09	5449.14		15.12	0	5434.02	NM	NM	NM	NM	NM
TW-36	18-Dec-08	5441.91		13.03	0	5428.88	6.94	7.874	3.6	15.28	1.25
TW-36	26-Jan-09	5441.91	12.94	12.97	0.03	5428.96	NM	NM	NM	NM	NM
TW-37	17-Dec-08	5439.59		10.57	0	5429.02	6.51	4.698	3.5	14.02	1.25
TW-37	26-Jan-09	5439.59		10.47	0	5429.12	NM	NM	NM	NM	NM
TW-38	17-Dec-08	5442.11		9.55	0	5432.56	6.95	5.466	4.06	12.82	1.25
TW-38	26-Jan-09	5442.11		11.36	0	5430.75	NM	NM	NM	NM	NM
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	0	5430.99	NM	NM	NM	NM	NM
TW-40	18-Dec-08	5437.50		5.3	0	5432.20	Not Sampled - Sheen of NAPL Present				

TABLE 5
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)	Purge Volume (gallons)
TW-40	26-Jan-09	5437.50		7.27	0	5430.23	NM	NM	NM	NM	NM
TW-41	18-Dec-08	5434.77		5.85	0	5428.92	6.16	5.669	3.92	10.95	1.25
TW-41	26-Jan-09	5434.77		5.59	0	5429.18	NM	NM	NM	NM	NM
TW-42	16-Dec-08	5433.76		6.09	0	5427.67	6.48	6.036	1.07	12.04	1.25
TW-42	26-Jan-09	5433.76		5.97	0	5427.79	NM	NM	NM	NM	NM
TW-43	16-Dec-08	5440.42		12.19	0	5428.23	6.35	6.716	1.01	14.39	1.25
TW-43	26-Jan-09	5440.42		12.1	0	5428.32	NM	NM	NM	NM	NM
TW-44	17-Dec-08	5444.08		12.66	0	5431.42	6.71	6.494	2.75	15.75	1.25
TW-44	26-Jan-09	5444.08		14.93	0	5429.15	NM	NM	NM	NM	NM
MW-1	26-Jan-09	5449.08		15.87	0	5433.21	NM	NM	NM	NM	NM
MW-2	26-Jan-09	5442.65		12.09	0	5430.56	NM	NM	NM	NM	NM
MW-3	26-Jan-09	5431.43		4.06	0	5427.37	NM	NM	NM	NM	NM
MW-5	19-Dec-08	5428.97		5.04	0	5423.93	6.76	7.748	4.02	11.73	0.25
MW-8	19-Dec-08	5433.04		ROOTS IN WELL - NOT SAMPLED (WELLHEAD ALSO MISSING)							

TABLE 5
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)	Purge Volume (gallons)
MW-9	19-Dec-08	5436.69		5.91	0	5430.78	6.36	6.368	6.29*	9.69	LOW YIELD
MW-9	26-Jan-09	5436.69		5.74	0	5430.95	NM	NM	NM	NM	NM
MW-10	19-Dec-08	5437.78		5.09	0	5432.69	6.73	5.439	6.27*	9.79	0.25
MW-10	26-Jan-09	5437.78		4.88	0	5432.90	NM	NM	NM	NM	NM
MW-12	26-Jan-09	5446.09	14.14	15.17	1.03	5431.72	NM	NM	NM	NM	NM
MW-17	26-Jan-09	5435.20	COULD NOT LOCATE WELL								
MW-20	21-Jan-09	5430.45		5.86	0	5424.59	6.73	5.996	3.58	8.34	0.5
MW-20	26-Jan-09	5430.45		5.84	0	5424.61	NM	NM	NM	NM	NM
MW-21	19-Dec-08	5428.62		3.43	0	5425.19	6.79	7.562	9.78*	11.04	1.25
MW-21	26-Jan-09	5428.62		3.07	0	5425.55	NM	NM	NM	NM	NM
MW-22	19-Dec-08	5430.75		4.65	0	5426.1	6.62	10.96	5.55	9.88	0.75
MW-22	26-Jan-09	5430.75		4.19	0	5426.56	NM	NM	NM	NM	NM
MW-28	26-Jan-09	5449.07		16.00	0	5433.07	NM	NM	NM	NM	NM
MW-29	26-Jan-09	5447.94	15.49	16.11	0.62	5432.31	NM	NM	NM	NM	NM

TABLE 5
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)	Purge Volume (gallons)
RW-24	26-Jan-09	5447.73	15.88	17.08	1.20	5431.58	NM	NM	NM	NM	NM
RW-25	26-Jan-09	5448.68	16.61	17.65	1.04	5431.84	NM	NM	NM	NM	NM
RW-26	26-Jan-09	5443.98	14.54	15.01	0.47	5429.34	NM	NM	NM	NM	NM

NOTES: NM - Not Measured
* Denotes erroneous DO measurement - sensor malfunction

TABLE 6
GROUNDWATER ANALYTICALS
(VOCs, TOTAL PETROLEUM HYDROCARBONS, and LEAD)
Thriftway Refinery, 626 CR 5500, Bloomfield, New Mexico

Well ID	Date	Sample Method	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE	Total Naph-thalene	GRO C6-C10	DRO C10-C22	MRO	Dissolved Lead 6010B	Total Lead 6010B
			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L
NM WQCC STANDARD			10	750	750	620	100	30	NE	NE	NE	0.05	NE
MW-1	4-Feb-02		Not Sampled/ Free Product										
MW-1	3-Jan-06	8021/8015	**19**	<0.5	<0.5	<2.0	3.3	NA	0.11	<1.0	NA	NA	NA
MW-1	28-Jun-06	8021/8015	7.4	<0.5	<0.5	<2.0	<2.5	NA	0.10	<2.5	NA	NA	NA
MW-1	28-Dec-06	8021/8015	**4700**	2.3	110	27	16	NA	14	<1.0	NA	NA	NA
MW-1	5-Jul-07	8021/8015	**47**	<0.5	<0.5	<2.0	4.6*	NA	0.13	<2.0	NA	NA	NA
MW-1	18-Dec-07	8021/8015	**17**	<2.5	<2.5	<10	<13	NA	<0.50	<2.0	NA	NA	NA
MW-2	5-Jan-06	8021/8015	**690**	<10	360	**1300**	39	NA	13	120	NA	NA	NA
MW-2	28-Jun-06	8021/8015	**360**	<2.5	150	45	50	NA	2.9	210	NA	NA	NA
MW-2	5-Jul-07	8021/8015	**370**	140	140	260	<50.0	NA	21	36.8	NA	NA	NA
MW-2	19-Dec-07	8021/8015	**730**	13	150	78	67	NA	4.3	395	NA	NA	NA
MW-3	5-Jan-06	8021/8015	**870**	<25	**1300**	**5500**	**150**	NA	**110**	72	NA	NA	NA
MW-3	2-Jan-07	8021/8015	**640**	9.0	110	170	**120**	NA	3.4	3.9	NA	NA	NA
MW-4	25-Jul-02	8021/8015	7.9	ND	0.9	0.6	31	NA	NA	NA	NA	NA	NA
MW-4	26-Nov-02	8021/8015	6.1	ND	ND	1.1	18	NA	NA	NA	NA	NA	NA
MW-4	5-Jun-03	8021/8015	6.6	ND	ND	ND	18	NA	NA	NA	NA	NA	NA
MW-4	3-Nov-03	8021/8015	2.1	ND	ND	ND	17	NA	NA	NA	NA	NA	NA
MW-4	19-Jan-04	8021/8015	2.2	0.6	<0.5	1.3	27	NA	NA	NA	NA	NA	NA
MW-4	25-May-04	8021/8015	3.9	<0.5	<0.5	1.8	26	NA	0.20	NA	NA	NA	NA
MW-4	27-Jul-04	8021/8015	2.0	<0.5	<0.5	<1.0	15	NA	0.12	NA	NA	NA	NA
MW-4	28-Dec-04	8021/8015	1.5	<0.5	<0.5	<1.0	11	NA	<0.10	NA	NA	NA	NA
MW-4	19-Sep-05	8021/8015	1.2	<0.5	<0.5	<1.0	20	NA	0.11	NA	NA	NA	NA
MW-4	4-Jan-06	8021/8015	0.7	<0.5	<0.5	<2.0	22	NA	<0.10	<1.0	NA	NA	NA

TABLE 6
GROUNDWATER ANALYTICALS
(VOCs, TOTAL PETROLEUM HYDROCARBONS, and LEAD)
Thriftway Refinery, 626 CR 5500, Bloomfield, New Mexico

Well ID	Date	Sample Method	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE	Total Naph-thalene	GRO C6-C10	DRO C10-C22	MRO	Dissolved Lead 6010B	Total Lead 6010B
			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L
NM WQCC STANDARD			10	750	750	620	100	30	NE	NE	NE	0.05	NE
MW-5	30-Jan-02	8021/8015	5.1	<0.5	<0.5	<1.50	43	NA	NA	NA	NA	NA	NA
MW-5	25-Jul-02	8021/8015	4.7	ND	ND	ND	51	NA	NA	NA	NA	NA	NA
MW-5	26-Nov-02	8021/8015	5.1	ND	ND	ND	47	NA	NA	NA	NA	NA	NA
MW-5	5-Jun-03	8021/8015	1.5	ND	ND	ND	25	NA	NA	NA	NA	NA	NA
MW-5	3-Nov-03	8021/8015	ND	ND	ND	ND	26	NA	NA	NA	NA	NA	NA
MW-5	19-Jan-04	8021/8015	3.8	0.9	<0.5	1.4	44	NA	NA	NA	NA	NA	NA
MW-5	25-May-04	8021/8015	1.8	0.5	<0.5	<1.0	36	NA	0.14	NA	NA	NA	NA
MW-5	27-Jul-04	8021/8015	<0.5	<0.5	<0.5	<1.0	29	NA	<0.10	NA	NA	NA	NA
MW-5	28-Dec-04	8021/8015	<0.5	<0.5	<0.5	<1.0	27	NA	<0.10	NA	NA	NA	NA
MW-5	27-Jun-06	8021/8015	1.5	<0.5	<0.5	<2.0	37	NA	<0.10	<2.5	NA	NA	NA
MW-5	28-Dec-06	8021/8015	<0.5	<0.5	<0.5	<2.0	37	NA	<0.10	<1.0	NA	NA	NA
MW-5	5-Jul-07	8021/8015	2.4	<0.5	0.8	<2.0	28*	NA	0.14	<2.0	NA	NA	NA
MW-5	19-Dec-08	8260/8015	<1.0	<1.0	<1.0	<1.5	46	<10	0.066	<1.0	<5.0	<0.0050	0.0093
MW-6	30-Jan-02	8021/8015	<0.5	<0.5	<0.5	<1.5	2.5	NA	NA	NA	NA	NA	NA
MW-6	26-Jul-02	8021/8015	3.4	0.7	0.5	ND	23	NA	NA	NA	NA	NA	NA
MW-6	26-Nov-02	8021/8015	ND	ND	ND	ND	30	NA	NA	NA	NA	NA	NA
MW-6	5-Jun-03	8021/8015	0.8	ND	ND	ND	11	NA	NA	NA	NA	NA	NA
MW-6	3-Nov-03	8021/8015	ND	ND	ND	ND	30	NA	NA	NA	NA	NA	NA
MW-6	19-Jan-04	8021/8015	<0.5	0.7	<0.5	<1.0	9.2	NA	NA	NA	NA	NA	NA
MW-6	25-May-04	8021/8015	<0.5	1.0	<0.5	<1.0	28	NA	0.11	NA	NA	NA	NA
MW-6	27-Jul-04	8021/8015	0.8	<0.5	<0.5	1.1	61	NA	0.21	NA	NA	NA	NA
MW-6	28-Dec-04	8021/8015	<0.5	<0.5	<0.5	<1.0	19	NA	<0.10	NA	NA	NA	NA
MW-6	19-Sep-05	8021/8015	1.9	<0.5	0.5	<1.0	66	NA	0.22	NA	NA	NA	NA
MW-6	4-Jan-06	8021/8015	<0.5	<0.5	<0.5	<2.0	11	NA	<0.10	<1.0	NA	NA	NA

TABLE 6
GROUNDWATER ANALYTICALS
(VOCs, TOTAL PETROLEUM HYDROCARBONS, and LEAD)
Thriftway Refinery, 626 CR 5500, Bloomfield, New Mexico

Well ID	Date	Sample Method	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE	Total Naph-thalene	GRO C6-C10	DRO C10-C22	MRO	Dissolved Lead 6010B	Total Lead 6010B
			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L
NM WQCC STANDARD			10	750	750	620	100	30	NE	NE	NE	0.05	NE
MW-7	19-Jan-04	8021/8015	<0.5	<0.5	<0.5	1.6	**210**	NA	NA	NA	NA	NA	NA
MW-7	25-May-04	8021/8015	<0.5	<0.5	<0.5	<1.0	**190**	NA	0.25	NA	NA	NA	NA
MW-7	27-Jul-04	8021/8015	<0.5	<0.5	<0.5	1.3	**190**	NA	0.27	NA	NA	NA	NA
MW-7	29-Dec-04	8021/8015	<0.5	<0.5	<0.5	<1.0	**150**	NA	0.14	NA	NA	NA	NA
MW-7	19-Sep-05	8021/8015	<0.5	<0.5	<0.5	<1.0	**140**	NA	0.14	NA	NA	NA	NA
MW-7	4-Jan-06	8021/8015	1.9	<0.5	1.7	2.1	**120**	NA	0.16	<1.0	NA	NA	NA
MW-8	30-Jan-02	8021/8015	<0.5	<0.5	<0.5	<1.5	<1.0	NA	NA	NA	NA	NA	NA
MW-8	26-Jul-02	8021/8015	ND	ND	ND	ND	1.4	NA	NA	NA	NA	NA	NA
MW-8	26-Nov-02	8021/8015	0.9	ND	ND	ND	**230**	NA	NA	NA	NA	NA	NA
MW-8	5-Jun-03	8021/8015	1.3	ND	ND	ND	**190**	NA	NA	NA	NA	NA	NA
MW-8	4-Nov-03	8021/8015	ND	ND	ND	ND	**170**	NA	NA	NA	NA	NA	NA
MW-8	Well Not Found												
MW-8	4-Jan-06	8021/8015	<0.5	<0.5	<0.5	<2.0	**136**	NA	0.10	<1.0	NA	NA	NA
MW-9	1-30-02	8021/8015	5.5	1.6	1.7	<1.5	26	NA	NA	NA	NA	NA	NA
MW-9	11-26-02	8021/8015	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA
MW-9	6-05-03	8021/8015	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA
MW-9	11-04-03	8021/8015	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA
MW-9	19-Jan-04	8021/8015	<0.5	<0.5	<0.5	<1.0	<2.5	NA	NA	NA	NA	NA	NA
MW-9	25-May-04	8021/8015	<0.5	<0.5	<0.5	<1.0	<2.5	NA	<0.10	NA	NA	NA	NA
MW-9	28-Jul-04	8021/8015	<0.5	<0.5	<0.5	1.0	<2.5	NA	<0.10	NA	NA	NA	NA
MW-9	29-Dec-04	8021/8015	<0.5	<0.5	<0.5	<1.0	<2.5	NA	<0.10	NA	NA	NA	NA
MW-9	19-Sep-05	8021/8015	<0.5	<0.5	<0.5	<1.0	<2.5	NA	<0.10	NA	NA	NA	NA
MW-9	4-Jan-06	8021/8015	<0.5	<0.5	<0.5	<2.0	<0.5	NA	<0.10	<1.0	NA	NA	NA
MW-9	19-Dec-08	8260/8015	<1.0	<1.0	<1.0	<1.5	<1.0	<10	<0.050	<1.0	<5.0	<0.0050	0.0084

TABLE 6
GROUNDWATER ANALYTICALS
(VOCs, TOTAL PETROLEUM HYDROCARBONS, and LEAD)
Thriftway Refinery, 626 CR 5500, Bloomfield, New Mexico

Well ID	Date	Sample Method	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE	Total Naph-thalene	GRO C6-C10	DRO C10-C22	MRO	Dissolved Lead 6010B	Total Lead 6010B
			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L
NM WQCC STANDARD			10	750	750	620	100	30	NE	NE	NE	0.05	NE
MW-10	26-Jul-02	8021/8015	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA
MW-10	26-Nov-02	8021/8015	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA
MW-10	5-Jun-03	8021/8015	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA
MW-10	4-Nov-03	8021/8015	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA
MW-10	19-Jan-04	8021/8015	<0.5	<0.5	<0.5	<1.0	<2.5	NA	NA	NA	NA	NA	NA
MW-10	25-May-04	8021/8015	<0.5	<0.5	<0.5	<1.0	<2.5	NA	<0.10	NA	NA	NA	NA
MW-10	28-Jul-04	8021/8015	<0.5	<0.5	<0.5	<1.0	<2.5	NA	<0.10	NA	NA	NA	NA
MW-10	29-Dec-04	8021/8015	<0.5	1.6	0.6	3.1	<2.5	NA	<0.10	NA	NA	NA	NA
MW-10	19-Sep-05	8021/8015	<0.5	<0.5	<0.5	<1.0	<2.5	NA	<0.10	NA	NA	NA	NA
MW-10	3-Jan-06	8021/8015	<0.5	<0.5	<0.5	<2.0	<0.5	NA	<0.10	<1.0	NA	NA	NA
MW-10	28-Jun-06	8021/8015	<0.5	<0.5	<0.5	<2.0	<2.5	NA	<0.10	<2.5	NA	NA	NA
MW-10	28-Dec-06	8021/8015	<0.5	<0.5	<0.5	<2.0	<2.5	NA	<0.10	<1.0	NA	NA	NA
MW-10	3-Jul-07	8021/8015	1.6	<0.5	1.1	2.2	<2.5	NA	0.31	<2.0	NA	NA	NA
MW-10	18-Dec-07	8021/8015	0.5	<0.5	<0.5	<2.0	<2.5	NA	<0.10	<2.0	NA	NA	NA
MW-10	19-Dec-08	8260/8015	<1.0	<1.0	<1.0	<1.5	<1.0	<10	<0.050	<1.0	<5.0	<0.0050	0.0073
MW-11	30-Jan-02	8021/8015	<0.5	<0.5	<0.5	<1.5	<1.0	NA	NA	NA	NA	NA	NA
MW-11	26-Jul-02	8021/8015	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA
MW-11	26-Nov-02	8021/8015	ND	0.6	ND	ND	ND	NA	NA	NA	NA	NA	NA
MW-11	5-Jun-03	8021/8015	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA
MW-11	4-Nov-03	8021/8015	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA
MW-11	20-Jan-04	8021/8015	<0.5	<0.5	<0.5	<1.0	<2.5	NA	NA	NA	NA	NA	NA
MW-11	25-May-04	8021/8015	<0.5	1.6	0.7	4.1	<2.5	NA	0.12	NA	NA	NA	NA
MW-11	28-Jul-04	8021/8015	<0.5	1.9	0.9	3.3	<2.5	NA	<0.10	NA	NA	NA	NA
MW-11	29-Dec-04	8021/8015	<0.5	<0.5	<0.5	<1.0	<2.5	NA	<0.10	NA	NA	NA	NA

TABLE 6
GROUNDWATER ANALYTICALS
(VOCs, TOTAL PETROLEUM HYDROCARBONS, and LEAD)
Thriftway Refinery, 626 CR 5500, Bloomfield, New Mexico

Well ID	Date	Sample Method	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE	Total Naph-thalene	GRO C6-C10	DRO C10-C22	MRO	Dissolved Lead 6010B	Total Lead 6010B
			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L
NM WQCC STANDARD			10	750	750	620	100	30	NE	NE	NE	0.05	NE
MW-12	30-Jan-02	8021/8015	28	1.8	54	104.6	110	NA	NA	NA	NA	NA	NA
MW-12	26-Jul-02	8021/8015	43	1.7	59	115.1	140	NA	NA	NA	NA	NA	NA
MW-12	3-Dec-02	8021/8015	12	ND	24	35	120	NA	NA	NA	NA	NA	NA
MW-12	5-Jun-03	8021/8015	30	1.1	29	39	88	NA	NA	NA	NA	NA	NA
MW-12	20-Jan-04	8021/8015	17	<2.5	34	43	100	NA	NA	NA	NA	NA	NA
MW-12	25-May-04	8021/8015	49	2.4	46	63	62	NA	0.88	NA	NA	NA	NA
MW-12	30-Dec-04	8021/8015	7.0	0.7	35	74	87	NA	0.69	NA	NA	NA	NA
MW-12	5-Jan-06	8021/8015	6.4	<5.0	32	71	54	NA	<1.0	570	NA	NA	NA
MW-13	30-Jan-02	8021/8015	<0.5	<0.5	<0.5	<1.5	<1.0	NA	NA	NA	NA	NA	NA
MW-13	26-Jul-02	8021/8015	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA
MW-13	3-Dec-02	8021/8015	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA
MW-13	5-Jun-03	8021/8015	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA
MW-13	4-Nov-03	8021/8015	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA
MW-13	20-Jan-04	8021/8015	<0.5	<0.5	<0.5	<1.0	<2.5	NA	NA	NA	NA	NA	NA
MW-13	28-Jul-04	8021/8015	<0.5	<0.5	<0.5	<1.0	<2.5	NA	<0.10	NA	NA	NA	NA
MW-13	30-Dec-04	8021/8015	<0.5	<0.5	<0.5	<1.0	<2.5	NA	<0.10	NA	NA	NA	NA
MW-13	19-Sep-05	8021/8015	0.6	1.6	<0.5	<1.0	<2.5	NA	0.20	NA	NA	NA	NA
MW-13	3-Jan-06	8021/8015	<0.5	<0.5	<0.5	<2.0	<0.5	NA	<0.10	<1.0	NA	NA	NA
MW-14	25-May-04	8021/8015	<0.5	<0.5	<0.5	<1.0	<2.5	NA	<0.10	NA	NA	NA	NA
MW-14	3-Jan-06	8021/8015	44	3.9	50	<10	12	NA	1.1	1.1	NA	NA	NA
MW-14	28-Jun-06	8021/8015	110	<0.5	77	3.6	<2.5	NA	0.96	<2.5	NA	NA	NA
MW-14	28-Dec-06	8021/8015	160	7.9	94	7.6	<2.5	NA	1.4	<1.0	NA	NA	NA
MW-14	5-Jul-07	8021/8015	20	4.4	17	6.1	2.7*	NA	0.92	<2.0	NA	NA	NA

TABLE 6
GROUNDWATER ANALYTICALS
(VOCs, TOTAL PETROLEUM HYDROCARBONS, and LEAD)
Thriftway Refinery, 626 CR 5500, Bloomfield, New Mexico

Well ID	Date	Sample Method	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE	Total Naph-thalene	GRO C6-C10	DRO C10-C22	MRO	Dissolved Lead 6010B	Total Lead 6010B
			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L
NM WQCC STANDARD			10	750	750	620	100	30	NE	NE	NE	0.05	NE
MW-14	19-Dec-07	8021/8015	**16**	3.3	15	<4.0	6.7	NA	0.65	18	NA	NA	NA
MW-15	30-Jan-02	8021/8015	<0.5	<0.5	<0.5	<1.5	<1.0	NA	NA	NA	NA	NA	NA
MW-15	26-Jul-02	8021/8015	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA
MW-15	3-Dec-02	8021/8015	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA
MW-15	5-Jun-03	8021/8015	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA
MW-15	4-Nov-03	8021/8015	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA
MW-15	20-Jan-04	8021/8015	<0.5	<0.5	<0.5	<1.0	<2.5	NA	NA	NA	NA	NA	NA
MW-15	25-May-04	8021/8015	<0.5	<0.5	<0.5	<1.0	<2.5	NA	<0.10	NA	NA	NA	NA
MW-15	28-Jul-04	8021/8015	<0.5	<0.5	<0.5	<1.0	<2.5	NA	<0.10	NA	NA	NA	NA
MW-15	29-Dec-04	8021/8015	<0.5	0.6	<0.5	<1.0	<2.5	NA	<0.10	NA	NA	NA	NA
MW-15	19-Sep-05	8021/8015	<0.5	<0.5	<0.5	<1.0	<2.5	NA	<0.10	NA	NA	NA	NA
MW-15	3-Jan-06	8021/8015	<0.5	<0.5	<0.5	<2.0	<0.5	NA	<0.10	<1.0	NA	NA	NA
MW-17	5-Jan-06	8021/8015	**620**	72	120	**900**	29	NA	8.5	8.2	NA	NA	NA
MW-17	27-Jun-06	8021/8015	**1200**	15	77	97	<25	NA	3.2	3.8	NA	NA	NA
MW-17	28-Dec-06	8021/8015	**150**	14	18	150	37	NA	2.0	<1.0	NA	NA	NA
MW-18	30-Jan-02	8021/8015	1.0	<0.5	<0.5	<1.5	18	NA	NA	NA	NA	NA	NA
MW-18	25-Jul-02	8021/8015	6.9	ND	1.1	0.7	36	NA	NA	NA	NA	NA	NA
MW-18	26-Nov-02	8021/8015	5	ND	ND	ND	33	NA	NA	NA	NA	NA	NA
MW-18	5-Jun-03	8021/8015	2.9	ND	ND	ND	16	NA	NA	NA	NA	NA	NA
MW-18	3-Nov-03	8021/8015	ND	ND	ND	ND	15	NA	NA	NA	NA	NA	NA
MW-18	19-Jan-04	8021/8015	0.7	<0.5	<0.5	<1.0	18	NA	NA	NA	NA	NA	NA
MW-18	25-May-04		2.6	<0.5	<0.5	1.2	32	NA	0.16	NA	NA	NA	NA
MW-18	27-Jul-04	8021/8015	<0.5	<0.5	<0.5	<1.0	<2.5	NA	<0.10	NA	NA	NA	NA

TABLE 6
GROUNDWATER ANALYTICALS
(VOCs, TOTAL PETROLEUM HYDROCARBONS, and LEAD)
Thriftway Refinery, 626 CR 5500, Bloomfield, New Mexico

Well ID	Date	Sample Method	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE	Total Naph-thalene	GRO C6-C10	DRO C10-C22	MRO	Dissolved Lead 6010B	Total Lead 6010B
			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L
NM WQCC STANDARD			10	750	750	620	100	30	NE	NE	NE	0.05	NE
MW-18	28-Dec-04	8021/8015	<0.5	<0.5	<0.5	<1.0	18	NA	<0.10	NA	NA	NA	NA
MW-18	19-Sep-05	8021/8015	3.8	<0.5	<0.5	2.0	54	NA	0.23	NA	NA	NA	NA
MW-18	4-Jan-06	8021/8015	0.7	1.3	0.6	2.7	47	NA	0.10	<1.0	NA	NA	NA
MW-18	27-Jun-06	8021/8015	2.5	<0.5	<0.5	<2.0	83	NA	0.11	19	NA	NA	NA
MW-18	28-Dec-06	8021/8015	<0.5	<0.5	<0.5	<2.0	54	NA	<0.10	<1.0	NA	NA	NA
MW-18	5-Jul-07	8021/8015	2.4	1.3	1.1	3.1	32*	NA	0.36	<2.0	NA	NA	NA
MW-18	18-Dec-07	8021/8015	0.6	<0.5	<0.5	<2.0	82	NA	<0.10	<2.0	NA	NA	NA
MW-19	30-Jan-02	8021/8015	0.6	0.9	0.8	<1.5	530	NA	NA	NA	NA	NA	NA
MW-19	25-Jul-02	8021/8015	ND	ND	0.9	ND	610	NA	NA	NA	NA	NA	NA
MW-19	26-Nov-02	8021/8015	ND	ND	ND	ND	310	NA	NA	NA	NA	NA	NA
MW-19	5-Jun-03	8021/8015	3.2	ND	ND	ND	420	NA	NA	NA	NA	NA	NA
MW-19	3-Nov-03	8021/8015	ND	ND	ND	ND	520	NA	NA	NA	NA	NA	NA
MW-19	19-Jan-04	8021/8015	0.6	<0.5	<0.5	1.7	310	NA	NA	NA	NA	NA	NA
MW-19	25-May-04	8021/8015	<0.5	<0.5	<0.5	<1.0	180	NA	0.25	NA	NA	NA	NA
MW-19	27-Jul-04	8021/8015	<0.5	<0.5	<0.5	1.2	210	NA	0.30	NA	NA	NA	NA
MW-19	28-Dec-04	8021/8015	<0.5	0.6	<0.5	3.0	250	NA	0.40	NA	NA	NA	NA
MW-19	19-Sep-05	8021/8015	<0.5	<0.5	<0.5	2.0	120	NA	0.21	NA	NA	NA	NA
MW-19	4-Jan-06	8021/8015	<0.5	<0.5	<0.5	<2.0	260	NA	0.21	<1.0	NA	NA	NA
MW-20	30-Jan-02	8021/8015	1.6	3.7	6.3	1.2	670	NA	NA	NA	NA	NA	NA
MW-20	26-Jul-02	8021/8015	ND	ND	ND	ND	950	NA	NA	NA	NA	NA	NA
MW-20	26-Nov-02	8021/8015	1.6	ND	ND	2	350	NA	NA	NA	NA	NA	NA
MW-20	5-Jun-03	8021/8015	7	ND	7.1	7.2	630	NA	NA	NA	NA	NA	NA
MW-20	4-Nov-03	8021/8015	3.2	ND	ND	5.1	480	NA	NA	NA	NA	NA	NA
MW-20	19-Jan-04	8021/8015	2.8	<0.5	1.4	3.3	680	NA	NA	NA	NA	NA	NA

TABLE 6
GROUNDWATER ANALYTICALS
(VOCs, TOTAL PETROLEUM HYDROCARBONS, and LEAD)
Thriftway Refinery, 626 CR 5500, Bloomfield, New Mexico

Well ID	Date	Sample Method	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE	Total Naph-thalene	GRO C6-C10	DRO C10-C22	MRO	Dissolved Lead 6010B	Total Lead 6010B
			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L
NM WQCC STANDARD			10	750	750	620	100	30	NE	NE	NE	0.05	NE
MW-20	25-May-04	8021/8015	1.9	<0.5	3.3	7.6	**400**	NA	0.82	NA	NA	NA	NA
MW-20	27-Jul-04	8021/8015	2.1	<0.5	<0.5	2.3	**590**	NA	0.91	NA	NA	NA	NA
MW-20	29-Dec-04	8021/8015	2.0	<0.5	<0.5	7.2	**300**	NA	0.89	NA	NA	NA	NA
MW-20	19-Sep-05	8021/8015	<2.5	<2.5	<2.5	5.4	**160**	NA	1.2	NA	NA	NA	NA
MW-20	4-Jan-06	8021/8015	<0.5	<0.5	<0.5	<2.0	**400**	NA	0.50	<1.0	NA	NA	NA
MW-20	28-Jun-06	8021/8015	0.6	<0.5	<0.5	<2.0	**310**	NA	0.23	3.2	NA	NA	NA
MW-20	28-Dec-06	8021/8015	<5.0	20	<5.0	<20	**170**	NA	1.6	<1.0	NA	NA	NA
MW-20	3-Jul-07	8021/8015	<1.0	4.0	1.7	<4.0	**180***	NA	0.34	<2.0	NA	NA	NA
MW-20	18-Dec-07	8021/8015	<0.5	8.3	<0.5	3.6	**360**	NA	0.52	<2.0	NA	NA	NA
MW-20	21-Jan-09	8260/8015	<1.0	<1.0	<1.0	<1.5	**170**	<10	0.47	1.8	<5.0	<0.0050	0.051
MW-21	30-Jan-02	8021/8015	<0.5	<0.5	<0.5	<1.5	44	NA	NA	NA	NA	NA	NA
MW-21	26-Jul-02	8021/8015	ND	ND	ND	ND	34	NA	NA	NA	NA	NA	NA
MW-21	26-Nov-02	8021/8015	1.4	ND	ND	ND	34	NA	NA	NA	NA	NA	NA
MW-21	5-Jun-03	8021/8015	ND	ND	ND	ND	14	NA	NA	NA	NA	NA	NA
MW-21	4-Nov-03	8021/8015	ND	ND	ND	ND	25	NA	NA	NA	NA	NA	NA
MW-21	19-Jan-04	8021/8015	<0.5	<0.5	<0.5	<1.0	<2.5	NA	NA	NA	NA	NA	NA
MW-21	25-May-04	8021/8015	<0.5	<0.5	<0.5	<1.0	18	NA	0.11	NA	NA	NA	NA
MW-21	28-Jul-04	8021/8015	<0.5	<0.5	<0.5	<1.0	24	NA	<0.10	NA	NA	NA	NA
MW-21	29-Dec-04	8021/8015	<0.5	<0.5	<0.5	<1.0	25	NA	<0.10	NA	NA	NA	NA
MW-21	19-Sep-05	8021/8015	<0.5	<0.5	<0.5	<1.0	29	NA	<0.10	NA	NA	NA	NA
MW-21	4-Jan-06	8021/8015	<0.5	<0.5	<0.5	<2.0	24	NA	<0.10	<1.0	NA	NA	NA
MW-21	28-Jun-06	8021/8015	2.9	<0.5	<0.5	<2.0	17	NA	<0.10	<2.5	NA	NA	NA
MW-21	2-Jan-07	8021/8015	<0.5	<0.5	<0.5	<2.0	29	NA	<0.10	<1.0	NA	NA	NA
MW-21	3-Jul-07	8021/8015	<0.5	<0.5	<0.5	<2.0	39*	NA	<0.10	<2.0	NA	NA	NA
MW-21	18-Dec-07	8021/8015	<0.5	<0.5	<0.5	<2.0	79	NA	<0.10	<2.0	NA	NA	NA

TABLE 6
GROUNDWATER ANALYTICALS
(VOCs, TOTAL PETROLEUM HYDROCARBONS, and LEAD)
Thriftway Refinery, 626 CR 5500, Bloomfield, New Mexico

Well ID	Date	Sample Method	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE	Total Naph-thalene	GRO C6-C10	DRO C10-C22	MRO	Dissolved Lead 6010B	Total Lead 6010B
			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L
NM WQCC STANDARD			10	750	750	620	100	30	NE	NE	NE	0.05	NE
MW-21	19-Dec-08	8260/8015	<1.0	<1.0	<1.0	<1.5	**100**	<10	0.11	<1.0	<5.0	<0.0050	0.0067
MW-22	30-Jan-02	8021/8015	<0.5	<0.5	<0.5	<1.5	12	NA	NA	NA	NA	NA	NA
MW-22	26-Jul-02	8021/8015	ND	ND	ND	ND	14	NA	NA	NA	NA	NA	NA
MW-22	26-Nov-02	8021/8015	ND	ND	ND	ND	14	NA	NA	NA	NA	NA	NA
MW-22	5-Jun-03	8021/8015	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA
MW-22	4-Nov-03	8021/8015	ND	ND	ND	ND	11	NA	NA	NA	NA	NA	NA
MW-22	19-Jan-04	8021/8015	<0.5	<0.5	<0.5	<1.0	13	NA	NA	NA	NA	NA	NA
MW-22	25-May-04	8021/8015	<0.5	<0.5	<0.5	<1.0	13	NA	0.11	NA	NA	NA	NA
MW-22	28-Jul-04	8021/8015	<0.5	<0.5	<0.5	<1.0	14	NA	<0.10	NA	NA	NA	NA
MW-22	29-Dec-04	8021/8015	<0.5	<0.5	<0.5	<1.0	11	NA	<0.10	NA	NA	NA	NA
MW-22	19-Sep-05	8021/8015	<0.5	<0.5	<0.5	<1.0	11	NA	<0.10	NA	NA	NA	NA
MW-22	4-Jan-06	8021/8015	<0.5	<0.5	<0.5	<2.0	11	NA	<0.10	<1.0	NA	NA	NA
MW-22	28-Jun-06	8021/8015	<0.5	<0.5	<0.5	<2.0	8.6	NA	<0.10	<2.5	NA	NA	NA
MW-22	2-Jan-07	8021/8015	<0.5	<0.5	<0.5	<2.0	14	NA	<0.10	<1.0	NA	NA	NA
MW-22	3-Jul-07	8021/8015	<0.5	<0.5	<0.5	<2.0	13*	NA	<0.10	<2.0	NA	NA	NA
MW-22	18-Dec-07	8021/8015	<0.5	<0.5	<0.5	<2.0	17	NA	<0.10	<2.0	NA	NA	NA
MW-22	19-Dec-08	8260/8015	<1.0	<1.0	<1.0	<1.5	15	<10	<0.050	<1.0	<5.0	<0.025	0.11
MW-24	5-Jan-06	8021/8015	**1600**	88	82	**650**	**1400**	NA	5.0	820	NA	NA	NA
MW-29	5-Jan-06	8021/8015	**3000**	**1700**	340	**2700**	**1500**	NA	**23**	19	NA	NA	NA
RW-24	5-Jan-06	8021/8015	**920**	<10	140	580	**450**	NA	<10	3.2	NA	NA	NA
RW-25	5-Jan-06	8021/8015	**2500**	**1200**	350	**2600**	**320**	NA	16	71	NA	NA	NA

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GROUNDWATER ANALYTICALS
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Thriftway Refinery, 626 CR 5500, Bloomfield, New Mexico

Well ID	Date	Sample Method	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE	Total Naph-thalene	GRO C6-C10	DRO C10-C22	MRO	Dissolved Lead 6010B	Total Lead 6010B
			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L
NM WQCC STANDARD			10	750	750	620	100	30	NE	NE	NE	0.05	NE
RW-26	5-Jan-06	8021/8015	**2100**	**130**	290	**1700**	**79**	NA	40	250	NA	NA	NA
RW-26	28-Jun-06	8021/8015	**1300**	36	64	**1000**	**330**	NA	6.2	9.6	NA	NA	NA
RW-26	5-Jul-07	8021/8015	**1000**	27	78	420	66*	NA	5.6	6.2	NA	NA	NA
TW-1	15-Dec-08	8260/8015	<1.0	<1.0	<1.0	<1.5	<1.0	<10	<0.050	<1.0	<5.0	<0.0050	0.036
TW-2	15-Dec-08	8260/8015	<1.0	<1.0	<1.0	<1.5	<1.0	<10	<0.050	<1.0	<5.0	<0.0050	0.023
TW-3	15-Dec-08	8260/8015	<1.0	<1.0	<1.0	<1.5	<1.0	<10	<0.050	<1.0	<5.0	<0.0050	0.014
TW-4	16-Dec-08	8260/8015	<1.0	<1.0	<1.0	<1.5	<1.0	<10	<0.050	<1.0	<5.0	<0.0050	0.021
TW-5	15-Dec-08	8260/8015	<1.0	<1.0	<1.0	<1.5	<1.0	<10	<0.050	<1.0	<5.0	<0.0050	0.014
TW-6	15-Dec-08	8260/8015	<1.0	<1.0	<1.0	<1.5	<1.0	<10	<0.050	<1.0	<5.0	0.0051	0.020
TW-7	15-Dec-08	8260/8015	**67**	**1,700**	710	**4,200**	<10	**308**	15	2.1	<5.0	0.0068	0.032
TW-8	16-Dec-08	8260/8015	**120**	15	330	**950**	<5.0	**92**	8.9	1.4	<5.0	<0.0050	0.011
TW-9	16-Dec-08	8260/8015	<1.0	<1.0	<1.0	<1.5	<1.0	<10	<0.050	<1.0	<5.0	<0.0050	0.022
TW-10	16-Dec-08	8260/8015	1.4	<1.0	3.9	9.9	<1.0	<10	0.29	<1.0	<5.0	<0.0050	0.029
TW-11	16-Dec-08	8260/8015	<1.0	<1.0	<1.0	<1.5	<1.0	<10	<0.050	<1.0	<5.0	<0.0050	0.017

TABLE 6
GROUNDWATER ANALYTICALS
(VOCs, TOTAL PETROLEUM HYDROCARBONS, and LEAD)
Thriftway Refinery, 626 CR 5500, Bloomfield, New Mexico

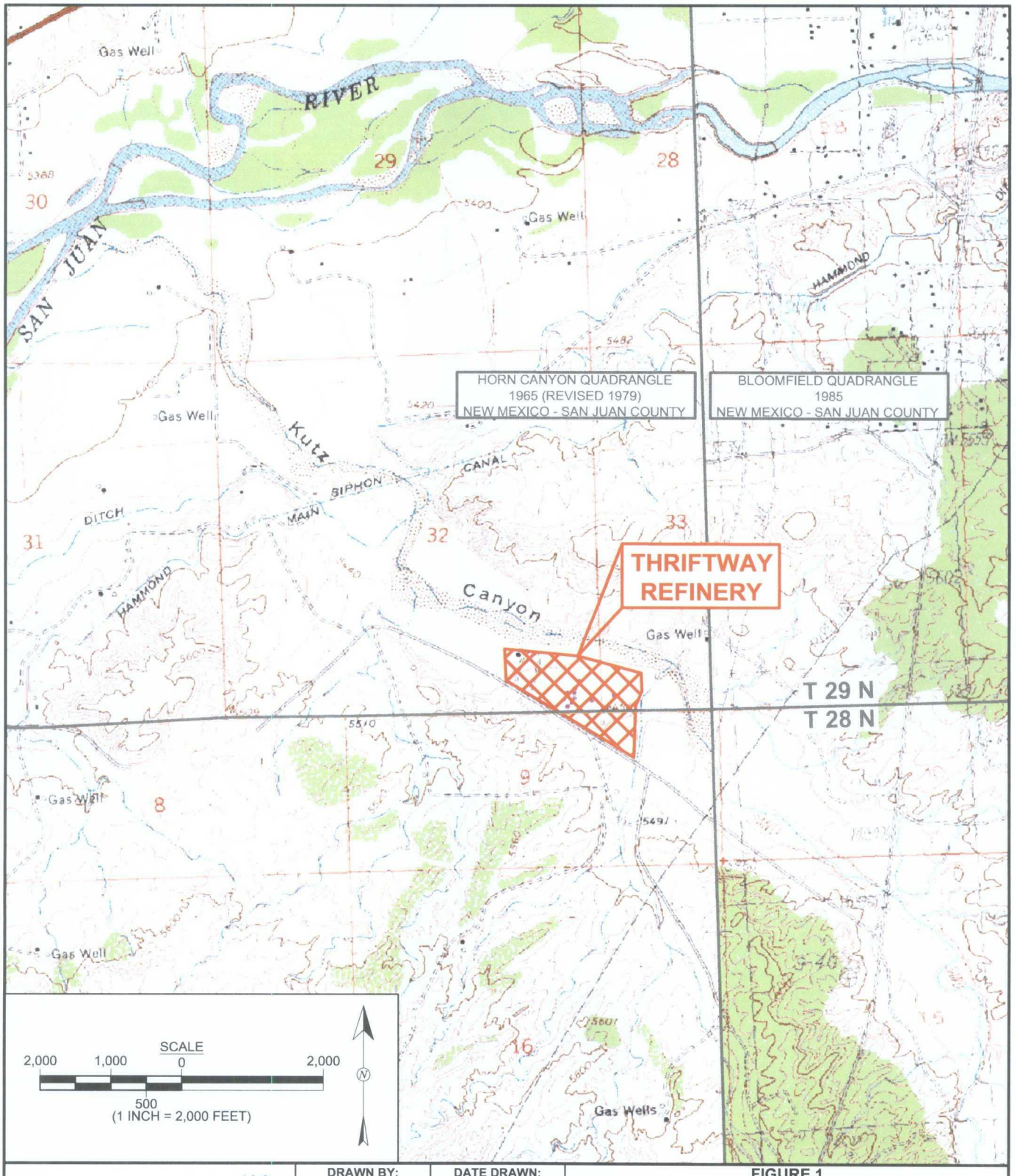
Well ID	Date	Sample Method	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE	Total Naph-thalene	GRO C6-C10	DRO C10-C22	MRO	Dissolved Lead 6010B	Total Lead 6010B
			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L
NM WQCC STANDARD			10	750	750	620	100	30	NE	NE	NE	0.05	NE
TW-12	15-Dec-08	8260/8015	6.9	33	670	**1,700**	<5.0	**317**	3.4	1.9	<5.0	<0.0050	0.031
TW-15	16-Dec-08	8260/8015	**22**	9.2	190	10	<1.0	10	1.1	1.2	<5.0	<0.0050	0.029
TW-16	16-Dec-08	8260/8015	<1.0	<1.0	<1.0	<1.5	<1.0	<10	<0.050	<1.0	<5.0	<0.0050	0.024
TW-17	16-Dec-08	8260/8015	<1.0	<1.0	<1.0	<1.5	<1.0	<10	<0.050	<1.0	<5.0	<0.0050	0.016
TW-18	16-Dec-08	8260/8015	8.9	<1.0	31	18	1.9	<10	0.70	<1.0	<5.0	<0.0050	0.018
TW-23	18-Dec-08	8260/8015	<1.0	<1.0	93	<1.5	<1.0	<10	0.77	1.4	<5.0	<0.0050	0.013
TW-24	17-Dec-08	8260/8015	7.5	<1.0	10	<1.5	5.6	2.6	0.26	<1.0	<5.0	<0.0050	0.0076
TW-30	18-Dec-08	8260/8015	<1.0	<1.0	<1.0	<1.5	24	<10	0.087	2.8	<5.0	<0.0050	0.013
TW-31	16-Dec-08	8260/8015	<1.0	<1.0	<1.0	<1.5	12	<10	<0.050	<1.0	<5.0	<0.0050	0.035
TW-34	18-Dec-08	8260/8015	<1.0	<1.0	<1.0	<1.5	<1.0	<10	<0.050	<1.0	<5.0	<0.0050	0.012
TW-35	18-Dec-08	8260/8015	<1.0	<1.0	<1.0	<1.5	<1.0	<10	<0.050	<1.0	<5.0	<0.0050	0.014
TW-36	18-Dec-08	8260/8015	<1.0	<1.0	16	22	<1.0	**91.9**	0.30	4.3	<5.0	<0.0050	0.012
TW-37	17-Dec-08	8260/8015	**820**	<50	560	**1,800**	**180**	<500	8.4	19	<5.0	<0.0050	0.011

TABLE 6
GROUNDWATER ANALYTICALS
(VOCs, TOTAL PETROLEUM HYDROCARBONS, and LEAD)
Thriftway Refinery, 626 CR 5500, Bloomfield, New Mexico

Well ID	Date	Sample Method	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE	Total Naph-thalene	GRO C6-C10	DRO C10-C22	MRO	Dissolved Lead 6010B	Total Lead 6010B
			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L
NM WQCC STANDARD			10	750	750	620	100	30	NE	NE	NE	0.05	NE
TW-38	17-Dec-08	8260/8015	**140**	<5.0	36	220	**190**	<50	0.99	<1.0	<5.0	<0.0050	0.010
TW-41	18-Dec-08	8260/8015	**480**	<50	570	**4,000**	<50	<500	8.4	2.0	<5.0	<0.0050	0.0078
TW-42	16-Dec-08	8260/8015	<1.0	<1.0	31	<1.5	**130**	<10	0.18	1.2	<5.0	0.0066	0.010
TW-43	16-Dec-08	8260/8015	<1.0	<1.0	31	<1.5	**1,700**	<10	0.80	<1.0	<5.0	<0.0050	0.016
TW-44	17-Dec-08	8260/8015	**58**	<5.0	69	340	**330**	**245**	2.0	1.8	<5.0	<0.0050	0.0094

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)
GRO	Gasoline range organics
DRO	Diesel range organics
MRO	Motor oil range organics



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REVISIONS BY: R. Kennemer	**DATE REVISED:** April 30, 2009
CHECKED BY: B. Watson	**DATE CHECKED:** April 30, 2009
APPROVED BY: E. McNally	**DATE APPROVED:** May 1, 2009

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FIGURE 1
TOPOGRAPHICAL SITE LOCATION MAP
THRIFTWAY REFINERY
SE ¼, SE ¼, SEC. 32, T29N, R11W
SW ¼, SW ¼, SEC. 33, T29N, R11W
NW ¼, NE ¼, SEC. 9, T28N, R11W
SE ¼, NE ¼, SEC. 9, T28N, R11W
BLOOMFIELD, SAN JUAN COUNTY, NEW MEXICO
N36° 40' 33.545" W108° 0' 24.131"

S:\ANIMAS 2000\2009 PROJECTS\THRIFTWAY\810 REFINERY\DRAFTING\FIGURE 1 TOPOGRAPHICAL SITE LOCATION MAP

FIGURE 2
SITE VICINITY MAP
THRIFTWAY REFINERY
626 ROAD 5500
BLOOMFIELD, NEW MEXICO

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LEGEND

—x— FENCE

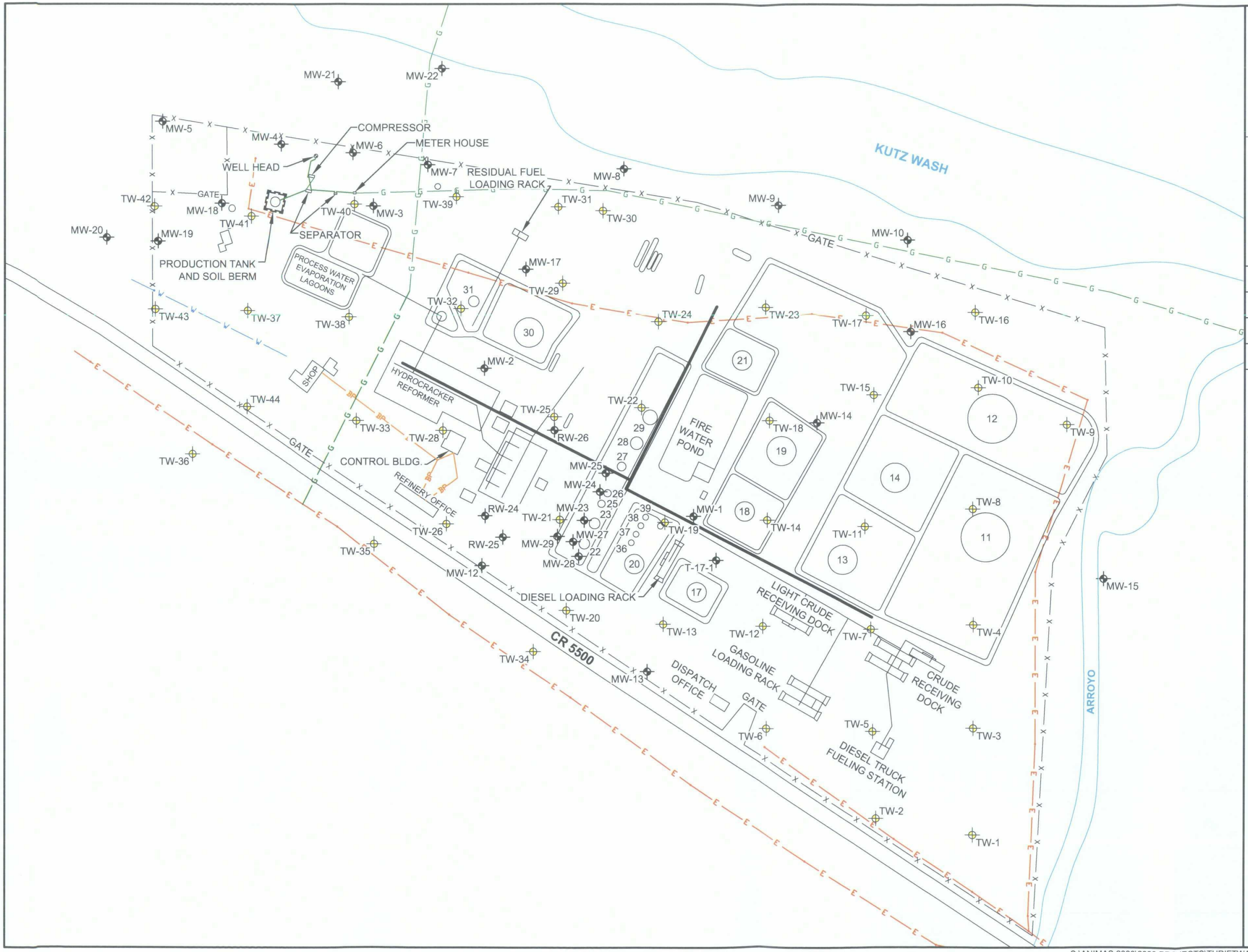
BASE MAP SOURCE: USGS 2005

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

N

S:\ANIMAS 2000\2009 PROJECTS\THRIFTWAY\810 REFINERY\DRAFTING\FIGURE 2 SITE VICINITY MAP

FIGURE 3
GENERAL SITE PLAN
THRIFTWAY REFINERY
626 ROAD 5500
BLOOMFIELD, NEW MEXICO



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LEGEND

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

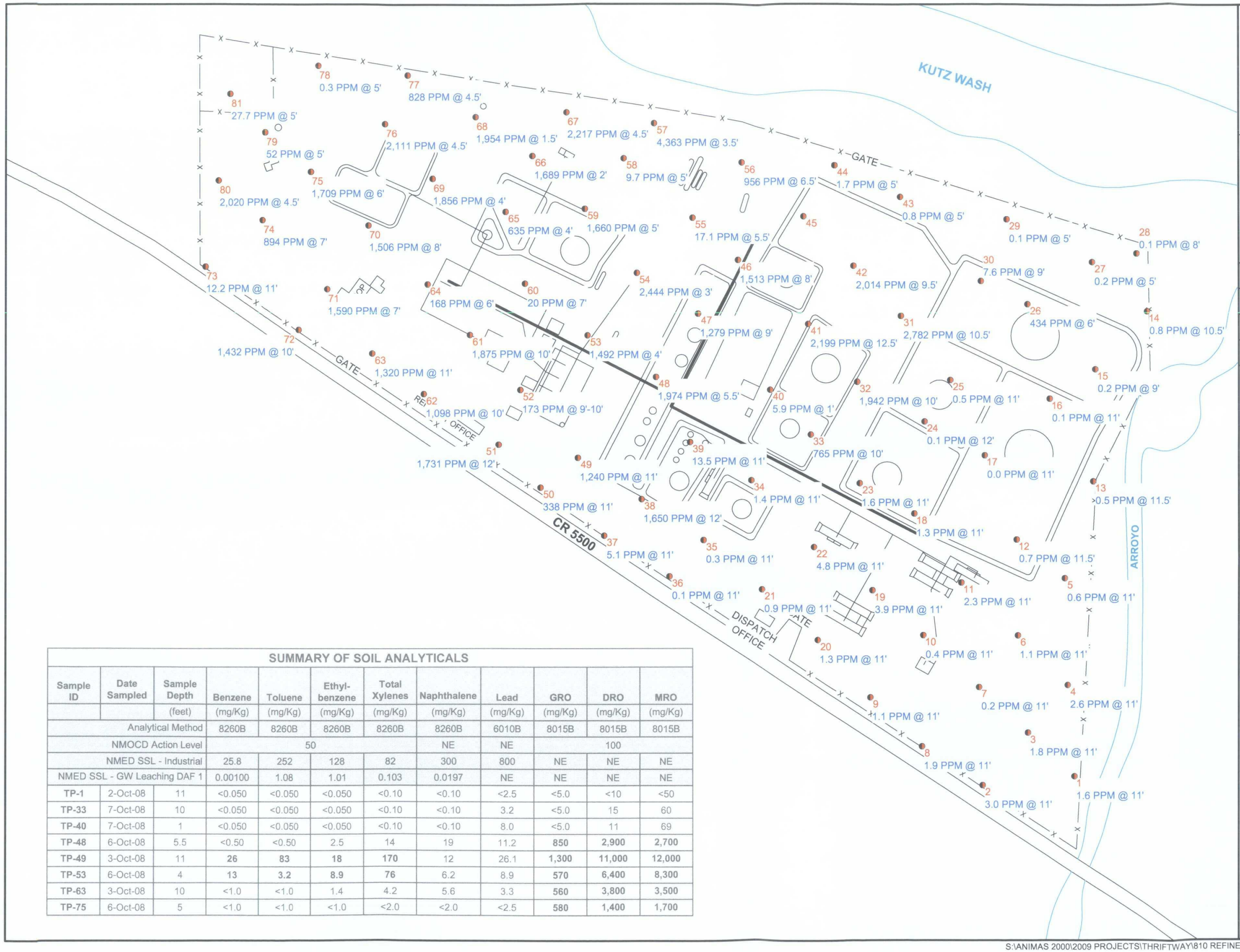
SCALE
200 100 0 200
50
(1 INCH = 200 FEET)

N

S:\ANIMAS 2000\2009 PROJECTS\THRIFTWAY\810 REFINERY\DRAFTING\FIGURE 3 GENERAL SITE PLAN

FIGURE 4
TEST PIT SOIL SAMPLE LOCATIONS
OCTOBER 2008

THRIFTWAY REFINERY
626 ROAD 5500
BLOOMFIELD, NEW MEXICO



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N. Willis	February 3, 2009
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B. Watson	April 30, 2009
APPROVED BY:	**DATE APPROVED:**
E. McNally	May 1, 2009

LEGEND

- TEST PIT LOCATIONS
- 434 PPM @ 6' PPM AND DEPTH OF SAMPLE
- —x— FENCE

NOTE: ALL SAMPLES WERE COLLECTED ON OCTOBER 2 - 7, 2008 AND SCREENED WITH A PID-OVM. SELECT SAMPLES WERE LABORATORY ANALYZED FOR VOCs PER EPA METHOD 8260; TPH PER EPA METHOD 8015B; PAHs PER EPA METHOD 8270C; AND RCRA 8 METALS PER EPA METHODS 6010B AND 7471.

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

N

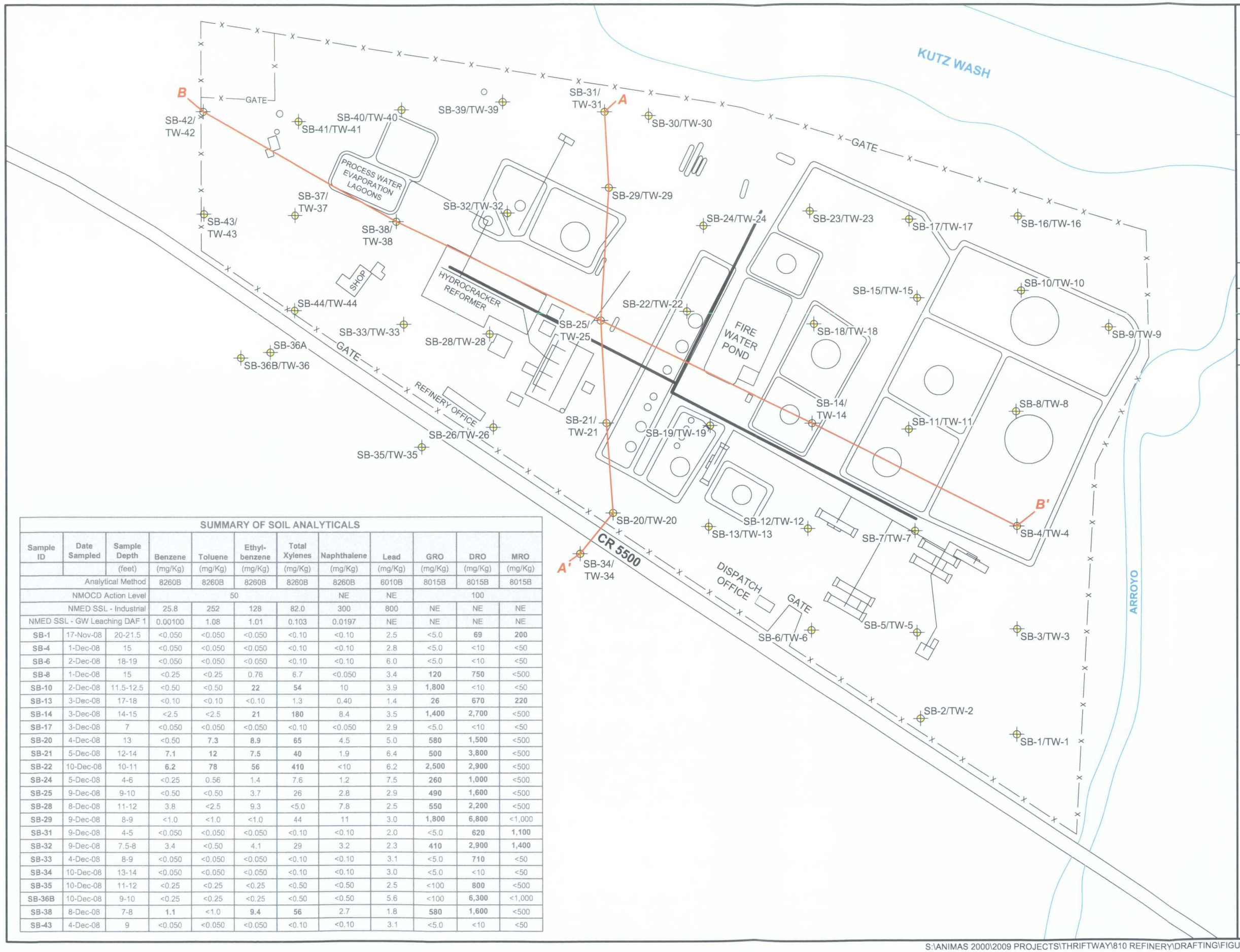
SUMMARY OF SOIL ANALYTICALS

Sample ID	Date Sampled	Sample Depth	Benzene	Toluene	Ethyl-benzene	Total Xylenes	Naphthalene	Lead	GRO	DRO	MRO
		(feet)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)
Analytical Method			8260B	8260B	8260B	8260B	8260B	6010B	8015B	8015B	8015B
NMOCD Action Level			50				NE	NE	100		
NMED SSL - Industrial			25.8	252	128	82	300	800	NE	NE	NE
NMED SSL - GW Leaching DAF 1			0.00100	1.08	1.01	0.103	0.0197	NE	NE	NE	NE
TP-1	2-Oct-08	11	<0.050	<0.050	<0.050	<0.10	<0.10	<2.5	<5.0	<10	<50
TP-33	7-Oct-08	10	<0.050	<0.050	<0.050	<0.10	<0.10	3.2	<5.0	15	60
TP-40	7-Oct-08	1	<0.050	<0.050	<0.050	<0.10	<0.10	8.0	<5.0	11	69
TP-48	6-Oct-08	5.5	<0.50	<0.50	2.5	14	19	11.2	**850**	**2,900**	**2,700**
TP-49	3-Oct-08	11	**26**	**83**	**18**	**170**	12	26.1	**1,300**	**11,000**	**12,000**
TP-53	6-Oct-08	4	**13**	**3.2**	**8.9**	**76**	6.2	8.9	**570**	**6,400**	**8,300**
TP-63	3-Oct-08	10	<1.0	<1.0	1.4	4.2	5.6	3.3	**560**	**3,800**	**3,500**
TP-75	6-Oct-08	5	<1.0	<1.0	<1.0	<2.0	<2.0	<2.5	**580**	**1,400**	**1,700**

S:\ANIMAS 2000\2009 PROJECTS\THRIFTWAY\810 REFINERY\DRAFTING\FIGURE 4 TEST PIT SOIL SAMPLE LOCATIONS

FIGURE 5
SOIL BORING LOCATIONS AND SOIL SAMPLE RESULTS DECEMBER 2008

THRIFTWAY REFINERY
626 ROAD 5500
BLOOMFIELD, NEW MEXICO



SUMMARY OF SOIL ANALYTICALS

Sample ID	Date Sampled	Sample Depth	Benzene	Toluene	Ethyl-benzene	Total Xylenes	Naphthalene	Lead	GRO	DRO	MRO
		(feet)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)
Analytical Method			8260B	8260B	8260B	8260B	8260B	6010B	8015B	8015B	8015B
NMOCD Action Level			50				NE	NE	100		
NMED SSL - Industrial			25.8	252	128	82.0	300	800	NE	NE	NE
NMED SSL - GW Leaching DAF 1			0.00100	1.08	1.01	0.103	0.0197	NE	NE	NE	NE
SB-1	17-Nov-08	20-21.5	<0.050	<0.050	<0.050	<0.10	<0.10	2.5	<5.0	**69**	**200**
SB-4	1-Dec-08	15	<0.050	<0.050	<0.050	<0.10	<0.10	2.8	<5.0	<10	<50
SB-6	2-Dec-08	18-19	<0.050	<0.050	<0.050	<0.10	<0.10	6.0	<5.0	<10	<50
SB-8	1-Dec-08	15	<0.25	<0.25	0.76	6.7	<0.050	3.4	**120**	**750**	<500
SB-10	2-Dec-08	11.5-12.5	<0.50	<0.50	**22**	**54**	10	3.9	**1,800**	<10	<50
SB-13	3-Dec-08	17-18	<0.10	<0.10	<0.10	1.3	0.40	1.4	**26**	**670**	**220**
SB-14	3-Dec-08	14-15	<2.5	<2.5	**21**	**180**	8.4	3.5	**1,400**	**2,700**	<500
SB-17	3-Dec-08	7	<0.050	<0.050	<0.050	<0.10	<0.050	2.9	<5.0	<10	<50
SB-20	4-Dec-08	13	<0.50	**7.3**	**8.9**	**65**	4.5	5.0	**580**	**1,500**	<500
SB-21	5-Dec-08	12-14	**7.1**	**12**	**7.5**	**40**	1.9	6.4	**500**	**3,800**	<500
SB-22	10-Dec-08	10-11	**6.2**	**78**	**56**	**410**	<10	6.2	**2,500**	**2,900**	<500
SB-24	5-Dec-08	4-6	<0.25	0.56	1.4	7.6	1.2	7.5	**260**	**1,000**	<500
SB-25	9-Dec-08	9-10	<0.50	<0.50	3.7	26	2.8	2.9	**490**	**1,600**	<500
SB-28	8-Dec-08	11-12	3.8	<2.5	9.3	<5.0	7.8	2.5	**550**	**2,200**	<500
SB-29	9-Dec-08	8-9	<1.0	<1.0	<1.0	44	11	3.0	**1,800**	**6,800**	<1,000
SB-31	9-Dec-08	4-5	<0.050	<0.050	<0.050	<0.10	<0.10	2.0	<5.0	**620**	**1,100**
SB-32	9-Dec-08	7.5-8	3.4	<0.50	4.1	29	3.2	2.3	**410**	**2,900**	**1,400**
SB-33	4-Dec-08	8-9	<0.050	<0.050	<0.050	<0.10	<0.10	3.1	<5.0	**710**	<50
SB-34	10-Dec-08	13-14	<0.050	<0.050	<0.050	<0.10	<0.10	3.0	<5.0	<10	<50
SB-35	10-Dec-08	11-12	<0.25	<0.25	<0.25	<0.50	<0.50	2.5	<100	**800**	<500
SB-36B	10-Dec-08	9-10	<0.25	<0.25	<0.25	<0.50	<0.50	5.6	<100	**6,300**	<1,000
SB-38	8-Dec-08	7-8	**1.1**	<1.0	**9.4**	**56**	2.7	1.8	**580**	**1,600**	<500
SB-43	4-Dec-08	9	<0.050	<0.050	<0.050	<0.10	<0.10	3.1	<5.0	<10	<50

Animas Environmental Services, LLC

DRAWN BY:	DATE DRAWN:
N. Willis	February 4, 2009
REVISIONS BY:	**DATE REVISED:**
R. Kennemer	April 30, 2009
CHECKED BY:	**DATE CHECKED:**
B. Watson	April 30, 2009
APPROVED BY:	**DATE APPROVED:**
E. McNally	May 1, 2009

LEGEND

- SOIL BORING/TEST WELL LOCATIONS
- FENCE
- LINES OF GEOLOGIC CROSS SECTION (SEE FIGURE 6)

NOTE: ALL SOIL BORINGS INSTALLED ON NOVEMBER 17, 2008 TO DECEMBER 10, 2008. ALL SOIL SAMPLES ANALYZED PER EPA METHODS 8260B, 8015B, AND 6010B.

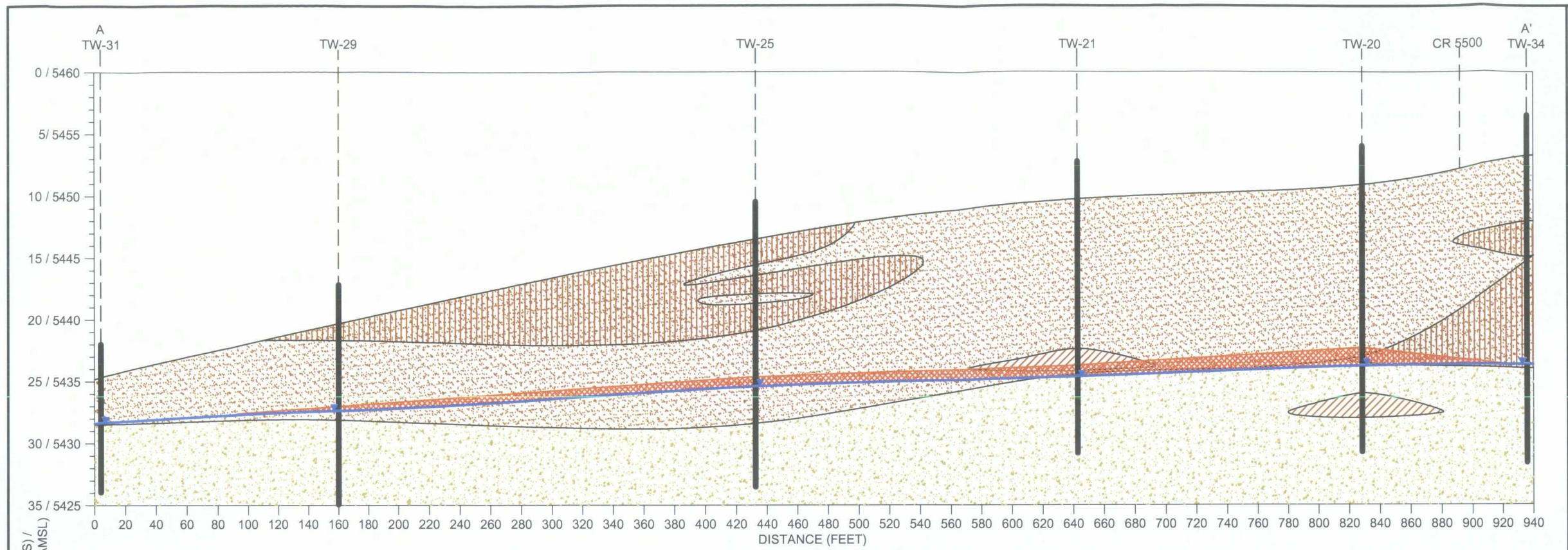
SCALE
200 100 0 200
50
(1 INCH = 200 FEET)

N

S:\ANIMAS 2000\2009 PROJECTS\THRIFTWAY\810 REFINERY\DRAFTING\FIGURE 5 SOIL BORING LOCATIONS AND SOIL SAMPLE RESULTS

FIGURE 6
GEOLOGICAL CROSS SECTIONS A-A' AND B-B'

THRIFTWAY REFINERY
626 ROAD 5500
BLOOMFIELD, NEW MEXICO



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DRAWN BY: N. Willis	**DATE DRAWN:** April 27, 2009
REVISIONS BY: R. Kennemer	**DATE REVISED:** April 30, 2009
CHECKED BY: B. Watson	**DATE CHECKED:** April 30, 2009
APPROVED BY: E. McNally	**DATE APPROVED:** May 1, 2009

LEGEND

- SAND, FINE TO MEDIUM
- SAND, COARSE
- SILTY SAND
- CLAY
- GROUNDWATER ELEVATION (FEET A.M.S.L.)
- FREE PRODUCT (GASOLINE AND DIESEL)

NOT TO SCALE

N

S:\ANIMAS 2000\2009 PROJECTS\THRIFTWAY\810 REFINERY\DRAFTING\FIGURE 6 GEOLOGICAL CROSS SECTION A-A' AND B-B'

FIGURE 7
GROUNDWATER ELEVATION CONTOURS
JANUARY 2009

THRIFTWAY REFINERY
626 ROAD 5500
BLOOMFIELD, NEW MEXICO

Animas Environmental Services, LLC

DRAWN BY:	DATE DRAWN:
N. Willis	February 2, 2009
REVISIONS BY:	**DATE REVISED:**
R. Kennemer	April 30, 2009
CHECKED BY:	**DATE CHECKED:**
B. Watson	April 30, 2009
APPROVED BY:	**DATE APPROVED:**
E. McNally	May 1, 2009

LEGEND

- TEST WELL LOCATIONS
- —x— FENCE
- 5441.05 GROUNDWATER ELEVATION IN FEET (AMSL)
- –5441.05– GROUNDWATER ELEVATION CONTOUR IN FEET (AMSL)

NOTE: ALL GROUNDWATER MEASUREMENTS WERE COLLECTED ON JANUARY 26, 2009. MW-1 THRU MW-29 AND RW-24 THRU RW-26 WERE NOT USED IN GROUNDWATER CONTOURS AND ARE NOT SHOWN ON THIS MAP.

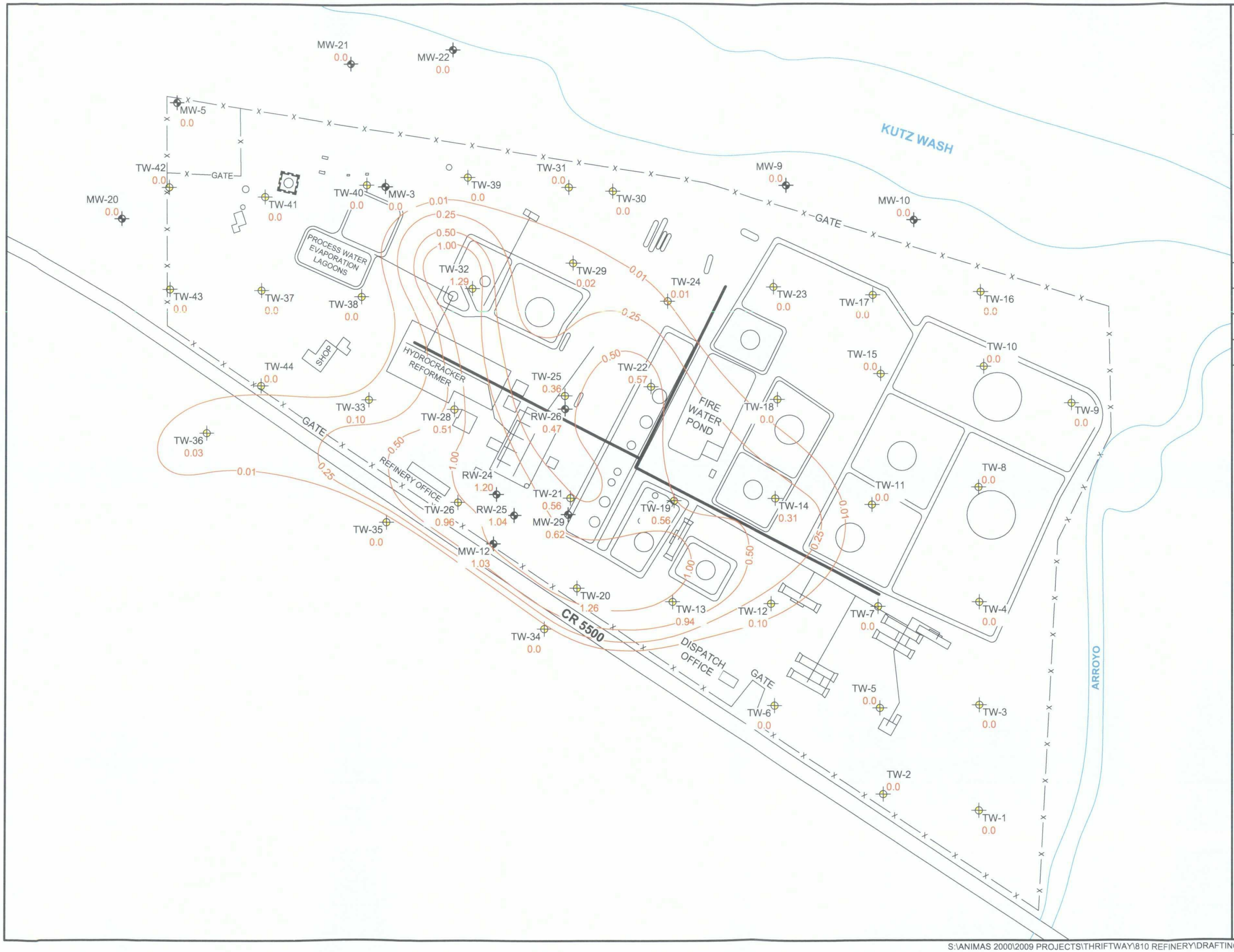
SCALE
200 100 0 200
50
(1 INCH = 200 FEET)

N

S:\ANIMAS 2000\2009 PROJECTS\THRIFTWAY\810 REFINERY\DRAFTING\FIGURE 7 GROUNDWATER ELEVATION CONTOURS

FIGURE 8
FREE PRODUCT THICKNESS CONTOURS JANUARY 2009

THRIFTWAY REFINERY
626 ROAD 5500
BLOOMFIELD, NEW MEXICO



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REVISIONS BY: R. Kennemer	**DATE REVISED:** April 30, 2009
CHECKED BY: B. Watson	**DATE CHECKED:** April 30, 2009
APPROVED BY: E. McNally	**DATE APPROVED:** May 1, 2009

LEGEND

- MONITORING WELL LOCATIONS
- TEST WELL LOCATIONS
- x — FENCE
- 0.94 FREE PRODUCT THICKNESS IN FEET
- 1.00 FREE PRODUCT THICKNESS CONTOUR IN FEET

NOTE: ALL MEASUREMENTS WERE COLLECTED ON JANUARY 26, 2009. MW-1, 2, 4, 6, 7, 8, 13, 14, 15, 16, 17, 18, 19, 23, 24, 25, 27, 28, and T-17-1 WERE NOT USED FOR FREE PRODUCT CONTOURS DUE TO SUSPECT CONSTRUCTION AND UNRELIABLE MEASUREMENT OBSERVATIONS.

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

N

S:\ANIMAS 2000\2009 PROJECTS\THRIFTWAY\810 REFINERY\DRAFTING\FIGURE 8 FREE PRODUCT THICKNESS CONTOURS 031809

FIGURE 12

PROPOSED PHYTOREMEDATION AREAS

THRIFWAY REFINERY
626 ROAD 5500
BLOOMFIELD, NEW MEXICO

Source: 2003 DOQQ Provided by San Juan County GIS
(www.sjcounty.net/Dpt/InformationTechnology/Start.htm)

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B. Watson	April 30, 2009
REVISIONS BY:	DATE CHECKED:
R. Kennemer	April 30, 2009
CHECKED BY:	DATE REVISED:
B. Watson	May 4, 2009
APPROVED BY:	DATE APPROVED:
R. Kennemer	May 4, 2009

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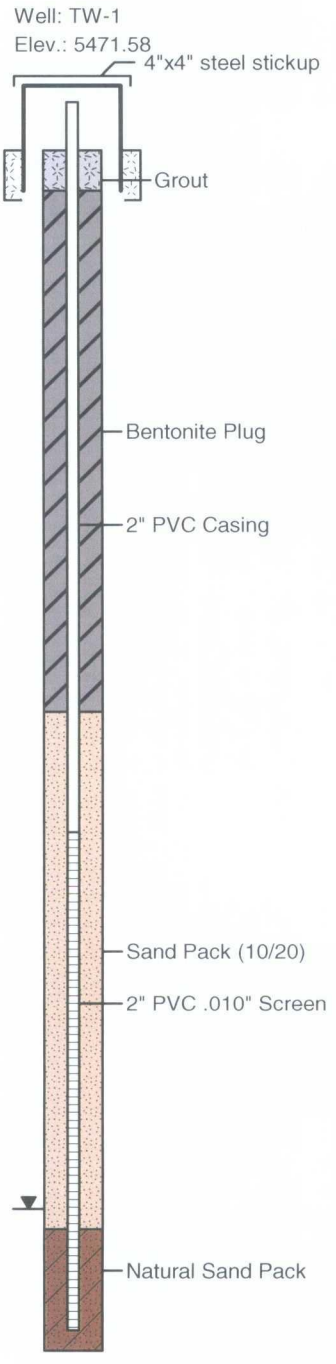
LOG OF: SB-1/TW-1

THRIFTWAY REFINERY
626 CR 5500
BLOOMFIELD, NEW MEXICO

Date Started	: 11/17/08	Northing Coord.	: 2064743.399
Date Completed	: 11/17/08 (as TW-1)	Easting Coord.	: 2672803.782
Hole Diameter	: 7.25 in.	Survey By	: Arrow Engineering
Drilling Method	: Mobile B-57 H.S.A.	Logged By	: B. Watson
Sampling Method	: SPLIT-SPOON		

Depth in Feet	Surf. Elev.	USCS	GRAPHIC	DESCRIPTION	Blow Count	PID (ppm)
0	5468	SM		SAND, tan-brown, loose, dry, well sorted, large cobble at 3-5" depth		
2	5466					
4	5464					
6	5462	SM		Thin, clay-rich sand seam, slightly moist SAND, tan-brown, loose, dry, fine-grained, well sorted	8	0
8	5460					
10	5458				10	0
12	5456				10	0
14	5454					
16	5452				10	0
18	5450				12	0
20	5448					
22	5446	SP		SAND, tan-brown, coarse-grained with silt/clay present, loose, dry from 21-23', then becomes moist	13	0
24	5444				12	0
26	5442			26.5' sand becomes wet	7	0
28	5440	ML CL ML SP		CLAYEY SAND, tan-brown, moist SAND, tan-brown, coarse-grained with silt/clay present, wet	7	0
30	5438			CLAYEY SAND, tan-brown, moist SAND, tan-brown, coarse-grained with silt/clay present, wet/flowing		
32						



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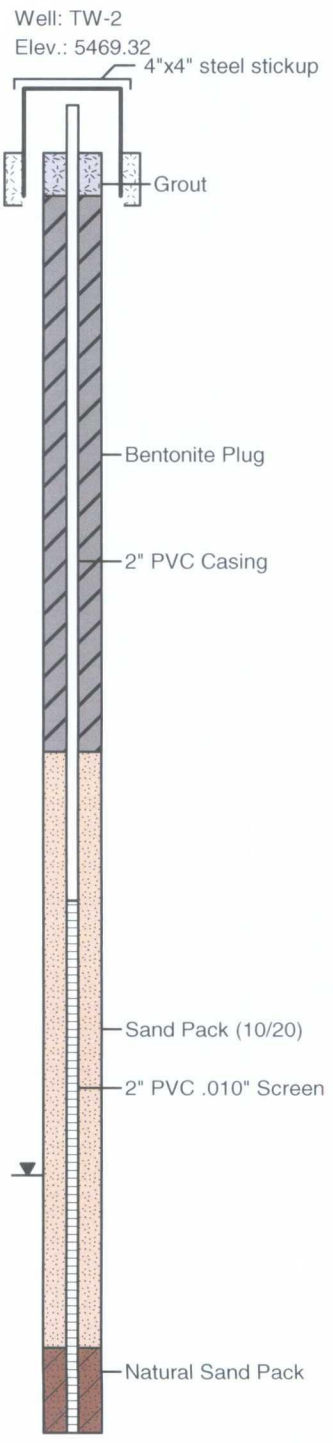
Animas Environmental Services, LLC

LOG OF: SB-2/TW-2

THRIFTWAY REFINERY
626 CR 5500
BLOOMFIELD, NEW MEXICO

Date Started	: 11/18/08	Northing Coord.	: 2064776.879
Date Completed	: 11/18/08 (as TW-2)	Easting Coord.	: 2672606.142
Hole Diameter	: 7.25 in.	Survey By	: Arrow Engineering
Drilling Method	: Mobile B-57 H.S.A.	Logged By	: B. Watson
Sampling Method	: SPLIT-SPOON		

Depth in Feet	Surf. Elev.	USCS	GRAPHIC	DESCRIPTION	Blow Count	PID (ppm)
0	5465	SM		SAND, tan-brown, silt/lclay present loose, dry, fine grained	7	0
10	5455				9	0
16	5449				13	0
18	5447	SP		SAND, tan-brown, trace silt/clay, coarse-grained loose, dry	9	0
22	5443	SC		CLAYEY SAND, brown, with silt, soft, dry to slightly moist @24' sand becomes wet	10	0
24	5441	SP		SAND, brown, coarse-grained, loose, wet		
26	5439	SC		CLAYEY SAND, brown, with silt, medium stiff, moist/wet		
28	5437	SP		SAND, green-brown, coarse, trace silt/clay, wet, loose	12	0
30						



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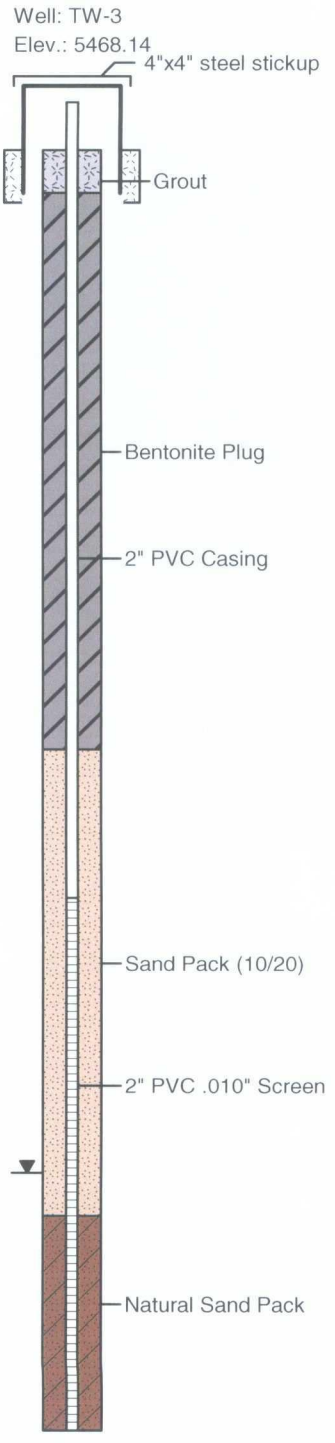
LOG OF: SB-3/TW-3

THRIFTWAY REFINERY
626 CR 5500
BLOOMFIELD, NEW MEXICO

Date Started	: 11/18/08	Northing Coord.	: 2064959.894
Date Completed	: 11/18/08 (as TW-3)	Easting Coord.	: 2672804.887
Hole Diameter	: 7.25 in.	Survey By	: Arrow Engineering
Drilling Method	: Mobile B-57 H.S.A.	Logged By	: B. Watson
Sampling Method	: SPLIT-SPOON		

Depth in Feet	Surf. Elev.	USCS	DESCRIPTION	Blow Count	PID (ppm)
0	5465	SM	SAND, tan-brown, fine-grained, trace silt/lclay, loose, dry, cobbles present from 0-6"		
2	5463				
4	5461		Thin, moist sandy zone at 5' - 6.5'		
6	5459			8	0
8	5457				
10	5455			6	0
12	5453				
14	5451				
16	5449	SP	SAND, tan-brown, trace silt/clay, coarse-grained loose, dry	8	0
18	5447		gravel present in zone at 18'-20'	9	0
20	5445	SC	SAND, tan-brown, medium-grained, loose, slightly moist, more silt/clay	8	0
22	5443				
24	5441	SP	SAND, tan-brown, coarse-grained, loose, wet	9	0
26	5439				
28	5437				
30				13	0



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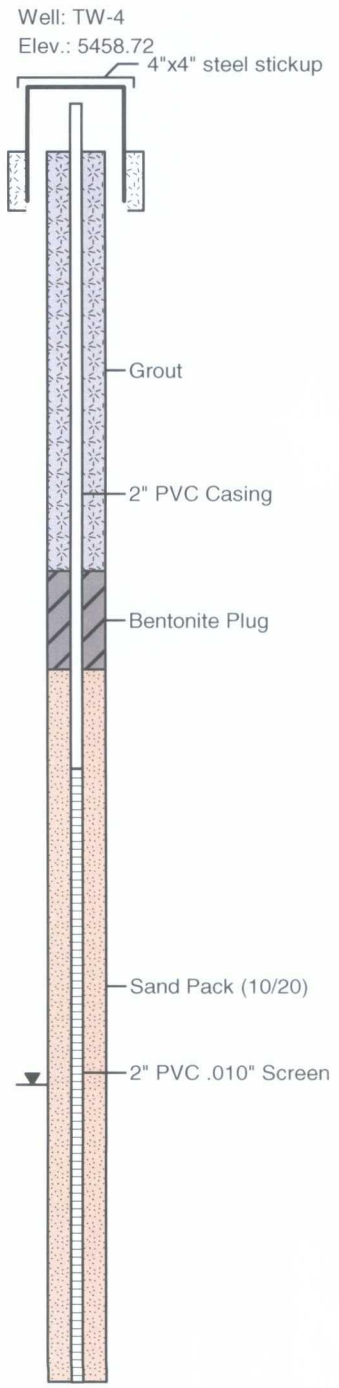
LOG OF: SB-4/TW-4

THRIFTWAY REFINERY
626 CR 5500
BLOOMFIELD, NEW MEXICO

Date Started	: 12/1/08	Northing Coord.	: 2065171.43
Date Completed	: 12/1/08 (as TW-4)	Easting Coord.	: 2672804.878
Hole Diameter	: 7.25 in.	Survey By	: Arrow Engineering
Drilling Method	: H.S.A.; CME-75	Logged By	: B. Watson
Sampling Method	: 5' SPLIT-SPOON		

Depth in Feet	Surf. Elev.	USCS	GRAPHIC	DESCRIPTION	Blow Count	PID (ppm)
0	5455	SM		SAND, brown, med. coarse, loose, dry, poorly sorted, trace gravel, trace clay		0
2	5453					0
4	5451					0
6	5449					0
8	5447					0
10	5445	SM		SAND, brown, fine grained, with silt/clay, med. stiff, dry, mod. well sorted		0
12	5443					0
14	5441			clay rich zone at 14-15'		0
16	5439			becomes wet at 19'		0
18	5437					0
20	5435					0
22	5433	SP		SAND, gray-brown, coarse, wet, loose		0
24	5431					
26						



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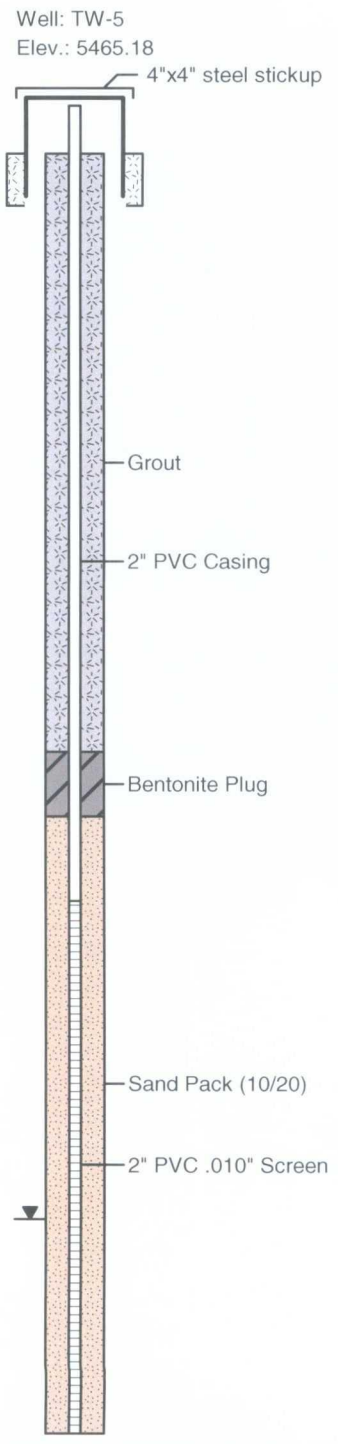
LOG OF: SB-5/TW-5

THRIFTWAY REFINERY
626 CR 5500
BLOOMFIELD, NEW MEXICO

Date Started	: 12/2/08	Northing Coord.	: 2064953.407
Date Completed	: 12/2/08 (as TW-5)	Easting Coord.	: 2672599.102
Hole Diameter	: 7.25 in.	Survey By	: Arrow Engineering
Drilling Method	: H.S.A.; CME-75	Logged By	: B. Watson
Sampling Method	: 5' SPLIT-SPOON		

Depth in Feet	Surf. Elev.	USCS	DESCRIPTION	Blow Count	PID (ppm)
0	5463	SM	SAND, brown, fine grained, moderately sorted, loose to med. stiff, dry, coarsens with depth		0
2	5461				0
4	5459				0
6	5457				0
8	5455				0
10	5453	SP	SAND, brown, fine grained, moderaterly sorted, loose, dry		0
12	5451				0
14	5449				0
16	5447				0
18	5445				0
20	5443				0
22	5441				0
24	5439	CH	CLAY, with sand, brown, fine grained, med. stiff, slightly moist		0
26	5437	SM	SAND, with silt, fine grained, soft, slightly moist to wet (at 25-30')		0
28	5435				0
30					0



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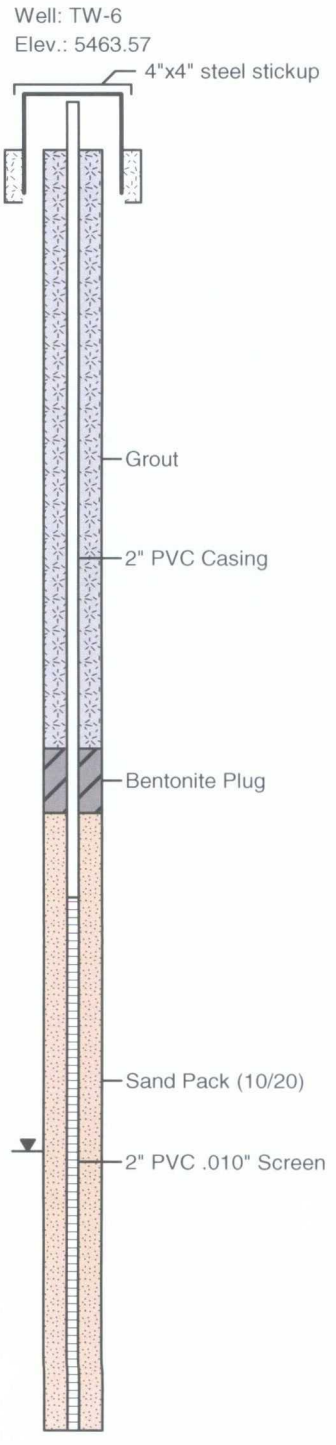
LOG OF: SB-6/TW-6

THRIFTWAY REFINERY
626 CR 5500
BLOOMFIELD, NEW MEXICO

Date Started	: 12/2/08	Northing Coord.	: 2064958.423
Date Completed	: 12/2/08 (as TW-6)	Easting Coord.	: 2672381.186
Hole Diameter	: 7.25 in.	Survey By	: Arrow Engineering
Drilling Method	: H.S.A.; CME-75	Logged By	: B. Watson
Sampling Method	: 5' SPLIT-SPOON		

Depth in Feet	Surf. Elev.	USCS	GRAPHIC	DESCRIPTION	Blow Count	PID (ppm)
0	5461	SP		SAND, brown, med. coarse, poorly sorted, with silt/clay and cobble (at 0.5 to 1' depth), loose, dry		0
2	5459					0
4	5457					0
6	5455					0
8	5453					0
10	5451	SP		SAND, brown, fine grained, moderaterly sorted, loose, dry		0
12	5449					0
14	5447					0
16	5445					0
18	5443	SM		SILT, with sand, brown, white nodules and laminae visible, med. stiff, slightly moist		0
20	5441			clayey lens, with white nodules, present at base		0
22	5439					0
		SP		SAND, brown, soft, moist, wet at base		
24	5437	SM		SILT, as in 18-23', calcium/caliche? and organics both visible		0
		SP		SAND, brown, as in 23-25', wet		0
26	5435	CL		CLAY, silty, brown, sand common, stiff, moist		
28	5433	SP		SAND, green-brown, coarse, trace silt/clay/gravel, soft, wet		0
30						0



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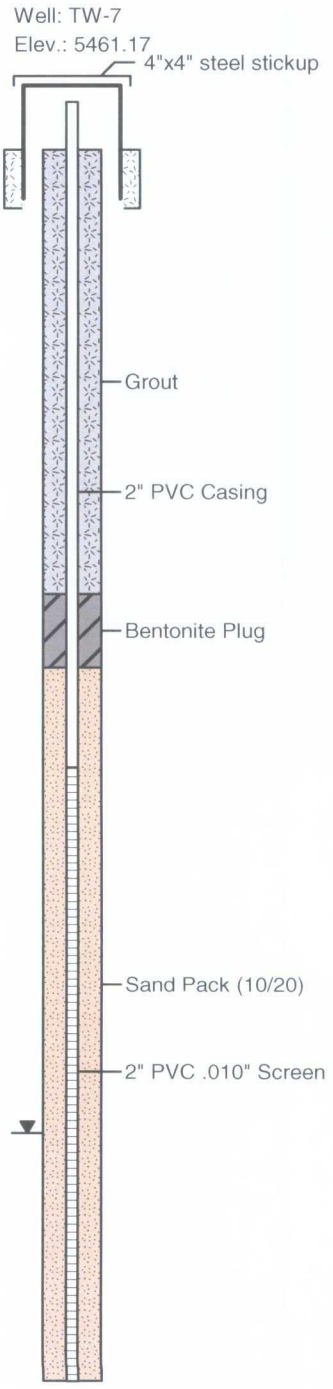
LOG OF: SB-7/TW-7

THRIFTWAY REFINERY
626 CR 5500
BLOOMFIELD, NEW MEXICO

Date Started	: 12/2/08	Northing Coord.	: 2065162.042
Date Completed	: 12/2/08 (as TW-7)	Easting Coord.	: 2672595.186
Hole Diameter	: 7.25 in.	Survey By	: Arrow Engineering
Drilling Method	: H.S.A.; CME-75	Logged By	: B. Watson
Sampling Method	: 5' SPLIT-SPOON		

Depth in Feet	Surf. Elev.	USCS	GRAPHIC	DESCRIPTION	Blow Count	PID (ppm)
0	5459	SP		SAND, brown, fine grained, poorly sorted, silt and coarse sand common loose, dry		0
2	5457					0
4	5455					0
6	5453					0
8	5451					0
10	5449					0
12	5447					0
14	5445	SP		SAND, brown, coarse grained, poorly sorted, silt/clay present, small gravel, loose, dry		0
16	5443					0
17		CH		CLAY, brown, stiff, dry, trace sand		1
18	5441	SP		SAND, same as 13' - 17'		4
20	5439	SP		SAND, gray-black, coarse grained, with silt (more at 20-21'), poorly sorted, soft and wet, strong odor on soil and sheen visible		890
22	5437					1250
24	5435	SP		SAND, brown, coarse, wet, silt/clay common, soft to med. stiff		46
26						



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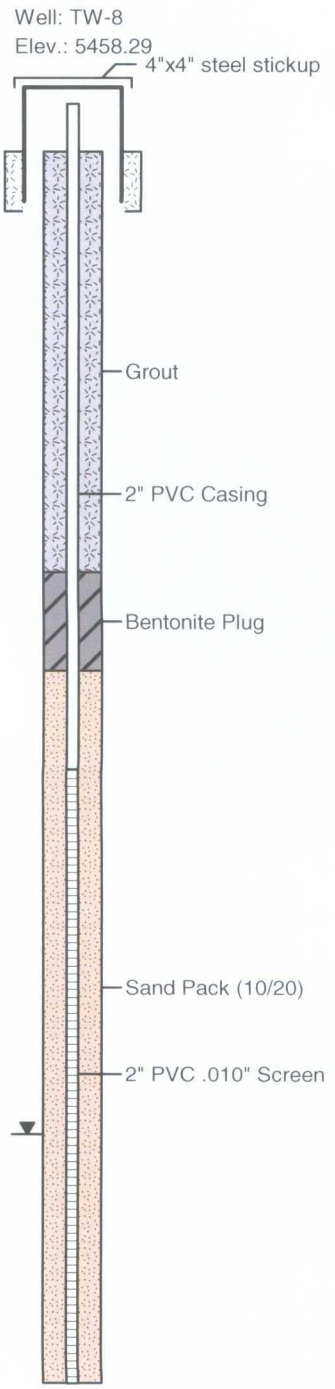
LOG OF: SB-8/TW-8

THRIFTWAY REFINERY
626 CR 5500
BLOOMFIELD, NEW MEXICO

Date Started	: 12/1/08	Northing Coord.	: 2065407.377
Date Completed	: 12/1/08 (as TW-8)	Easting Coord.	: 2672803.366
Hole Diameter	: 7.25 in.	Survey By	: Arrow Engineering
Drilling Method	: H.S.A.; CME-75	Logged By	: B. Watson
Sampling Method	: 5' SPLIT-SPOON		

Depth in Feet	Surf. Elev.	USCS	GRAPHIC	DESCRIPTION	Blow Count	PID (ppm)
0	5455	SM		SAND, brown, med. coarse, loose, dry to slightly moist (at 0' - 2'), trace silt/clay, with gravel at 4', mod. well sorted		0
2	5453					0
4	5451					0
6	5449	SM		SAND, brown, coarse, loose, poorly sorted		0
8	5447					0
10	5445			1" clay lens at 13.5'		0
12	5443			1" clay lens at 14.5'		0.5
14	5441					1
16	5439	SP		SAND, gray-brown, strong petroleum odor, med. coarse, dry (15-18') then moist (18-20')		218
18	5437			collect soil sample at 15-16'		224
20	5435	SP		Sand, gray-brown, wet, slight odor, loose, trace silt/clay and gravel		192
22	5433					2.1
24	5431	SP		Sand, gray-brown, degraded rock(?), slightly moist, medium stiff, silt/clay present		4.5
26				Refusal of spoon		3.0



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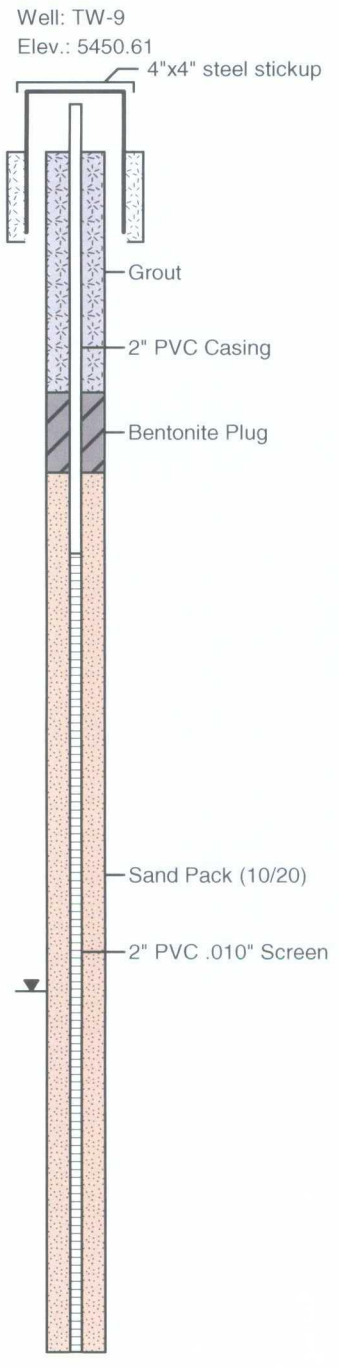
LOG OF: SB-9/TW-9

THRIFTWAY REFINERY
626 CR 5500
BLOOMFIELD, NEW MEXICO

Date Started	: 12/1/08	Northing Coord.	: 2065580.213
Date Completed	: 12/1/08 (as TW-9)	Easting Coord.	: 2672996.115
Hole Diameter	: 7.25 in.	Survey By	: Arrow Engineering
Drilling Method	: H.S.A.; CME-75	Logged By	: B. Watson
Sampling Method	: 5' SPLIT-SPOON		

Depth in Feet	Surf. Elev.	USCS	GRAPHIC	DESCRIPTION	Blow Count	PID (ppm)
0	5448	SP		SAND, brown, med. coarse, loose, dry, mod. sorted, silt/clay present		0
2	5446	SM		SAND, brown, fine grained, silt and coarse sand present, med. stiff, dry, mod. well sorted		0
4	5444					0
6	5442					0
8	5440					0
10	5438	ML		Silty Clay, olive brown, trace sand, soft/plastic to med. stiff, moist		0
		SP		Sand, as in 1.5' to 10'		
		ML		Silty clay, as in 10' - 10.5'		
12	5436	SP		Sand, brown, coarse, poorly sorted, clay/silt/gravel present, wet and soft/loose Clay rich zone at 14-15'		0
14	5434					0
16						



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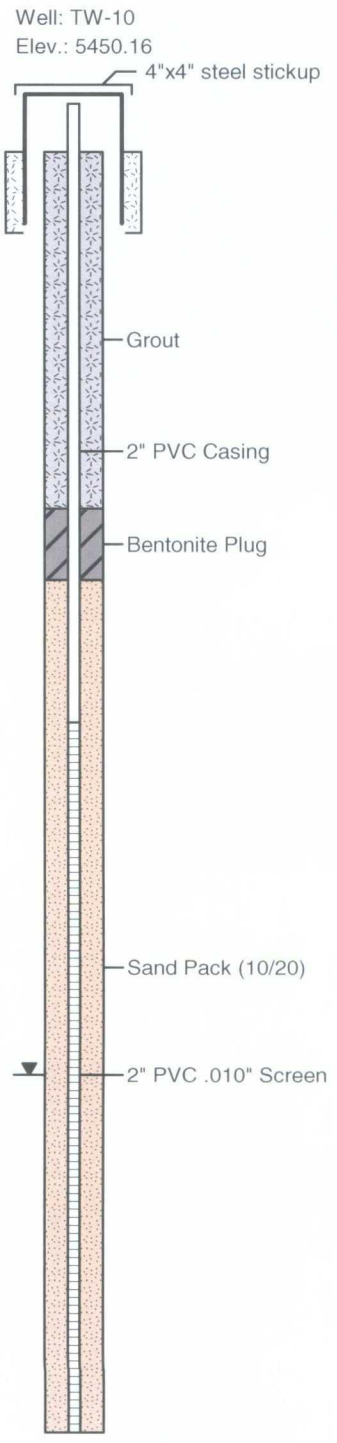
LOG OF: SB-10/TW-10

THRIFTWAY REFINERY
626 CR 5500
BLOOMFIELD, NEW MEXICO

Date Started	: 12/2/08	Northing Coord.	: 2065655.391
Date Completed	: 12/2/08 (as TW-10)	Easting Coord.	: 2672814.266
Hole Diameter	: 7.25 in.	Survey By	: Arrow Engineering
Drilling Method	: H.S.A.; CME-75	Logged By	: B. Watson
Sampling Method	: 5' SPLIT-SPOON		

Depth in Feet	Surf. Elev.	USCS	GRAPHIC	DESCRIPTION	Blow Count	PID (ppm)
0	5448	SP		SAND, brown, med. coarse, poorly sorted, trace silt/clay and gravel, loose, dry (moist zone at 5')		0
2	5446					0
4	5444					0
6	5442	SM		SAND, brown, noted silty/clay (gray and red bands), med. stiff, slightly moist, moderatly sorted		0
8	5440	SP		SAND, brown, coarse, loose, dry to slightly moist, trace gravel and trace silt, clayey zone at 9-10'		1
10	5438					1.5
12	5436	CL		Clay, gray, with sand, stiff, moist to saturated (at base) wet, slight odor, loose, trace silt/clay and gravel		650
14	5434	SP		Sand, gray, soft and wet, odor/sheen present at 13-14', coarsens with depth		728
16	5432	SP		Sand, brown, with gravel, loose, wet, trace silt/clay, no odor		14.6
18						1.0
						0.2
						0



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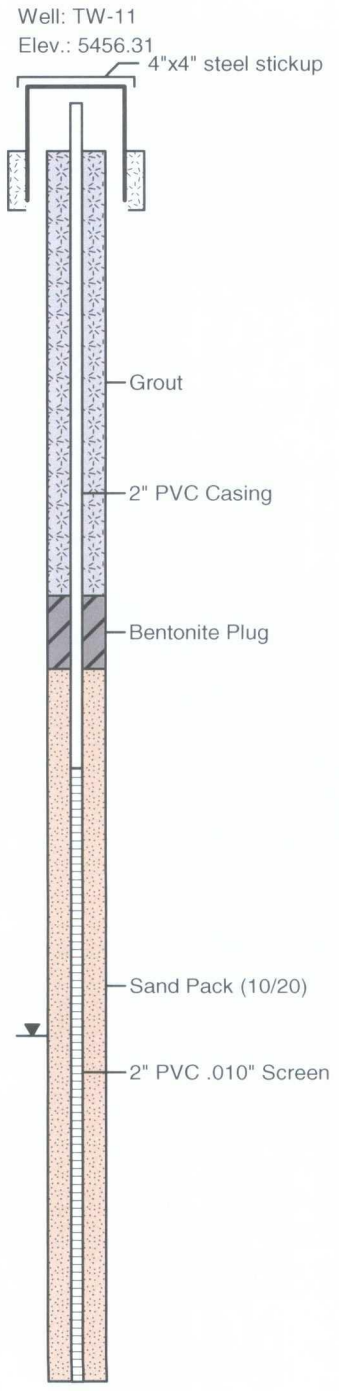
LOG OF: SB-11/TW-11

THRIFTWAY REFINERY
626 CR 5500
BLOOMFIELD, NEW MEXICO

Date Started	: 12/2/08	Northing Coord.	: 2065371.245
Date Completed	: 12/2/08 (as TW-11)	Easting Coord.	: 2672582.576
Hole Diameter	: 7.25 in.	Survey By	: Arrow Engineering
Drilling Method	: H.S.A.; CME-75	Logged By	: B. Watson
Sampling Method	: 5' SPLIT-SPOON		

Depth in Feet	Surf. Elev.	USCS	GRAPHIC	DESCRIPTION	Blow Count	PID (ppm)
0	5454	SP		SAND, brown, med. coarse, poorly sorted, trace silt/clay and gravel, loose, dry (moist 0-1')		0
2	5452					0
4	5450					0
6	5448					0
8	5446					0
10	5444	SM		SAND, brown, fine grained, moderately sorted, med. stiff, dry, clay/silt present		0
12	5442					0
14	5440					0
16	5438					0
18	5436	SP		SAND, brown, med. coarse, loose, wet, trace silt, trace gravel		0
20	5434			no sample core taken between 20' and 25'		
22	5432					
24	5430					
26						



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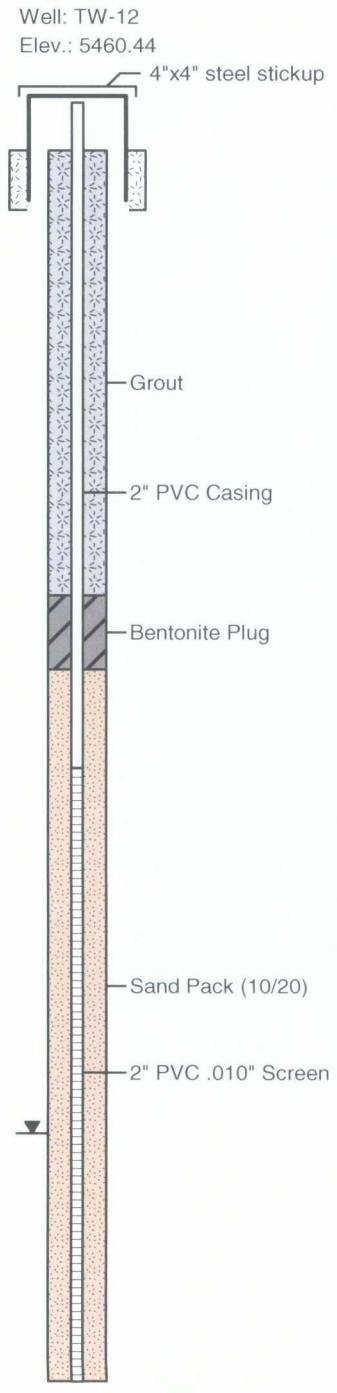
LOG OF: SB-12/TW-12

THRIFTWAY REFINERY
626 CR 5500
BLOOMFIELD, NEW MEXICO

Date Started	: 12/2/08	Northing Coord.	: 2065167.043
Date Completed	: 12/2/08 (as TW-12)	Easting Coord.	: 2672373.807
Hole Diameter	: 7.25 in.	Survey By	: Arrow Engineering
Drilling Method	: H.S.A.; CME-75	Logged By	: B. Watson
Sampling Method	: 5' SPLIT-SPOON		

Depth in Feet	Surf. Elev.	USCS	GRAPHIC	DESCRIPTION	Blow Count	PID (ppm)
0	5458	SP		SAND, brown, med. coarse, soft/loose, dry, with silt/clay and cobbles (at 0.5 to 1' depth), poorly sorted		0
2	5456					0
4	5454					0
6	5452	CL		CLAY, brown, with sand/silt, stiff, dry		0
8	5450					0
10	5448	SP		SAND, brown, med. coarse, loose, dry		0
12	5446	SM		SAND, brown, fine grained, silt/clay common, med. stiff		0
14	5444	SM		SAND, brown, med. coarse, loose, dry		0
16	5442					0
18	5440					0
20	5438	SP		SAND, dark gray, strong odor, loose, wet, med. coarse to coarse, poorly sorted		680
22	5436					1760
24	5434	SP		SAND, brown, med. coarse, little to no odor, poorly sorted		75
26						



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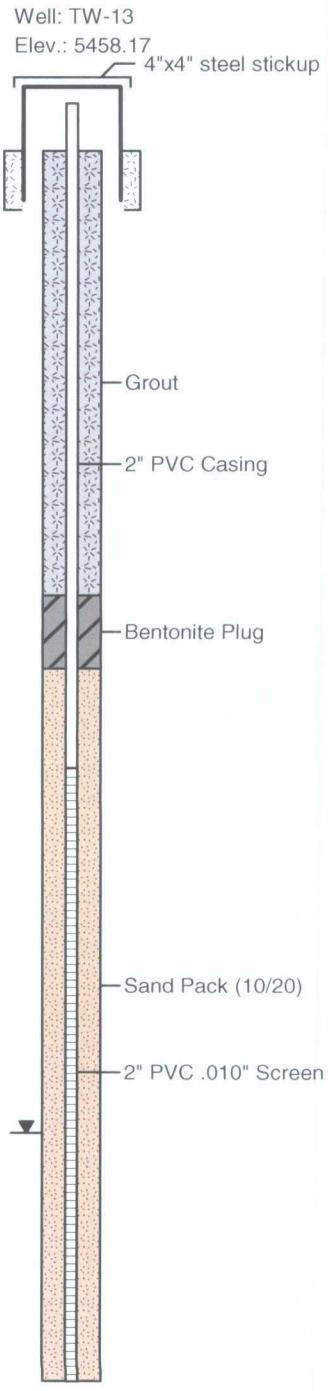
LOG OF: SB-13/TW-13

THRIFTWAY REFINERY
626 CR 5500
BLOOMFIELD, NEW MEXICO

Date Started	: 12/3/08	Northing Coord.	: 2065171.21
Date Completed	: 12/3/08 (as TW-13)	Easting Coord.	: 2672168.657
Hole Diameter	: 7.25 in.	Survey By	: Arrow Engineering
Drilling Method	: H.S.A.; CME-75	Logged By	: B. Watson
Sampling Method	: 5' SPLIT-SPOON		

Depth in Feet	Surf. Elev.	USCS	GRAPHIC	DESCRIPTION	Blow Count	PID (ppm)
0	5456	SP		SAND, brown, med. coarse, silt/clay stringers present, trace gravel, iron oxides visible, loose, dry		0
2	5454					0
4	5452					0
6	5450	SM		SAND, brown, fine grained, with silt common, med. stiff to loose, slightly moist to dry, poorly sorted, silt/clay laminae visible at some points		0
8	5448					0
10	5446					0
12	5444					0
14	5442					0
16	5440	SP		SAND, brown, med. coarse, trace silt, loose, dry		0
18	5438	SP		SAND, gray-brown, med. coarse, slightly moist, strong odor, trace silt, loose		0.5
20	5436			wet at 20'		1900
22	5434	SP		SAND, green-brown, coarse, trace silt and gravel, loose		130
24	5432					3
26		ML		SILT, with sand, green-brown, stiff, wet, trace gravel		1.5



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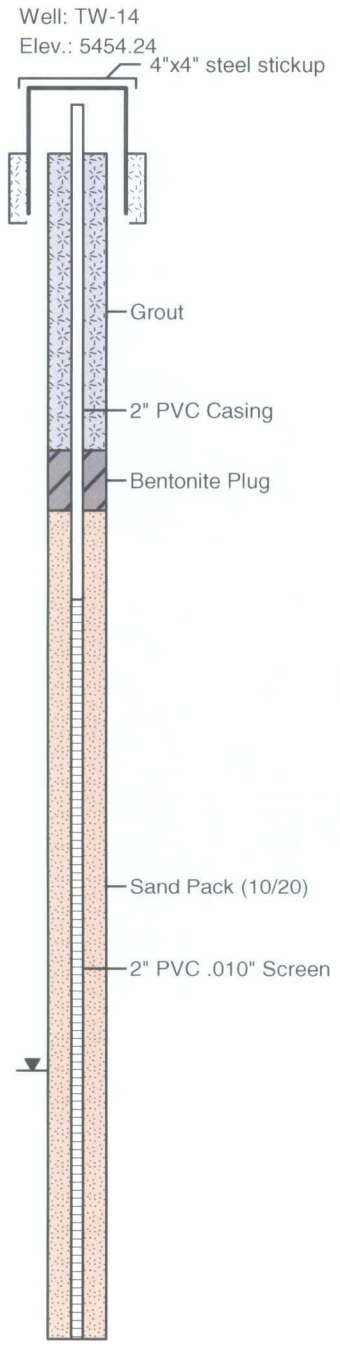
LOG OF: SB-14/TW-14

THRIFTWAY REFINERY
626 CR 5500
BLOOMFIELD, NEW MEXICO

Date Started	: 12/3/08	Northing Coord.	: 2065384.057
Date Completed	: 12/3/08 (as TW-14)	Easting Coord.	: 2672382.591
Hole Diameter	: 7.25 in.	Survey By	: Arrow Engineering
Drilling Method	: H.S.A.; CME-75	Logged By	: B. Watson
Sampling Method	: 5' SPLIT-SPOON		

Depth in Feet	Surf. Elev.	USCS	GRAPHIC	DESCRIPTION	Blow Count	PID (ppm)
0	5452	ML		SILT, brown, with sand, med. stiff to soft, dry, poorly sorted		0
2	5450					0
4	5448	SM		SAND, brown, with silt/clay, dry, loose, fine grained and poorly sorted, strange odor at 4-5'		26.5
6	5446					36
		ML		SILT, brown, med. stiff, dry, odor		45
		SM		SAND, brown, fine grained, silt/clay common, soft, dry		
8	5444	SP		SAND, brown, med. coarse, loose, dry, poorly sorted		52
10	5442	SM		SAND, brown, fine grained, moderately sorted, silt/clay and laminae visible, dry, med. stiff		450
12	5440	SM		SAND, gray to black, silt/clay present, loose, slightly moist to dry, strong odor		633
14	5438					1050
16	5436	SP		SAND, gray, coarse, loose, slightly moist, strong odor, becomes wet at 15.5', grades into brownish color at approx. 18'		1450
18	5434					1600
		ML		SILT, with clay, brown, stiff, moist, trace sand, slight odor, laminated		30
20	5432	SP		SAND, brown, coarse, wet, little to no odor, poorly sorted		
22						



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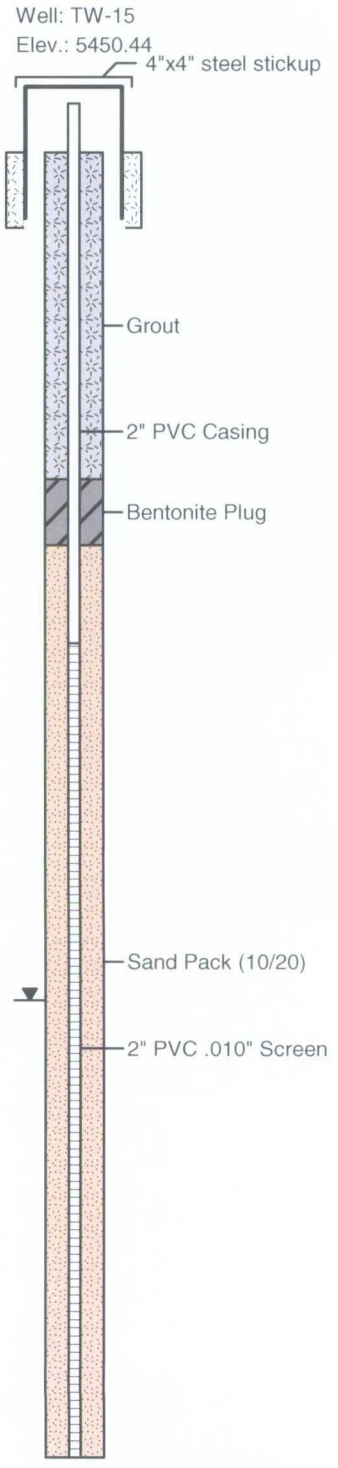
LOG OF: SB-15/TW-15

THRIFTWAY REFINERY
626 CR 5500
BLOOMFIELD, NEW MEXICO

Date Started	: 12/3/08	Northing Coord.	: 2065640.494
Date Completed	: 12/3/08 (as TW-15)	Easting Coord.	: 2672600.56
Hole Diameter	: 7.25 in.	Survey By	: Arrow Engineering
Drilling Method	: H.S.A.; CME-75	Logged By	: B. Watson
Sampling Method	: 5' SPLIT-SPOON		

Depth in Feet	Surf. Elev.	USCS	GRAPHIC	DESCRIPTION	Blow Count	PID (ppm)
0	5448	SM		SAND, brown, with silt, med. stiff to soft, dry, fine grained, moderately sorted		0
2	5446					0
4	5444	SP		SAND, brown, with silt, fine to med. coarse, loose, dry poorly sorted		0
6	5442	ML		SILT, brown, with sande, med. stiff, dry, clay stringers and white calcium? nodules		0
8	5440					0
		SM		SAND, brown, med. coarse, loose, dry		0
10	5438	ML		Silt, as in 5-9', grades into green-brown contaminated zone at approx. 12'		0
12	5436					350
		SP		SAND, green-brown to dark gray, strong odor, coarse with some silt, wet, loose		7
14	5434	SP		SAND, brown, coarse, with gravel (abundant at 18' and below), loose, wet, trace silt		5
16	5432					0
18	5430					0
20						



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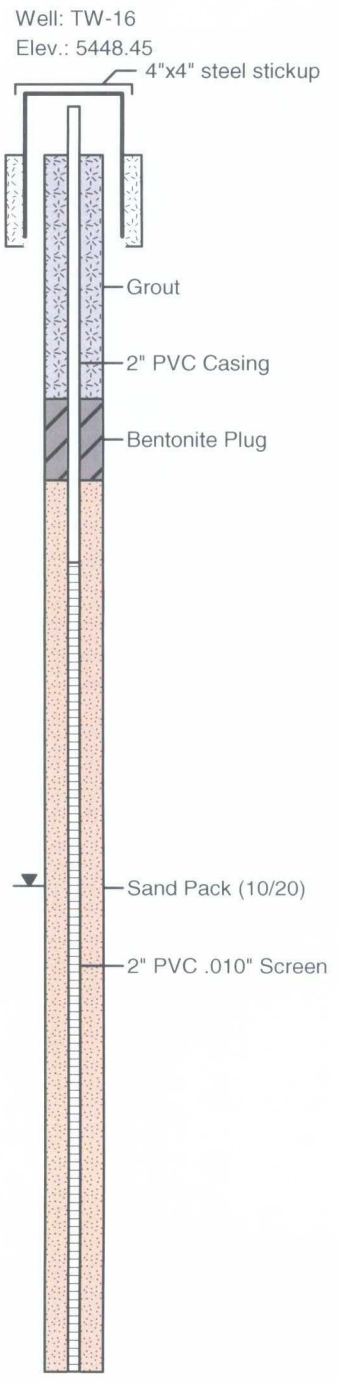
Animas Environmental Services, LLC

LOG OF: SB-16/TW-16

THRIFTWAY REFINERY
626 CR 5500
BLOOMFIELD, NEW MEXICO

Date Started	: 12/3/08	Northing Coord.	: 2065808.184
Date Completed	: 12/3/08 (as TW-16)	Easting Coord.	: 2672807.963
Hole Diameter	: 7.25 in.	Survey By	: Arrow Engineering
Drilling Method	: H.S.A.; CME-75	Logged By	: B. Watson
Sampling Method	: 5' SPLIT-SPOON		

Depth in Feet	Surf. Elev.	USCS	GRAPHIC	DESCRIPTION	Blow Count	PID (ppm)
0	5445	SM		SAND, brown, loose, dry to slightly moist, fine grained, poorly sorted with silt/clay common		0
2	5443	SP		SAND, brown, med. coarse, loose, dry, poorly sorted		0
4	5441					0
				becomes wet at 9'		
				becomes more coarse at 10'		
6	5439					0
8	5437					0
10	5435					0
12	5433					0
14	5431					0
16						



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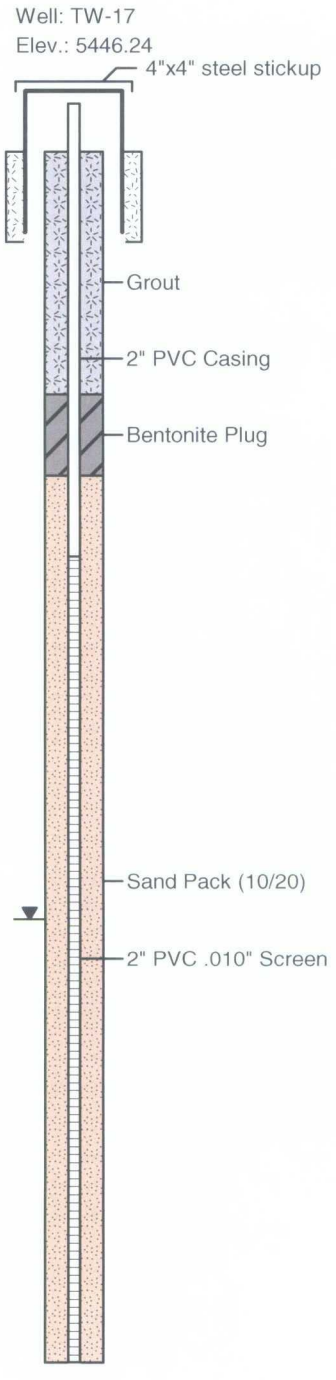
Animas Environmental Services, LLC

LOG OF: SB-17/TW-17

THRIFTWAY REFINERY
626 CR 5500
BLOOMFIELD, NEW MEXICO

Date Started	: 12/3/08	Northing Coord.	: 2065801.901
Date Completed	: 12/3/08 (as TW-17)	Easting Coord.	: 2672584.46
Hole Diameter	: 7.25 in.	Survey By	: Arrow Engineering
Drilling Method	: H.S.A.; CME-75	Logged By	: B. Watson
Sampling Method	: 5' SPLIT-SPOON		

Depth in Feet	Surf. Elev.	USCS	GRAPHIC	DESCRIPTION	Blow Count	PID (ppm)
0	5444	SM		SAND, brown, with silt, loose, dry to slightly moist, fine grained; 2" clay lens at 0.75'		0
2	5442	SP		SAND, brown, med. coarse, with silt/clay, loose, dry but becomes moist by 8'		0
4	5440					0
6	5438					0
8	5436					0
10	5434	SP		SAND, brown, med. coarse, trace silt/clay, gravel present and increases with depth, loose, wet		0
12	5432					0
14	5430					0
16						



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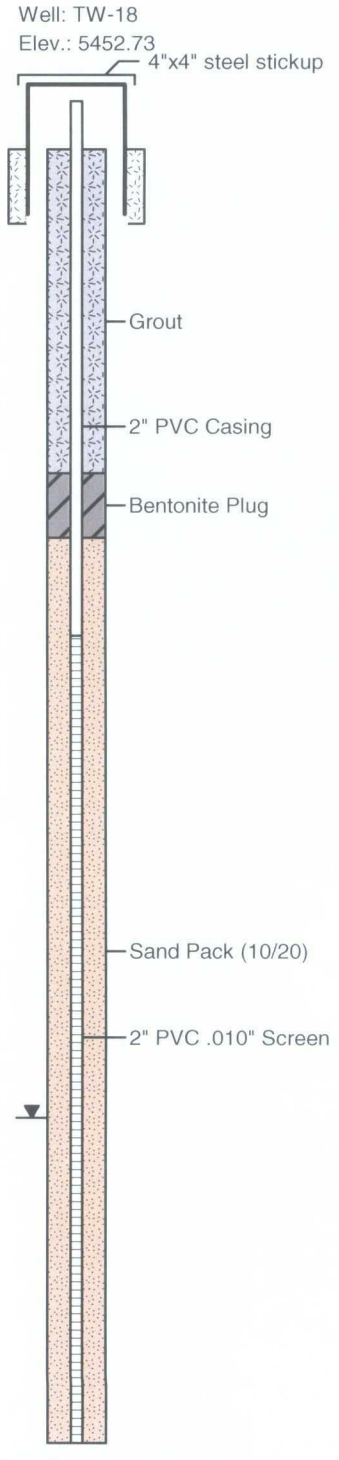
LOG OF: SB-18/TW-18

THRIFTWAY REFINERY
626 CR 5500
BLOOMFIELD, NEW MEXICO

Date Started	: 12/3/08	Northing Coord.	: 2065587.733
Date Completed	: 12/3/08 (as TW-18)	Easting Coord.	: 2672386.951
Hole Diameter	: 7.25 in.	Survey By	: Arrow Engineering
Drilling Method	: H.S.A.; CME-75	Logged By	: B. Watson
Sampling Method	: 5' SPLIT-SPOON		

Depth in Feet	Surf. Elev.	USCS	GRAPHIC	DESCRIPTION	Blow Count	PID (ppm)
0	5450	SM		SAND, dk. brown, with silt, med. stiff, slightly moist, poorly sorted, rooted, clay stringers and oxide stains visible		0
2	5448					0
4	5446					0
6	5444	SP		SAND, brown, med. coarse, loose, dry, rooted to approx. 10', poorly sorted		0
8	5442					0
10	5440					0
12	5438					0
14	5436					0
16	5434	SM		SAND, gray, wet, soft, silt/clay present, strong odor, poorly sorted		1250
18	5432	SP		SAND, green-brown, coarse, wet, loose 0.5-inch clay stringers at 16' and 18'		25
20						2.5



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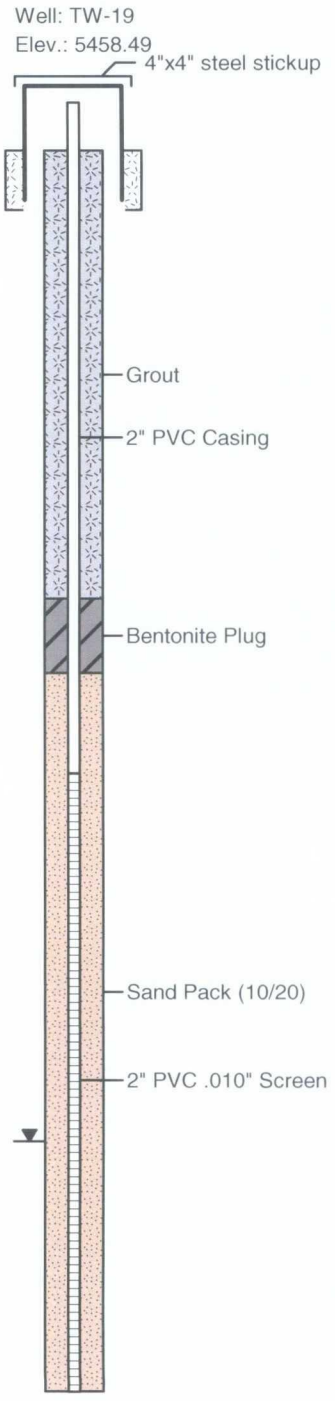
LOG OF: SB-19/TW-19

THRIFTWAY REFINERY
626 CR 5500
BLOOMFIELD, NEW MEXICO

Date Started	: 12/8/08	Northing Coord.	: 2065379.256
Date Completed	: 12/8/08 (as TW-19)	Easting Coord.	: 2672171.849
Hole Diameter	: 7.25 in.	Survey By	: Arrow Engineering
Drilling Method	: H.S.A.; CME-75	Logged By	: B. Watson
Sampling Method	: 5' SPLIT-SPOON		

Depth in Feet	Surf. Elev.	USCS	GRAPHIC	DESCRIPTION	Blow Count	PID (ppm)
0	5456	SM		SAND, brown, with silt/clay, loose, slightly moist to dry, fine grained, purplish stain spots at 4-5'		0
2	5454					0
4	5452	SP		SAND, brown, trace silt/clay, med. coarse, loose, dry, poorly sorted		0
6	5450			2" thick silty layer at 9'		0
8	5448			2" thick silty layer at 10'		0
10	5446					0
12	5444					0
14	5442	ML		SILT, brown, with sand/clay, med. stiff, slightly moist to dry, layers visible		0
16	5440	SP		SAND, brown, fine grained, with silt, loose, dry		0
18	5438	ML		SILT, brown, with sand, trace clay, med. stiff, slightly moist		0
20	5436	ML		SILT, greenish brown to gray/black, trace sand, med. stiff, slightly moist, odor like burnt rubber		1400
22	5434	SP		SAND, green-gray, loose, wet, coarse, trace silt/clay and gravel, strong gas odor		1200
24	5432					375
26						125



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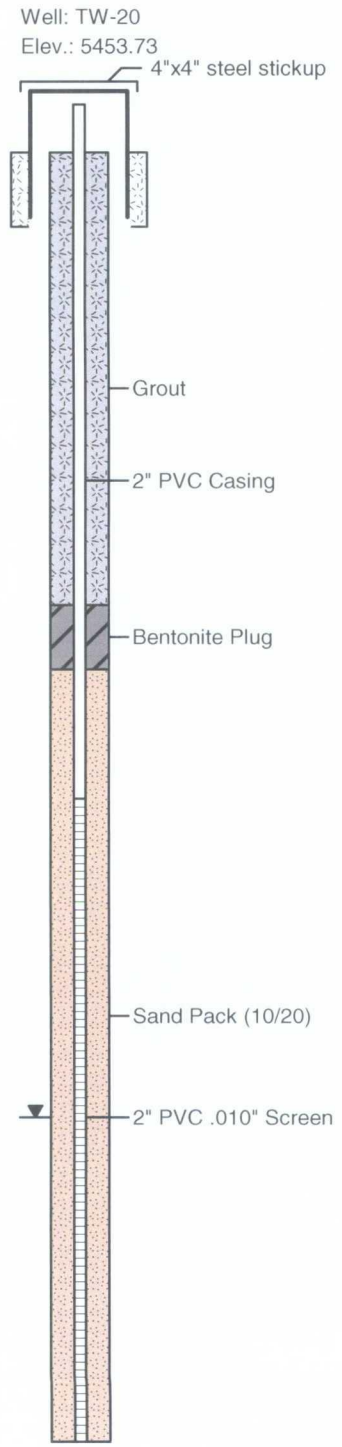
LOG OF: SB-20/TW-20

THRIFTWAY REFINERY
626 CR 5500
BLOOMFIELD, NEW MEXICO

Date Started	: 12/4/08	Northing Coord.	: 2065199.76
Date Completed	: 12/4/08 (as TW-20)	Easting Coord.	: 2671970.837
Hole Diameter	: 7.25 in.	Survey By	: Arrow Engineering
Drilling Method	: H.S.A.; CME-75	Logged By	: B. Watson
Sampling Method	: 5' SPLIT-SPOON		

Depth in Feet	Surf. Elev.	USCS	GRAPHIC	DESCRIPTION	Blow Count	PID (ppm)
0	5450	SP		SAND, brown, med. coarse, poorly sorted, loose, slightly moist at top to dry below, trace gravel (at 0-0.5'), iron oxides and rooting visible		0
2	5448	SP				0
4	5446	SP				0
6	5444	SM		SAND, brown, fine grained, silt/clay common, med. stiff to loose, dry, silt/clay layers visible at some points		0
8	5442	SM				0
10	5440	SM				0
12	5438	SM				190
14	5436	SM		SAND, dk. gray, with silt, fine grained, med. stiff, slightly moist, strong odor		1560
16	5434	SP		SAND, dk. gray, coarse, trace silt/clay, trace gravel, loose, wet		190
18	5432	CL		CLAY, silty, green-brown, stiff, dry		40
20		SP		SAND, brown, coarse, trace silt/clay, loose, wet		18



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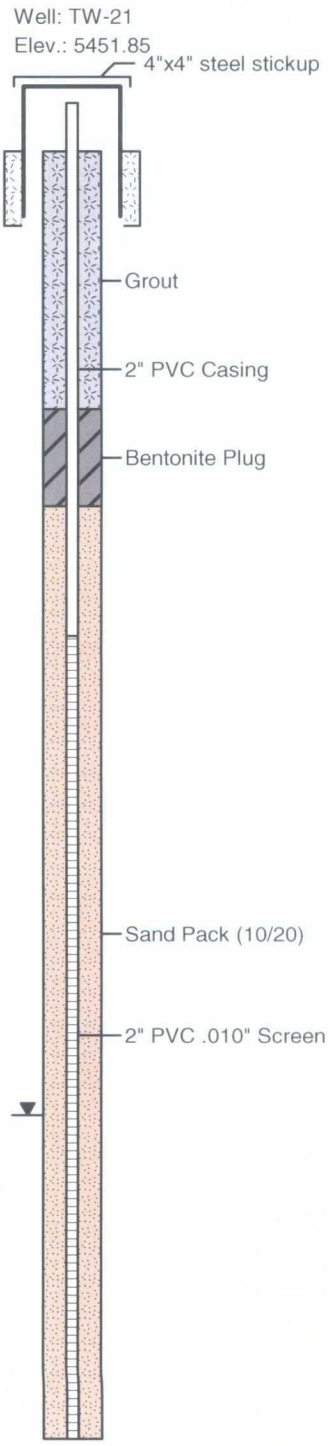
LOG OF: SB-21/TW-21

THRIFTWAY REFINERY
626 CR 5500
BLOOMFIELD, NEW MEXICO

Date Started	: 12/5/08	Northing Coord.	: 2065384.765
Date Completed	: 12/5/08 (as TW-21)	Easting Coord.	: 2671957.331
Hole Diameter	: 7.25 in.	Survey By	: Arrow Engineering
Drilling Method	: H.S.A.; CME-75	Logged By	: B. Watson
Sampling Method	: 5' SPLIT-SPOON		

Depth in Feet	Surf. Elev.	USCS	GRAPHIC	DESCRIPTION	Blow Count	PID (ppm)
0	5449	SP		SAND, brown, med. coarse, poorly sorted, slightly moist, loose, trace silt/clay and gravel		0
2	5447					0
4	5445					0
6	5443					0.6
8	5441	ML		SILT, brown, sandy, with clay, med. stiff, dry, iron oxides and layers visible		0
10	5439					0
12	5437	CL		CLAY, silty, black/gray, plastic		22
14	5435	SP		SAND, gray, with silt/clay, med. coarse to coarse, poorly sorted, loosed, slightly moist (to wet at 15'), strong odor		110
16	5433					1700
18	5431					1750
20						700
						350



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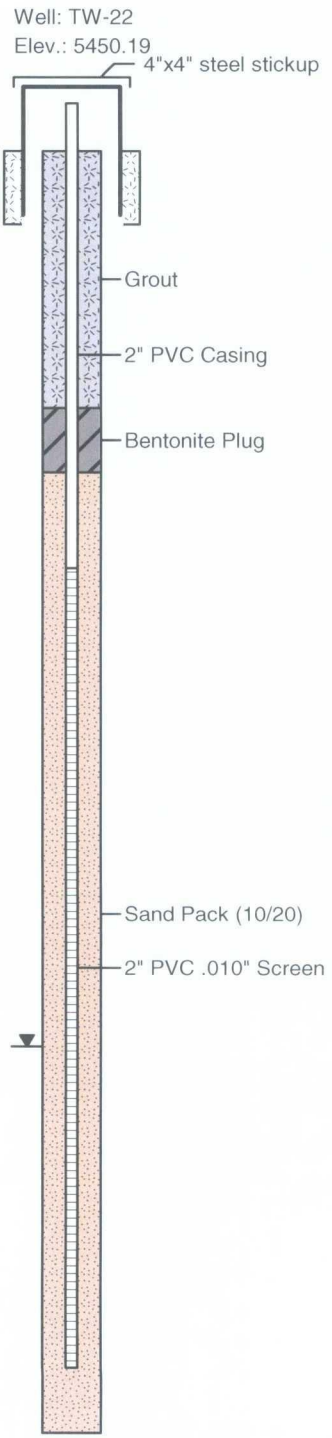
LOG OF: SB-22/TW-22

THRIFTWAY REFINERY
626 CR 5500
BLOOMFIELD, NEW MEXICO

Date Started	: 12/10/08	Northing Coord.	: 2065613.726
Date Completed	: 12/10/08 (as TW-22)	Easting Coord.	: 2672123.867
Hole Diameter	: 7.25 in.	Survey By	: Arrow Engineering
Drilling Method	: H.S.A.; CME-75	Logged By	: B. Watson
Sampling Method	: 5' SPLIT-SPOON		

Depth in Feet	Surf. Elev.	USCS	DESCRIPTION	Blow Count	PID (ppm)
0	5447	ML	SILT, brown, sandy with clay, med. stiff, slightly moist 2-3" thick sand lenses at 1', 1.5', 3.5' and 4.5'		0
2	5445	ML			0
4	5443	ML			0
6	5441	ML	SILT, black, sandy, med. stiff, with clay, slightly moist, sand lens at 8', noted odor		275
8	5439	ML			600
10	5437	SM	SAND, gray, with silt/clay, v. fine grained, strong odor, soft, dry		3500
12	5435	ML	SILT, gray, with sand, med. stiff, slightly moist, some interbedded black layers, strong odor		4100
14	5433	SP	SAND, gray, with silt, fine grained at top to med. coarse at base, loose, dry to wet (at 14'), strong odor, poorly sorted, with trace gravel		1350
16	5431	SP			875
18	5429	SP			50
20		SP	SAND, green-brown, loose, wet, coarse, poorly sorted, no odor		30
					5



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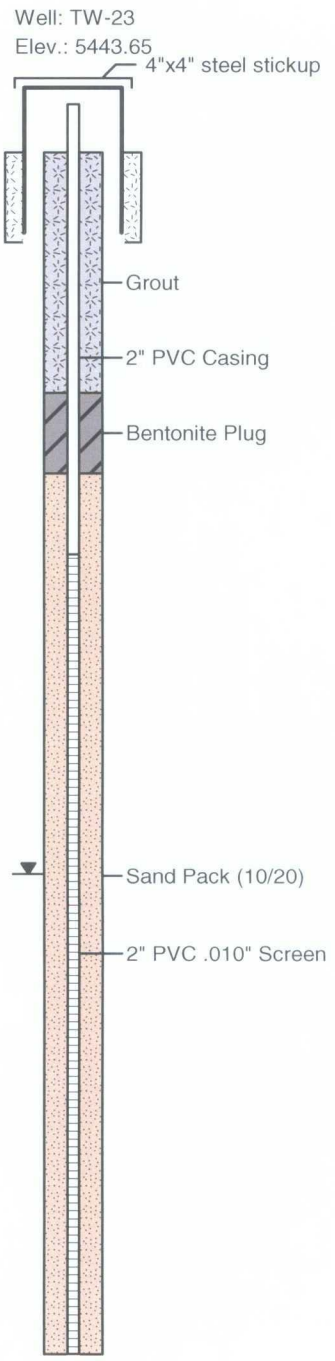
Animas Environmental Services, LLC

LOG OF: SB-23/TW-23

THRIFTWAY REFINERY
626 CR 5500
BLOOMFIELD, NEW MEXICO

Date Started	: 12/3/08	Northing Coord.	: 2065818.728
Date Completed	: 12/3/08 (as TW-23)	Easting Coord.	: 2672379.082
Hole Diameter	: 7.25 in.	Survey By	: Arrow Engineering
Drilling Method	: H.S.A.; CME-75	Logged By	: B. Watson
Sampling Method	: 5' SPLIT-SPOON		

Depth in Feet	Surf. Elev.	USCS	GRAPHIC	DESCRIPTION	Blow Count	PID (ppm)
0	5440	SM		SAND, brown, loose, dry, fine grained, poorly sorted		0
2	5438	SP		SAND, brown, med. coarse, with silt/clay, loose, dry but becomes moist by 7.5'; oxide stains visible at base		0
4	5436					0
6	5434					0
8	5432					0.5
10	5430	SP		SAND, dark gray, coarse, loose, wet, noted odor		90
12	5428	SP		SAND, green-brown, loose, wet, poorly sorted 3" clay lens at 12' 6" gravel-rich layer at 12.5' 3" clay lens at 14'		0
14	5426					0
16						



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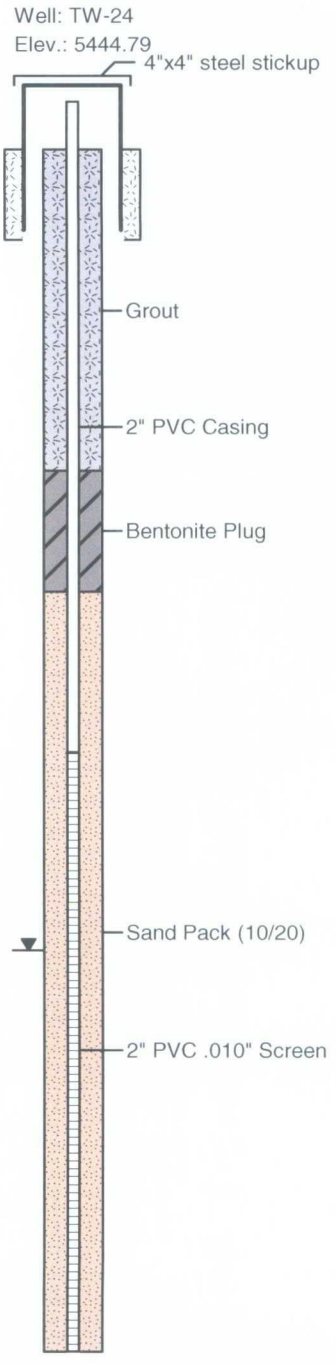
LOG OF: SB-24/TW-24

THRIFTWAY REFINERY
626 CR 5500
BLOOMFIELD, NEW MEXICO

Date Started	: 12/5/08	Northing Coord.	: 2065789.271
Date Completed	: 12/5/08 (as TW-24)	Easting Coord.	: 2672158.284
Hole Diameter	: 7.25 in.	Survey By	: Arrow Engineering
Drilling Method	: H.S.A.; CME-75	Logged By	: B. Watson
Sampling Method	: 5' SPLIT-SPOON		

Depth in Feet	Surf. Elev.	USCS	GRAPHIC	DESCRIPTION	Blow Count	PID (ppm)
0	5442	ML		SILT, red-brown, with sand/clay, med. stiff, slightly moist to dry		3.2
2	5440					24
4	5438	ML		SILT, gray, med. stiff, dry to slightly moist, strong odor		1900
6	5436	SP		SAND, black to dark gray, slightly moist, loose, trace silt/clay, strong odor (like burned rubber and gas)		200
8	5434					700
10	5432					1100
12	5430	CL		CLAY, green-gray, plastic, moist to wet, med. stiff, slight odor		11
14	5428	SP		SAND, green-gray, loose, wet, poorly sorted, silt/clay and gravel, no odor		5
16						2



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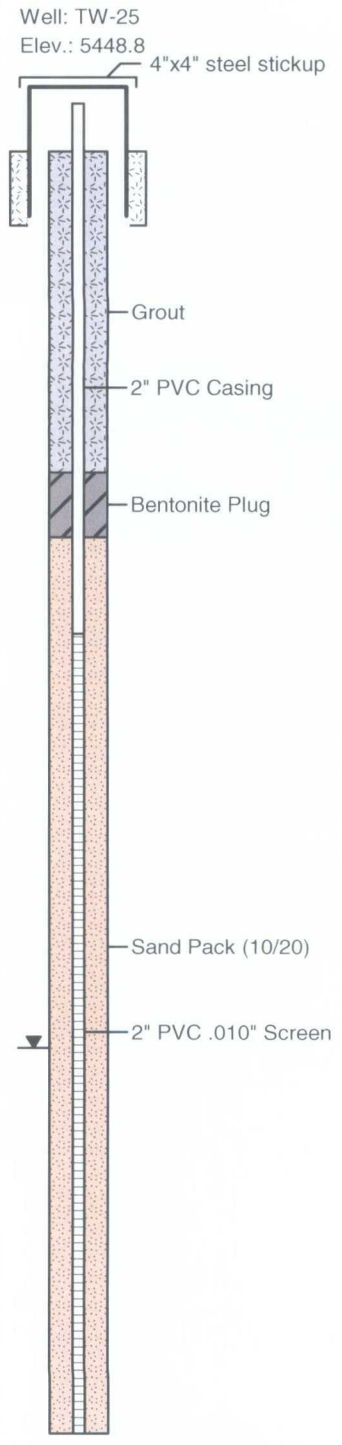
Animas Environmental Services, LLC

LOG OF: SB-25/TW-25

THRIFTWAY REFINERY
626 CR 5500
BLOOMFIELD, NEW MEXICO

Date Started	: 12/9/08	Northing Coord.	: 2065594.849
Date Completed	: 12/9/08 (as TW-25)	Easting Coord.	: 2671945.95
Hole Diameter	: 7.25 in.	Survey By	: Arrow Engineering
Drilling Method	: H.S.A.; CME-75	Logged By	: B. Watson
Sampling Method	: 5' SPLIT-SPOON		

Depth in Feet	Surf. Elev.	USCS	GRAPHIC	DESCRIPTION	Blow Count	PID (ppm)
0	5446	ML		SILT, brown, with sand and clay, med. stiff, dry, trace gravel, some black spots		0
2		SM		SAND, brown, fine-grained, with silt and clay, loose, dry		
	5444	ML		SA 0-1.5', slight odor		70
4		SM		SA 1.5-2', strong odor		135
	5442	ML		SA 2-4', strong odor		180
6	5440					
8	5438	ML		SILT, green-gray, dry, med. stiff, trace sand, strong odor		375
10		SP		SAND, gray-black, med. coarse, trace silt/clay and gravel, loose, dry, strong burnt rubber odor		1650
	5436					1225
12	5434			3-4" silt layer at 14', then becomes wet		1575
14	5432					1750
16		SP		SAND, green-brown, trace silt/clay and gravel, loose, wet, slight odor and becomes much cleaner by 20'		250
	5430					
18	5428					200
20						30



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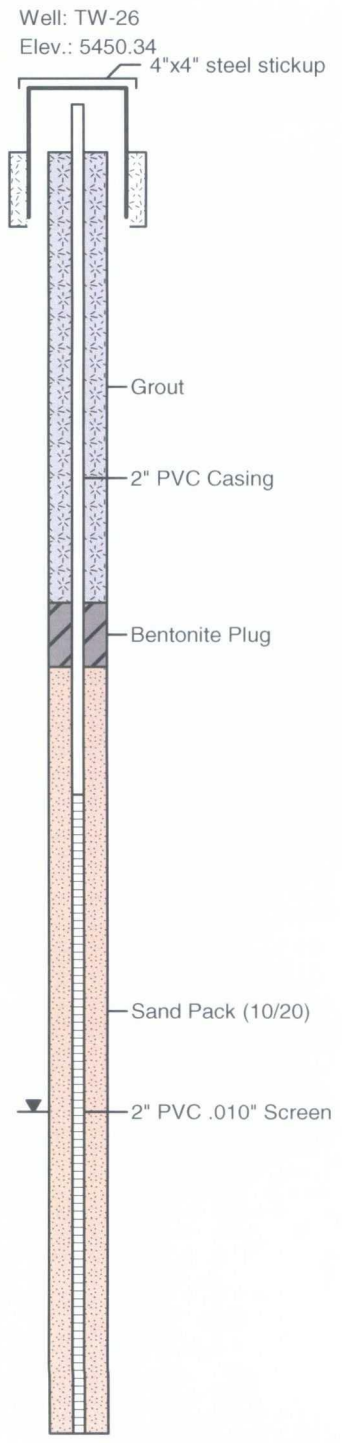
Animas Environmental Services, LLC

LOG OF: SB-26/TW-26

THRIFTWAY REFINERY
626 CR 5500
BLOOMFIELD, NEW MEXICO

Date Started	: 12/4/08	Northing Coord.	: 2065375.9
Date Completed	: 12/4/08 (as TW-26)	Easting Coord.	: 2671723.832
Hole Diameter	: 7.25 in.	Survey By	: Arrow Engineering
Drilling Method	: H.S.A.; CME-75	Logged By	: B. Watson
Sampling Method	: 5' SPLIT-SPOON		

Depth in Feet	Surf. Elev.	USCS	GRAPHIC	DESCRIPTION	Blow Count	PID (ppm)
0	5447	SM		SAND, brown, with silt/clay, med. stiff, slightly moist, fine grained and poorly sorted, some cobbles present		0
2	5445					0
4	5443	SP		SAND, brown, med. coarse poorly sorted, loose, dry		0
6	5441	ML		SILT, brown, with sand and clay, med. stiff dry, rooted with layers visible		0
8	5439					0
10	5437					0
12	5435	SP		SAND, brown, med. coarse, loose, dry to slightly moist		10
14	5433	CL		SILT, gray, med. stiff, slightly moist, mild petroleum odor		190
16	5431	SP		SAND, gray, soft/loose, moist to wet, med. coarse to coarse (at depth), septic-like odor		320
18	5429					90
20						0.5



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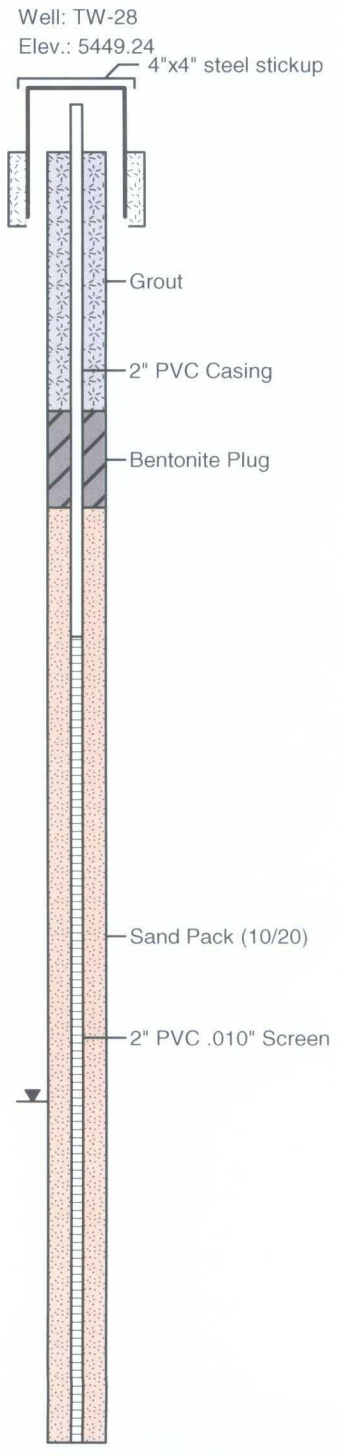
Animas Environmental Services, LLC

LOG OF: SB-28/TW-28

THRIFTWAY REFINERY
626 CR 5500
BLOOMFIELD, NEW MEXICO

Date Started	: 12/8/08	Northing Coord.	: 2065567.22
Date Completed	: 12/8/08 (as TW-28)	Easting Coord.	: 2671716.356
Hole Diameter	: 7.25 in.	Survey By	: Arrow Engineering
Drilling Method	: H.S.A.; CME-75	Logged By	: B. Watson
Sampling Method	: 5' SPLIT-SPOON		

Depth in Feet	Surf. Elev.	USCS	DESCRIPTION	Blow Count	PID (ppm)
0	5446	SM	SILT (fill), brown, with clay/sand/gravel, hard/compacted, dry		0
2	5444				0
4	5442	SP	SAND, brown, med. coarse, loose, dry		0
		ML	SILT, brown, trace sand, med. stiff, dry, organics present		
		SM	SAND, green-brown, fine grained, with silt, soft, slightly moist		20
6	5440	ML	SILT, green-brown, trace sand/clay, med. stiff, slight burnt rubber odor		30
8	5438				
		SM	SAND, green-brown to gray, loose, med. coarse, trace silt/clay (lens at 14.75'), wet at 14.75', poorly sorted		10
10	5436				1200
12	5434				1300
14	5432				1100
16	5430				350
					200
18	5428				
		SP	SAND, green-brown, trace silt, gravel common, silt lens at 19.75', loose, wet		20
20					



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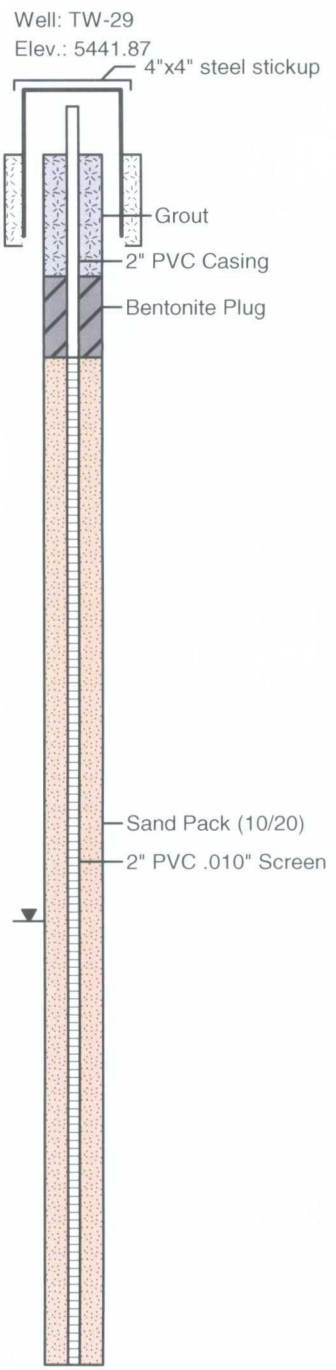
Animas Environmental Services, LLC

LOG OF: SB-29/TW-29

THRIFTWAY REFINERY
626 CR 5500
BLOOMFIELD, NEW MEXICO

Date Started	: 12/9/08	Northing Coord.	: 2065866.781
Date Completed	: 12/9/08 (as TW-29)	Easting Coord.	: 2671962.973
Hole Diameter	: 7.25 in.	Survey By	: Arrow Engineering
Drilling Method	: H.S.A.; CME-75	Logged By	: B. Watson
Sampling Method	: 5' SPLIT-SPOON		

Depth in Feet	Surf. Elev.	USCS	DESCRIPTION	Blow Count	PID (ppm)
0	5439	SM	SAND, brown, fine grained, with silt/clay, loose, dry to slightly moist		0
		CL	CLAY, brown, silty, rooted, with white nodules, hard, dry		
2	5437	SP	SAND, brown, with silt/clay, trace gravel, loose, dry, med. coarse, poorly sorted		0
4	5435				0
6	5433	SM	SAND, brown, fine-grained, silty, loose, dry		30
8	5431	SP	SAND, green-brown to gray, med. coarse, trace silt/clay and gravel, strong odor, loose, dry to wet (at 9.5')		1800
10	5429				1575
12	5427	SP	SAND, brown (greenish), with gravel common, slight odor, loose, wet		2.5
14	5425				0.8
16					14.5



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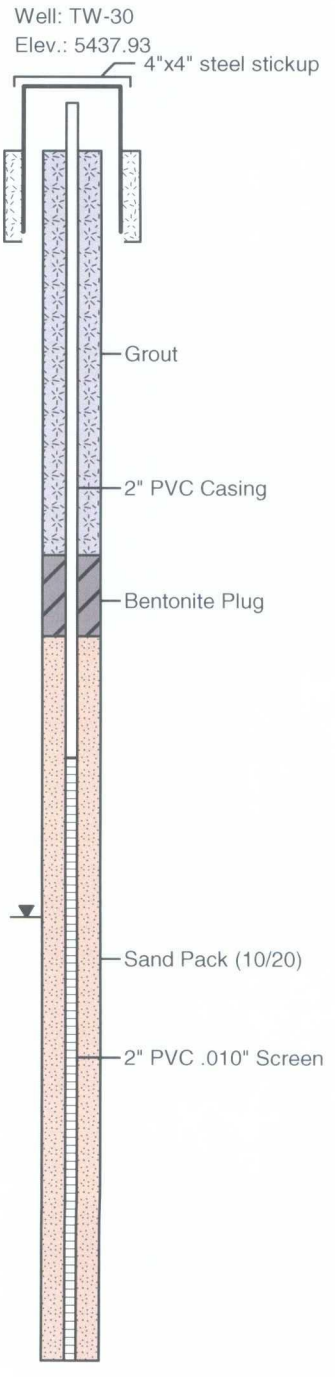
Animas Environmental Services, LLC

LOG OF: SB-30/TW-30

THRIFTWAY REFINERY
626 CR 5500
BLOOMFIELD, NEW MEXICO

Date Started	: 12/9/08	Northing Coord.	: 2066014.416
Date Completed	: 12/9/08 (as TW-30)	Easting Coord.	: 2672045.013
Hole Diameter	: 7.25 in.	Survey By	: Arrow Engineering
Drilling Method	: H.S.A.; CME-75	Logged By	: B. Watson
Sampling Method	: 5' SPLIT-SPOON		

Depth in Feet	Surf. Elev.	USCS	GRAPHIC	DESCRIPTION	Blow Count	PID (ppm)
0	5435	CL		CLAY, brown, with silt, sand common, stiff, trace gravel, dry to slightly moist		0
2	5433					0
4	5431	ML		SILT, green-gray, with clay, med. stiff to soft, slightly moist		0
6	5429					0.6
8	5427					0
10	5425	SP		SAND, green-gray to black (at top), wet, trace silt/clay, with gravel, loose, noted oder, med. coarse		62
12	5423	SP		SAND, green-brown, coarse, with gravel, trace silt/clay, wet, loose		0
14	5421	CL		CLAY, green-brown, with gravel, trace sand, hard, dry		0
16						0



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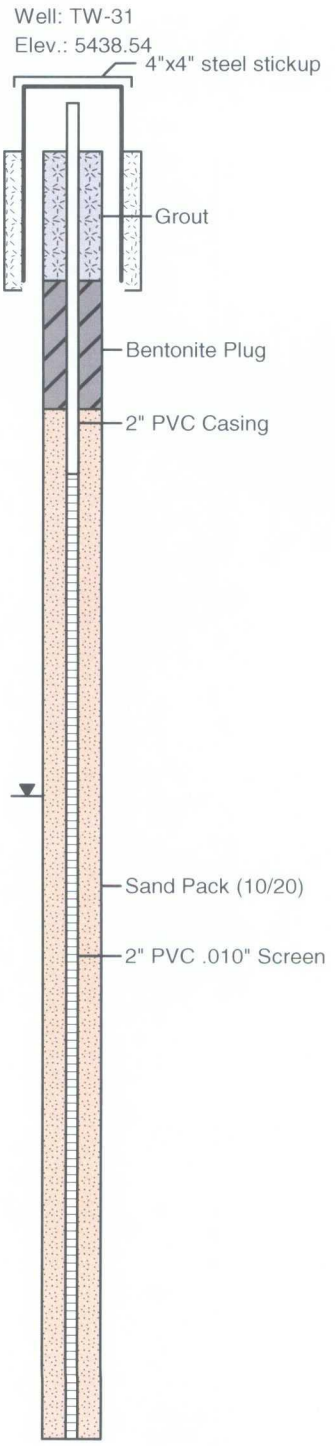
LOG OF: SB-31/TW-31

THRIFTWAY REFINERY
626 CR 5500
BLOOMFIELD, NEW MEXICO

Date Started	: 12/9/08	Northing Coord.	: 2066022.316
Date Completed	: 12/9/08 (as TW-31)	Easting Coord.	: 2671954.305
Hole Diameter	: 7.25 in.	Survey By	: Arrow Engineering
Drilling Method	: H.S.A.; CME-75	Logged By	: B. Watson
Sampling Method	: 5' SPLIT-SPOON		

Depth in Feet	Surf. Elev.	USCS	GRAPHIC	DESCRIPTION	Blow Count	PID (ppm)
0	5436	SM		Sand (FILL), brown, with fine silty sand, roots and debris visible, loose to med. stiff (at base), dry		0
2	5434					0
4	5432	SP		SAND, brown, med. coarse, trace silt/clay, slightly moist, loose to med. stiff		0
6	5430	SP		SAND, green-brown, loose, wet, soft, poorly sorted		0
8	5428					0
10						0



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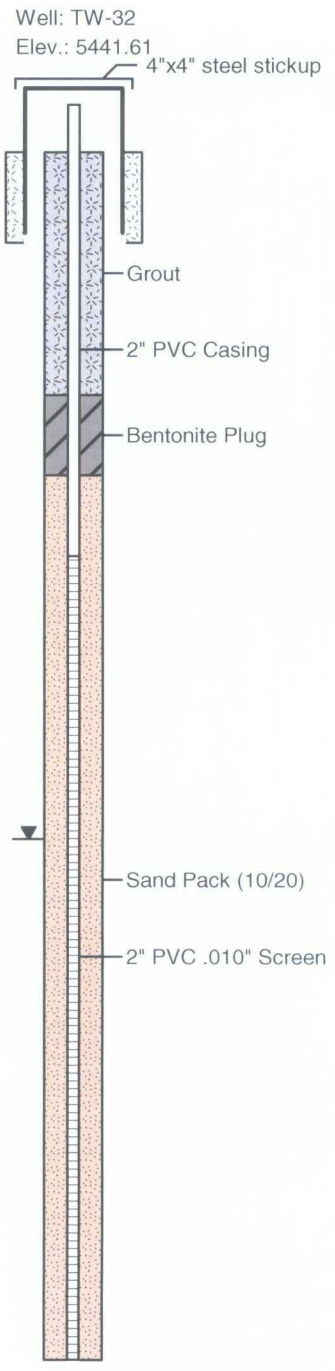
LOG OF: SB-32/TW-32

THRIFTWAY REFINERY
626 CR 5500
BLOOMFIELD, NEW MEXICO

Date Started	: 12/9/08	Northing Coord.	: 2065815.138
Date Completed	: 12/9/08 (as TW-32)	Easting Coord.	: 2671753.524
Hole Diameter	: 7.25 in.	Survey By	: Arrow Engineering
Drilling Method	: H.S.A.; CME-75	Logged By	: B. Watson
Sampling Method	: 5' SPLIT-SPOON		

Depth in Feet	Surf. Elev.	USCS	GRAPHIC	DESCRIPTION	Blow Count	PID (ppm)
0	5438	SP		SAND, brown, with silt/clay, soft, slightly moist, fine grained		0
2	5436	ML		SILT, brown, with sand and clay, med. stiff to stiff (more clayey at base), dry to slightly moist		4
4	5434	SM		SAND, green-gray, with silt/clay, soft/loose, strong odor silt/clay lens at 4.5'		400
6	5432	ML		SILT, gray, with clay, trace sand, stiff, slightly moist, strong odor		375
8	5430	SP		SAND, gray, med. coarse, strong odor, trace silt, loose, slightly moist to wet (at 8.5') silt lens at 9'		850
10	5428					725
12	5426					42
14	5424	SP		SAND, green-brown, trace silt/clay, loose, wet, gravel common, slight odor		40
16						10



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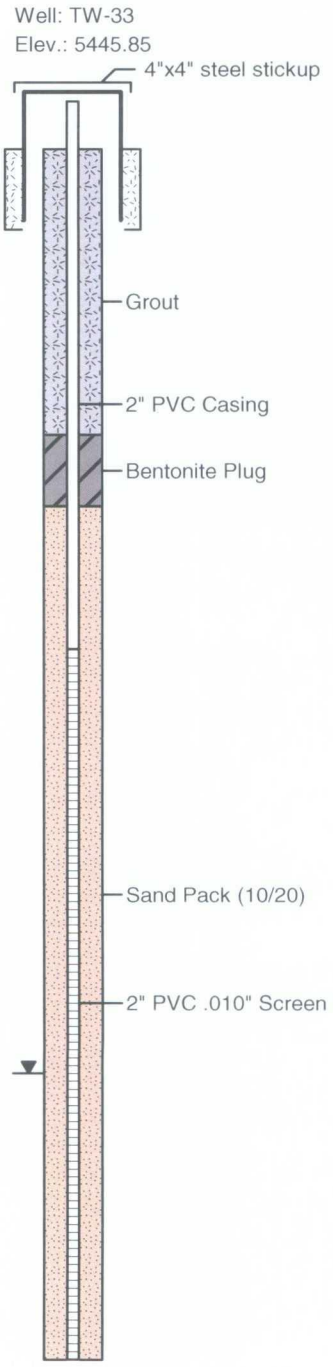
Animas Environmental Services, LLC

LOG OF: SB-33/TW-33

THRIFTWAY REFINERY
626 CR 5500
BLOOMFIELD, NEW MEXICO

Date Started	: 12/4/08	Northing Coord.	: 2065587.123
Date Completed	: 12/4/08 (as TW-33)	Easting Coord.	: 2671539.407
Hole Diameter	: 7.25 in.	Survey By	: Arrow Engineering
Drilling Method	: H.S.A.; CME-75	Logged By	: B. Watson
Sampling Method	: 5' SPLIT-SPOON		

Depth in Feet	Surf. Elev.	USCS	GRAPHIC	DESCRIPTION	Blow Count	PID (ppm)
0	5443	SP		SAND, brown, med. coarse, poorly sorted, with cobbes, moist at 0-1', then loose, dry		0
2	5441					0
4	5439	ML		SILT, brown, med. stiff, with clay and sand, dry		0
6	5437	SP		SAND, black to gray, with silt/clay, med. coarse to coarse, dry to slightly moist, poorly sorted, loose		32
				strong odor at 6-14'		120
8	5435			becomes wet by 13'		75
10	5433					880
12	5431					400
14	5429	ML		SILT, gray, with sand/clay, moist, med. stiff, odor, fine grained with layers visible		270
16	5427	SP		SAND, gray, med. coarse to coarse, wet, loose, poorly sorted, strong odor and sheen on water		120
18		SP		SAND, brown, coarse, loose, wet, no odor		5.6



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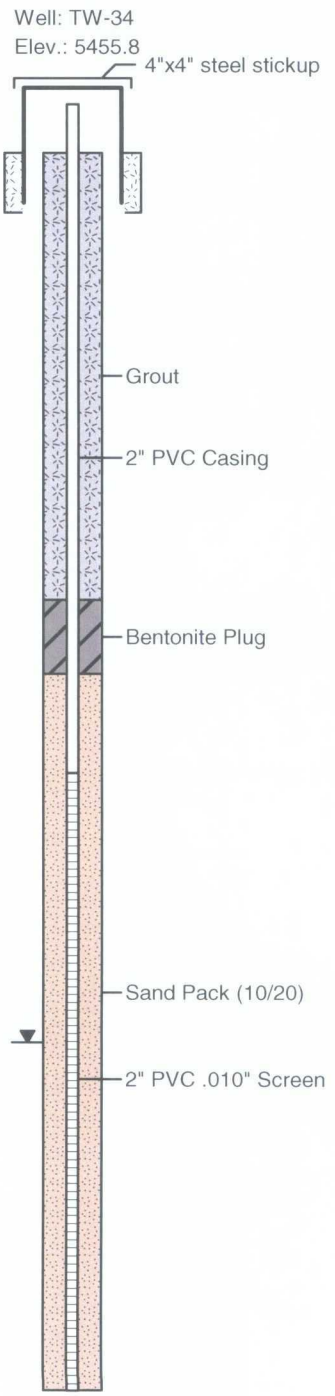
Animas Environmental Services, LLC

LOG OF: SB-34/TW-34

THRIFTWAY REFINERY
626 CR 5500
BLOOMFIELD, NEW MEXICO

Date Started	: 12/10/08	Northing Coord.	: 2065116.075
Date Completed	: 12/10/08 (as TW-34)	Easting Coord.	: 2671903.258
Hole Diameter	: 7.25 in.	Survey By	: Arrow Engineering
Drilling Method	: H.S.A.; CME-75	Logged By	: B. Watson
Sampling Method	: 5' SPLIT-SPOON		

Depth in Feet	Surf. Elev.	USCS	GRAPHIC	DESCRIPTION	Blow Count	PID (ppm)
0	5453	SM		SAND, brown, with silt, fine grained, loose to slightly stiff, dry'		0
2	5451					0
4		SP		SAND, brown, coarse, trace silt/clay, med. coarse, loose, dry		0
6	5449	ML		SILT, brown, with clay, layered, stiff, dry		0
8	5447					0
10	5445	SP		SAND, brown, med. coarse, soft, slightly moist, trace silt/clay		0
12	5443	ML		SA 4.5-9'		0
14	5441			sandy lens (coarse) at 13.5-14'		0
16	5439			becomes moist at 16-18'		0
18	5437					0
20	5435	SP		SAND, brown, coarse, with silt/clay, loose, wet		0
22	5433	ML		SA 10-18', green-brown, dry		0
24	5431	SP		SA 18-20', green-brown		0
26	5429					0



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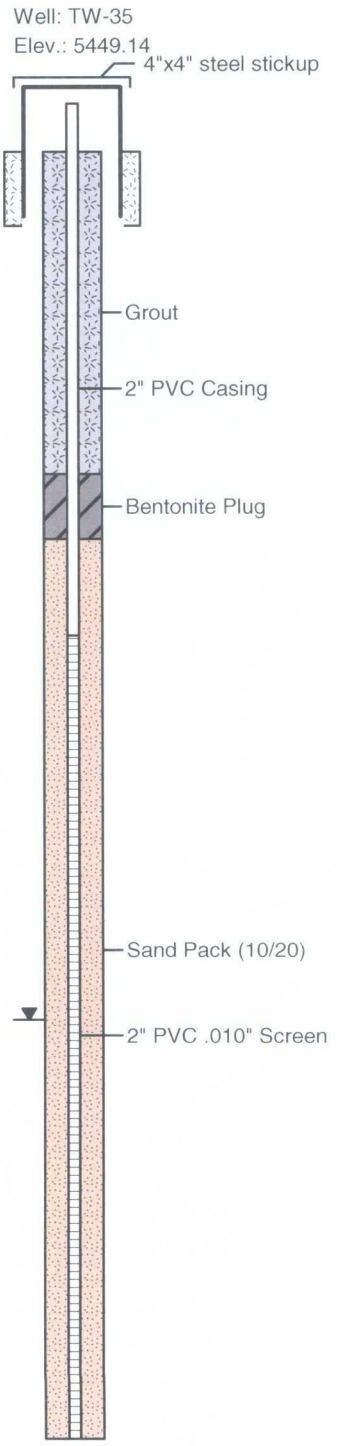
LOG OF: SB-35/TW-35

THRIFTWAY REFINERY
626 CR 5500
BLOOMFIELD, NEW MEXICO

Date Started	: 12/10/08	Northing Coord.	: 2065335.426
Date Completed	: 12/10/08 (as TW-35)	Easting Coord.	: 2671575.925
Hole Diameter	: 7.25 in.	Survey By	: Arrow Engineering
Drilling Method	: H.S.A.; CME-75	Logged By	: B. Watson
Sampling Method	: 5' SPLIT-SPOON		

Depth in Feet	Surf. Elev.	USCS	GRAPHIC	DESCRIPTION	Blow Count	PID (ppm)
0	5446	SM		SAND, brown, fine grained, loose to soft, dry silt lens at 0.5' and 1.5' white nodules visible at 4'		0
2	5444					0
4	5442					0
6	5440	SP		SAND, brown, med. coarse, trace silt/clay, loose, dry		0
8	5438	CL		CLAY, brown, silty, hard, dry, roots visible, white nodules visible		0
10	5436	SP		SAND, brown, med. coarse, dry, loose, slight odor at base where moisture increases and material is more coarse		0
12	5434					45
14	5432	SM		SAND, gray, silt/clay lens at top, soft, wet, slight odor		25
16	5430	SP		SAND, brown, loose, wet, trace silt/clay, med. coarse to coarse		0
18	5428					0
20						0



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LOG OF: SB-36A

THRIFTWAY REFINERY
626 CR 5500
BLOOMFIELD, NEW MEXICO

Date Started	: 12/10/08	Northing Coord.	:
Date Completed	: 12/10/08	Easting Coord.	:
Hole Diameter	: 7.25 in.	Survey By	: Arrow Engineering
Drilling Method	: H.S.A.; CME-75	Logged By	: B. Watson
Sampling Method	: 5' SPLIT-SPOON		

Depth in Feet	Surf. Elev.	USCS	GRAPHIC	DESCRIPTION	Blow Count	PID (ppm)
0	6336	SM		SAND, brown, fine grained, loose, dry, silt/clay common		0
2	6334	ML		SILT, gray-brown, with clay, trace sand, med. stiff, dry		0
4	6332					0
6	6330	SP		SAND, brown, med. coarse, loose, dry, poorly sorted		0
8	6328	CL		CLAY, gray-brown, with silt, trace sand, hard, dry, white nodules visible		0
10	6326					230
12	6324	SP		SAND, brown, med. coarse, loose, dry, strong odor		275
		ML		SILT, gray, trace clay and sand, med. stiff, slightly moist, strong odor		
14	6322	SP		SAND, gray, coarse, loose, wet, trace silt/clay, strong odor		200
16						

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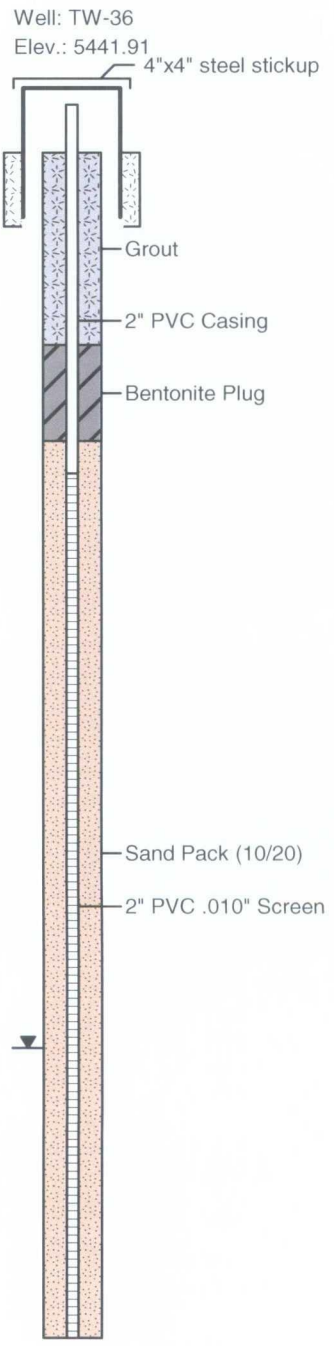
LOG OF: SB-36B/TW-36

THRIFTWAY REFINERY
626 CR 5500
BLOOMFIELD, NEW MEXICO

Date Started	: 12/10/08	Northing Coord.	: 2065518.746
Date Completed	: 12/10/08 (as TW-36)	Easting Coord.	: 2671198.848
Hole Diameter	: 7.25 in.	Survey By	: Arrow Engineering
Drilling Method	: H.S.A.; CME-75	Logged By	: B. Watson
Sampling Method	: 5' SPLIT-SPOON		

Depth in Feet	Surf. Elev.	USCS	GRAPHIC	DESCRIPTION	Blow Count	PID (ppm)
0	5439	ML		SILT, brown, with sand, dry, med. stiff		0
2	5437					0
4	5435	SP		SAND, brown, med. coarse, trace silt/clay, loose, dry		0
6	5433	CL		CLAY, brown, with silt, trace sand, hard, dry, white nodules visible		0
8	5431					0
		SM		SAND, brown, fine grained, loose, silt/clay, slight odor		350
10		SM		SAND, gray, fine grained, loose, soft, slightly mosit, strong odor		350
	5429	SP		SAND, gray, coarse, loose, slightly moist to wet (at 14'), strong odor		
12	5427					400
14						175
	5425	SP		SAND, brown, loose, wet, coarse, no odor		7
16						4
	5423	CH		CLAY (shale), gray and dark gray, with silt, hard, dry, no odor		2
18	5421					
20						



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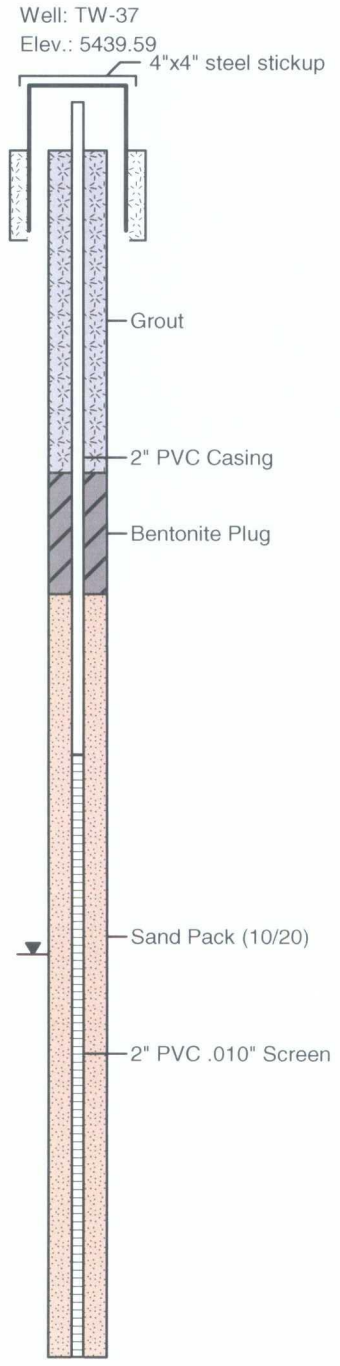
LOG OF: SB-37/TW-37

THRIFTWAY REFINERY
626 CR 5500
BLOOMFIELD, NEW MEXICO

Date Started	: 12/5/08	Northing Coord.	: 2065810.908
Date Completed	: 12/5/08 (as TW-37)	Easting Coord.	: 2671313.666
Hole Diameter	: 7.25 in.	Survey By	: Arrow Engineering
Drilling Method	: H.S.A.; CME-75	Logged By	: B. Watson
Sampling Method	: 5' SPLIT-SPOON		

Depth in Feet	Surf. Elev.	USCS	GRAPHIC	DESCRIPTION	Blow Count	PID (ppm)
0	5437	SP		SAND, brown, med. coarse, poorly sorted, loose, dry, with silt/clay		0
2	5435					0
		SM		SAND, brown, med. stiff to soft, fine grained, silty, dry		
4	5433	SP		SA 0-3'		0
6	5431					0
		SP		SAND, brown, coarse, poorly sorted, loose, dry		0
8	5429					0.6
10	5427	SP		SAND, green-gray, med. coarse, poorly sorted, loose, wet, some odor		20.5
12	5425					16
		SP		SAND, green-brown, loose, wet, poorly sorted, no odor		7.5
14	5423					
16						



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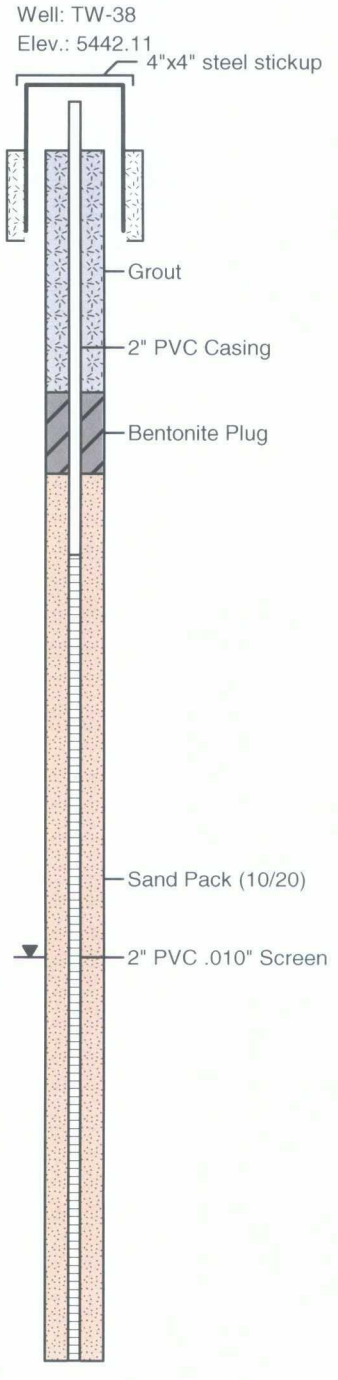
LOG OF: SB-38/TW-38

THRIFTWAY REFINERY
626 CR 5500
BLOOMFIELD, NEW MEXICO

Date Started	: 12/8/08	Northing Coord.	: 2065798.12
Date Completed	: 12/8/08 (as TW-38)	Easting Coord.	: 2671524.436
Hole Diameter	: 7.25 in.	Survey By	: Arrow Engineering
Drilling Method	: H.S.A.; CME-75	Logged By	: B. Watson
Sampling Method	: 5' SPLIT-SPOON		

Depth in Feet	Surf. Elev.	USCS	GRAPHIC	DESCRIPTION	Blow Count	PID (ppm)
0	5439	SP		SAND, brown, med. coarse, poorly sorted, loose, moist, rooted		0
		ML		SILT, brown, with fine sand, med. stiff, trace clay and gravel, dry, rooted		
2	5437	SP		SAND, brown, med. coarse, trace silt/clay, loose, dry		0
4	5435					0
		ML		SILT, brown, with sand, med. stiff, dry		6.5
6	5433	ML		SILT, green-gray, trace sand, med. stiff, slightly moist, slight odor		
		SM		SAND, green-gray, med. coarse, poorly sorted, loose, slightly moist to wet (at 10'), strong odor		1600
8	5431					1250
10	5429					15
12	5427					7
14	5425	SP		SAND, green-brown to brown, gravel common, poorly sorted, loose, wet, no odor		0
16						



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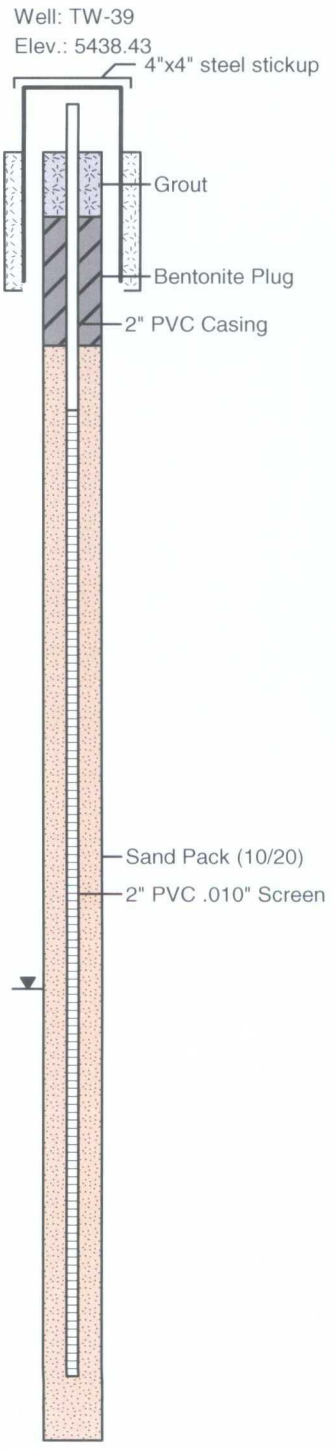
LOG OF: SB-39/TW-39

THRIFTWAY REFINERY
626 CR 5500
BLOOMFIELD, NEW MEXICO

Date Started	: 12/9/08	Northing Coord.	: 2066042.852
Date Completed	: 12/9/08 (as TW-39)	Easting Coord.	: 2671744.2
Hole Diameter	: 7.25 in.	Survey By	: Arrow Engineering
Drilling Method	: H.S.A.; CME-75	Logged By	: B. Watson
Sampling Method	: 5' SPLIT-SPOON		

Depth in Feet	Surf. Elev.	USCS	GRAPHIC	DESCRIPTION	Blow Count	PID (ppm)
0	5436	SM		SAND, brown, with silt, fine grained, soft, slightly moist large cobbles at 1'		0
2	5434	SP		SAND, brown, med. coarse, poorly sorted, loose, dry to slightly moist, silt/clay lens at 4.5'		2
4	5432					0
6	5430	SP		SAND, gray, with gravel, trace silt/clay, loose, wet at 6.5', strong odor		0
8	5428					200
10						125



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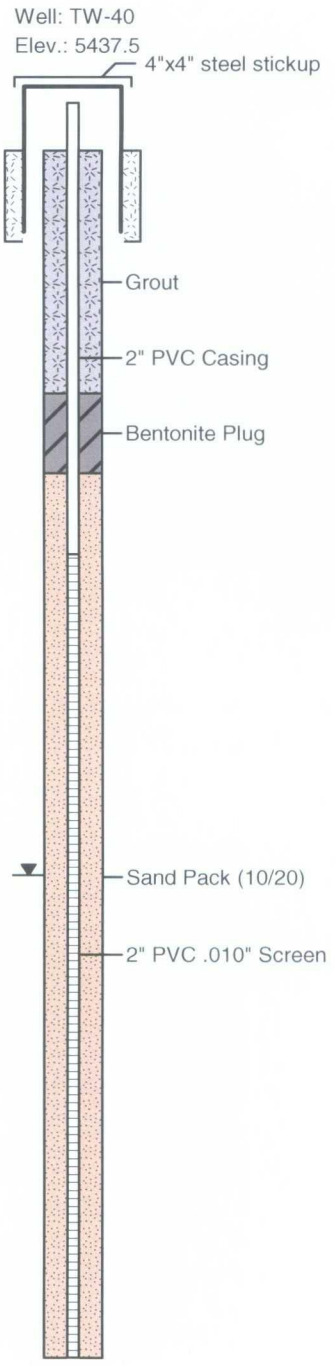
Animas Environmental Services, LLC

LOG OF: SB-40/TW-40

THRIFTWAY REFINERY
626 CR 5500
BLOOMFIELD, NEW MEXICO

Date Started	: 12/8/08	Northing Coord.	: 2066027.888
Date Completed	: 12/8/08 (as TW-40)	Easting Coord.	: 2671535.718
Hole Diameter	: 7.25 in.	Survey By	: Arrow Engineering
Drilling Method	: H.S.A.; CME-75	Logged By	: B. Watson
Sampling Method	: 5' SPLIT-SPOON		

Depth in Feet	Surf. Elev.	USCS	GRAPHIC	DESCRIPTION	Blow Count	PID (ppm)
0	5434	SP		SAND (fill), brown, with silt, trace clay and gravel, soft, fine grained, poorly sorted, slightly moist		0
2	5432	SP		SAND, brown, loose, dry to slightly moist, trace silt/clay, med. coarse, poorly sorted		0
4	5430	SM		SAND, green-gray, loose, moist to wet (at 9'), coarse, with silt/clay, strong odor		4
6	5428			black layer at 9' is silty		650
8	5426					550
10	5424	SP		SAND, green-gray, gravel common, coarse, loose, wet, strong odor		775
12	5422			grades to green-brown by 12.5'		25
14	5420	SP		SAND, green-brown, with silt, fine grained, med. stiff to soft, wet, trace clay		25
16						14



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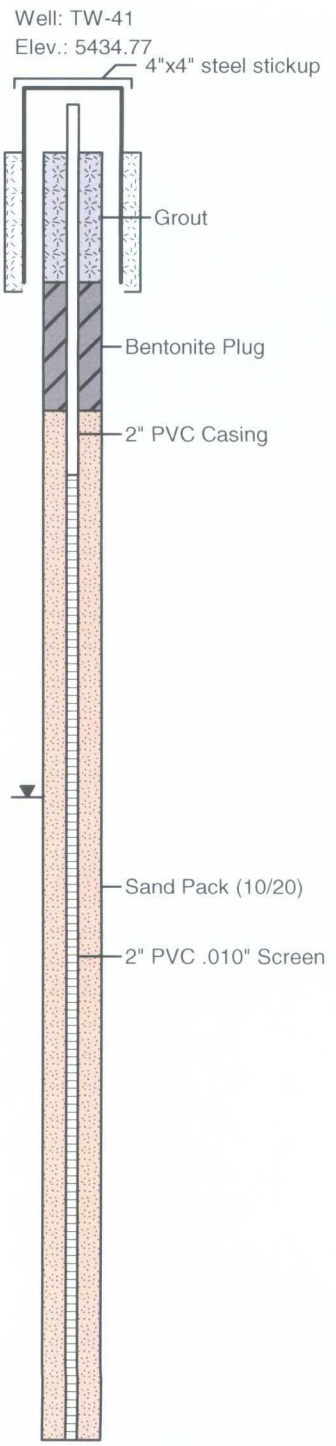
LOG OF: SB-41/TW-41

THRIFTWAY REFINERY
626 CR 5500
BLOOMFIELD, NEW MEXICO

Date Started	: 12/5/08	Northing Coord.	: 2066003.563
Date Completed	: 12/5/08 (as TW-41)	Easting Coord.	: 2671321.651
Hole Diameter	: 7.25 in.	Survey By	: Arrow Engineering
Drilling Method	: H.S.A.; CME-75	Logged By	: B. Watson
Sampling Method	: 5' SPLIT-SPOON		

Depth in Feet	Surf. Elev.	USCS	GRAPHIC	DESCRIPTION	Blow Count	PID (ppm)
0	5432	SM		SAND, brown, fine grained, soft to med. stiff, slightly moist		0
2	5430	SP		SAND, brown, med. coarse, poorly sorted, loose, dry to slightly moist, iron oxide and dark stains visible at 4-5'		0
4	5428					0
6	5426	SP		SAND, dark gray, coarse, poorly sorted, abundant gravel, loose, wet, slight petroleum odor noted, slight septic smell also		0.6
8	5424					0
10						0



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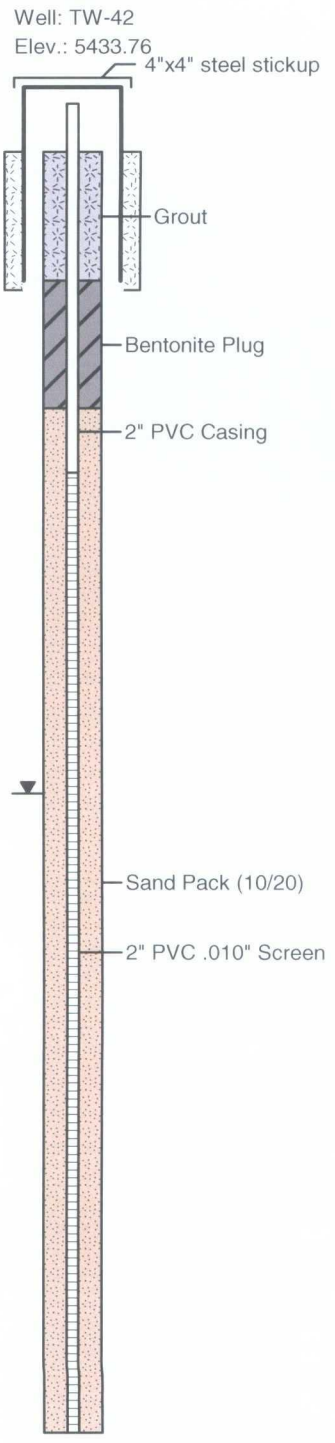
LOG OF: SB-42/TW-42

THRIFTWAY REFINERY
626 CR 5500
BLOOMFIELD, NEW MEXICO

Date Started	: 12/5/08	Northing Coord.	: 2066023.714
Date Completed	: 12/5/08 (as TW-42)	Easting Coord.	: 2671121.189
Hole Diameter	: 7.25 in.	Survey By	: Arrow Engineering
Drilling Method	: H.S.A.; CME-75	Logged By	: B. Watson
Sampling Method	: 5' SPLIT-SPOON		

Depth in Feet	Surf. Elev.	USCS	GRAPHIC	DESCRIPTION	Blow Count	PID (ppm)
0	5432	SP		SAND, brown, coarse, poorly sorted, loose, dry, with silt/clay and gravel present, becomes wet by 5'		0
2	5430					0
4	5428					0
6	5426			SAND, gray-brown, coarse, wet,loose, poorly sorted, very slight odor		0.6
8	5424	SP				0
10						0



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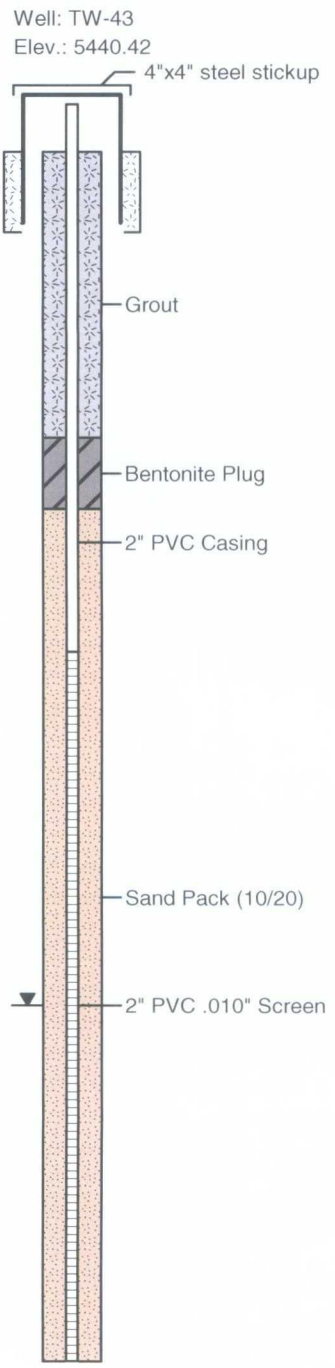
Animas Environmental Services, LLC

LOG OF: SB-43/TW-43

THRIFTWAY REFINERY
626 CR 5500
BLOOMFIELD, NEW MEXICO

Date Started	: 12/4/08	Northing Coord.	: 2065814.165
Date Completed	: 12/4/08 (as TW-43)	Easting Coord.	: 2671122.211
Hole Diameter	: 7.25 in.	Survey By	: Arrow Engineering
Drilling Method	: H.S.A.; CME-75	Logged By	: B. Watson
Sampling Method	: 5' SPLIT-SPOON		

Depth in Feet	Surf. Elev.	USCS	GRAPHIC	DESCRIPTION	Blow Count	PID (ppm)
0	5438	SM		SAND, brown, med. coarse, poorly sorted, loose, slightly moist, with cobbles		0
2	5436	SP		SILT, brown, with sand, stiff, dry		0
4	5434	SP		SAND, brown, coarse, poorly sorted, loose, dry		0
6	5432	ML		SILT, brown, with clay, trace sand, white calcium? nodules, dry, stiff		0
8	5430	SP		SAND, brown, poorly sorted, loose, dry (to moist at base)		1.4
10	5428					0
12	5426	SP		SAND, green-brown, coarse, silt/clay present, poorly sorted, loose, wet at 12'		0
14	5424					0
16	5422	ML		SILT, sandy, blue-gray (glauconitic?), trace clay, med. stiff, fine grained, dry		0
18						



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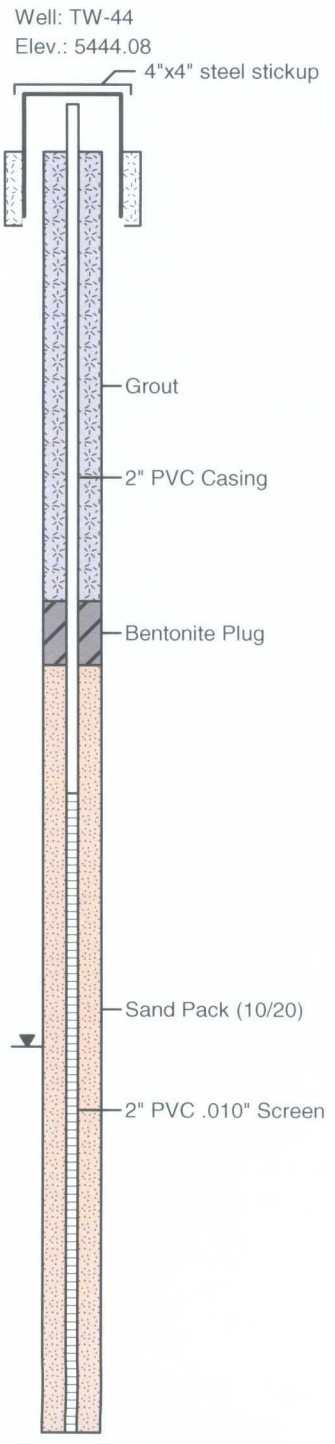
Animas Environmental Services, LLC

LOG OF: SB-44/TW-44

THRIFTWAY REFINERY
626 CR 5500
BLOOMFIELD, NEW MEXICO

Date Started	: 12/4/08	Northing Coord.	: 2065615.516
Date Completed	: 12/4/08 (as TW-44)	Easting Coord.	: 2671312.306
Hole Diameter	: 7.25 in.	Survey By	: Arrow Engineering
Drilling Method	: H.S.A.; CME-75	Logged By	: B. Watson
Sampling Method	: 5' SPLIT-SPOON		

Depth in Feet	Surf. Elev.	USCS	GRAPHIC	DESCRIPTION	Blow Count	PID (ppm)
0	5441	SM		SAND, brown, with silt, fine grained, loose, slightly moist		0
2	5439	SP		SAND, brown, med. coarse, poorly sorted, loose, dry		0
4	5437	ML		SILT, brown, with sand, trace clay, med. stiff, dry		0
6	5435	SP		SAND, brown, med. coarse, poorly sorted, loose, dry		0
8	5433	ML		SILT, brown, laminated, stiff, dry, white calcium? nodules		0
10	5431	SM		SAND, green-brown, silty, fine grained, med. stiff to soft, dry		350
12	5429	SP		SAND, brown, med. coarse to coarse, loose, dry to slightly moist, trace greenish-brown silt/clay, strong odor		150
14	5427	SP		SAND, gray-black, slightly moist to wet (at 14'), trace silt/clay, strong odor		750
16	5425	SP		SAND, green-brown, med. coarse, with green-brown clay interbedded at 17', 18' and 19.5', slight odor		65
18	5423					10
20						3.5



MONITORING WELL SAMPLING RECORD

Monitor Well No: TW-1

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

Site: Thriftway #810 Refinery
Location: Bloomfield, NM
Project: Semi-Annual Sampling
Sampling Technician: NW / DW
Purge / No Purge: NP
Well Diameter (in): 2"
Initial D.T.W. (ft): 27.95 **Time:** _____ *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): 27.95 **Time:** _____ *(taken prior to purging well)*
Final D.T.W. (ft): _____ **Time:** _____ *(taken after sample collection)*

Project No.: AES 030203
Date: Dec 15, 08
Arrival Time: 1100
Air Temp: 22°
T.O.C. Elev. (ft): _____
Total Well Depth (ft): 30.18

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
1115	14.64	2.772	7.51	6.24	113.8	0.25	
1121							5 samples collected

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

Full VOCs by 8260 (3 x 40mL VOA w/ HCl)
GRO/DRO by 8015 (3 x 40mL VOA w/ HCl)
Dissolved Lead by 6010 (250mL poly w/ HNO_3 filtered) Total Lead by 6010 (500mL poly w/ HNO_3)

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

Notes/Comments

revised: 05/23/07

MONITORING WELL SAMPLING RECORD

Monitor Well No: TW-2

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

Site: Thriftway #810 Refinery
Location: Bloomfield, NM
Project: Semi-Annual Sampling
Sampling Technician: NW / DW
Purge / No Purge: NP
Well Diameter (in): 2"
Initial D.T.W. (ft): 28.91 **Time:** 1300 *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): 28.91 **Time:** *(taken prior to purging well)*
Final D.T.W. (ft): **Time:** *(taken after sample collection)*

Project No.: AES 030203
Date: 12-15-08
Arrival Time: 1255
Air Temp: 30°F
T.O.C. Elev. (ft):
Total Well Depth (ft): 33.11

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
1308	13.08	4.421	3.60	6.63	125.5	0.25	
1314						1	Samples collected

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

Full VOCs by 8260 (3 x 40mL VOA w/ HCl)
GRO/DRO by 8015 (3 x 40mL VOA w/ HCl)
Dissolved Lead by 6010 (250mL poly w/ HNO_3 filtered) Total Lead by 6010 (500mL poly w/ HNO_3)

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

Notes/Comments

revised: 05/23/07

MONITORING WELL SAMPLING RECORD

Animas Environmental Services

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

Monitor Well No: TW-3

Site: Thriftway #810 Refinery
Location: Bloomfield, NM
Project: Semi-Annual Sampling
Sampling Technician:
Purge / No Purge: NP
Well Diameter (in): 2"
Initial D.T.W. (ft): 27.98 **Time:** _____ *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): 27.99 **Time:** _____ *(taken prior to purging well)*
Final D.T.W. (ft): _____ **Time:** _____ *(taken after sample collection)*

Project No.: AES 030203
Date: Dec 15, 08
Arrival Time: 1328
Air Temp:
T.O.C. Elev. (ft):
Total Well Depth (ft): 33.08

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
1337	14.44	4.249	2.01	6.63	-1.6	0.25	
1337						1	Samples Collected

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

Full VOCs by 8260 (3 x 40mL VOA w/ HCl)
GRO/DRO by 8015 (3 x 40mL VOA w/ HCl)
Dissolved Lead by 6010 (250mL poly w/ HNO_3 filtered) Total Lead by 6010 (500mL poly w/ HNO_3)

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

Notes/Comments

revised: 05/23/07

MONITORING WELL SAMPLING RECORD

Monitor Well No: TW-4

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

Site: Thriftway #810 Refinery
Location: Bloomfield, NM
Project: Semi-Annual Sampling
Sampling Technician: JWI/TDW
Purge / No Purge: NP
Well Diameter (in): 2"
Initial D.T.W. (ft): 19.16 **Time:** 1029 *(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 030203
Date: Dec 16, 08
Arrival Time: 1027
Air Temp: 35°
T.O.C. Elev. (ft):
Total Well Depth (ft): 28.05

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
1036	13.40	7.258	4.69	6.67	170.6	0.25	
1042	—					1	samples collected

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

Full VOCs by 8260 (3 x 40mL VOA w/ HCl)
GRO/DRO by 8015 (3 x 40mL VOA w/ HCl)
Dissolved Lead by 6010 (250mL poly w/ HNO_3 filtered) Total Lead by 6010 (500mL poly w/ HNO_3)

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

Notes/Comments

revised: 05/23/07

MONITORING WELL SAMPLING RECORD

Monitor Well No: TW-5

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

Site: Thriftway #810 Refinery
Location: Bloomfield, NM
Project: Semi-Annual Sampling
Sampling Technician: NW / DW
Purge / No Purge: NP
Well Diameter (in): 2"
Initial D.T.W. (ft): 25.54 **Time:** 1409 *(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 030203
Date: 12-15-08
Arrival Time: 1405
Air Temp: 30°F
T.O.C. Elev. (ft):
Total Well Depth (ft): 33.09

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
1420	1425	3.704	3.26	6.56	16.0	0.25	
1425						1	Samples Collected

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

Full VOCs by 8260 (3 x 40mL VOA w/ HCl)
GRO/DRO by 8015 (3 x 40mL VOA w/ HCl)
Dissolved Lead by 6010 (250mL poly w/ HNO_3 filtered) Total Lead by 6010 (500mL poly w/ HNO_3)

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

Notes/Comments

revised: 05/23/07

MONITORING WELL SAMPLING RECORD

Monitor Well No: TW-6

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

Site: Thriftway #810 Refinery
Location: Bloomfield, NM
Project: Semi-Annual Sampling
Sampling Technician: NW/DW
Purge / No Purge: NP
Well Diameter (in): 2"
Initial D.T.W. (ft): 24.78 **Time:** 1535 *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): 24.78 **Time:** 1540 *(taken prior to purging well)*
Final D.T.W. (ft): **Time:** *(taken after sample collection)*

Project No.: AES 030203
Date: Dec 15, 08
Arrival Time: 1533
Air Temp: 32°
T.O.C. Elev. (ft):
Total Well Depth (ft): 33.10

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
1543	14.50	4.719	0.99	6.50	9.0	0.25	
1548						1	samples collected

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

Full VOCs by 8260 (3 x 40mL VOA w/ HCl)
GRO/DRO by 8015 (3 x 40mL VOA w/ HCl)
Dissolved Lead by 6010 (250mL poly w/ HNO_3 filtered) Total Lead by 6010 (500mL poly w/ HNO_3)

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

Notes/Comments

revised: 05/23/07

MONITORING WELL SAMPLING RECORD

Monitor Well No: TW-7

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

Site: Thriftway #810 Refinery
Location: Bloomfield, NM
Project: Semi-Annual Sampling
Sampling Technician: NW IDW
Purge / No Purge: NP
Well Diameter (in): 2"
Initial D.T.W. (ft): 22.25 **Time:** 1448 *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): 22.25 **Time:** 1455 *(taken prior to purging well)*
Final D.T.W. (ft): **Time:** *(taken after sample collection)*

Project No.: AES 030203
Date: Dec 15, 08
Arrival Time: 1444
Air Temp: 32
T.O.C. Elev. (ft):
Total Well Depth (ft): 28.08

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
1458	14.88	5.302	0.82	6.47	0.8	0.25	
1503	—				—	1	Samples Collected

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

Full VOCs by 8260 (3 x 40mL VOA w/ HCl)
GRO/DRO by 8015 (3 x 40mL VOA w/ HCl)
Dissolved Lead by 6010 (250mL poly w/ HNO_3 filtered) Total Lead by 6010 (500mL poly w/ HNO_3)

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

Notes/Comments

revised: 05/23/07

MONITORING WELL SAMPLING RECORD

Monitor Well No: TW-8

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

Site: Thriftway #810 Refinery
Location: Bloomfield, NM
Project: Semi-Annual Sampling
Sampling Technician: NW / DW
Purge / No Purge: NP
Well Diameter (in): 2"
Initial D.T.W. (ft): 19.76 **Time:** 1433 *(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 030203
Date: Dec 16, 08
Arrival Time: 1431
Air Temp: 33
T.O.C. Elev. (ft):
Total Well Depth (ft): 27.61

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
~~1439~~ 1441	12.78	5.575	0.51	6.42	-258.2	0.5	
1446	—	—	—	—	—	0.75	samples collected

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

Full VOCs by 8260 (3 x 40mL VOA w/ HCl)
GRO/DRO by 8015 (3 x 40mL VOA w/ HCl)
Dissolved Lead by 6010 (250mL poly w/ HNO_3 filtered) Total Lead by 6010 (500mL poly w/ HNO_3)

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

Notes/Comments Strong odor - no free product
Heavy organic material in sample

revised: 05/23/07

MONITORING WELL SAMPLING RECORD

Monitor Well No: TW-9

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

Site: Thriftway #810 Refinery
Location: Bloomfield, NM
Project: Semi-Annual Sampling
Sampling Technician: NJ/DW
Purge / No Purge: NP
Well Diameter (in): 2"
Initial D.T.W. (ft): 12.20 **Time:** 1128 *(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 030203
Date: 12-16-08
Arrival Time: 1126
Air Temp: 36°F
T.O.C. Elev. (ft):
Total Well Depth (ft): 17.61

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
1134	14.53	3.473	2.27	6.90	15.6	0.25	
1139	—	—	—	—	—	1	Samples Collected

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

Full VOCs by 8260 (3 x 40mL VOA w/ HCl)
GRO/DRO by 8015 (3 x 40mL VOA w/ HCl)
Dissolved Lead by 6010 (250mL poly w/ HNO_3 filtered) Total Lead by 6010 (500mL poly w/ HNO_3)

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

Notes/Comments

revised: 05/23/07

MONITORING WELL SAMPLING RECORD

Monitor Well No: TW-10

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

Site: Thriftway #810 Refinery
Location: Bloomfield, NM
Project: Semi-Annual Sampling
Sampling Technician: NW/DW
Purge / No Purge: NP
Well Diameter (in): 2"
Initial D.T.W. (ft): 12.42 **Time:** 1457 *(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 030203
Date: Dec 16, 08
Arrival Time: 1457
Air Temp: 33°
T.O.C. Elev. (ft):
Total Well Depth (ft): 20.51

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
1507	11.97	3.876	0.98	6.49	-189.3	0.5	
1512	—	—	—	—	—	0.75	samples collected.

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

Full VOCs by 8260 (3 x 40mL VOA w/ HCl)
GRO/DRO by 8015 (3 x 40mL VOA w/ HCl)
Dissolved Lead by 6010 (250mL poly w/ HNO_3 filtered) Total Lead by 6010 (500mL poly w/ HNO_3)

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

Notes/Comments

revised: 05/23/07

MONITORING WELL SAMPLING RECORD

Monitor Well No: TW-11

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

Site: Thriftway #810 Refinery
Location: Bloomfield, NM
Project: Semi-Annual Sampling
Sampling Technician: NWID W
Purge / No Purge: NP
Well Diameter (in): 2"
Initial D.T.W. (ft): 18.12 **Time:** 1058 *(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 030203
Date: Dec 16, 08
Arrival Time: 1057
Air Temp: 36
T.O.C. Elev. (ft):
Total Well Depth (ft): 26.44

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
1104	14.32	6.941	1.41	6.75	72.0	0.25	
1110						1.	1 samples collected

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

Full VOCs by 8260 (3 x 40mL VOA w/ HCl)
GRO/DRO by 8015 (3 x 40mL VOA w/ HCl)
Dissolved Lead by 6010 (250mL poly w/ HNO_3 filtered) Total Lead by 6010 (500mL poly w/ HNO_3)

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

Notes/Comments

revised: 05/23/07

MONITORING WELL SAMPLING RECORD

Monitor Well No: TW-12

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

Site: Thriftway #810 Refinery
Location: Bloomfield, NM
Project: Semi-Annual Sampling
Sampling Technician: NW/DW
Purge / No Purge: NP
Well Diameter (in): 2"
Initial D.T.W. (ft): 22.44 **Time:** 1606 *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): ~~22.44~~ 22.44 **Time:** ~~1611~~ 1611 *(taken prior to purging well)*
Final D.T.W. (ft): _____ **Time:** _____ *(taken after sample collection)*

Project No.: AES 030203
Date: Dec 15, 08
Arrival Time: ~~1605~~ 1605
Air Temp: 30
T.O.C. Elev. (ft): _____
Total Well Depth (ft): 27.91

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
1615	16.15	4.247	0.95	6.49	-97.3	0.25	
1620	—	—	—	—	—	1	samples collected

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

Full VOCs by 8260 (3 x 40mL VOA w/ HCl)
GRO/DRO by 8015 (3 x 40mL VOA w/ HCl)
Dissolved Lead by 6010 (250mL poly w/ HNO_3 filtered) Total Lead by 6010 (500mL poly w/ HNO_3)

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

Notes/Comments Strong organic smell

revised: 05/23/07

MONITORING WELL SAMPLING RECORD

Monitor Well No: TW-13

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

Site: Thriftway #810 Refinery
Location: Bloomfield, NM
Project: Semi-Annual Sampling
Sampling Technician: NW/DW
Purge / No Purge: NP
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 030203
Date: Dec 16, 08
Arrival Time: 0915
Air Temp: 33°
T.O.C. Elev. (ft):
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
0933	AO = 20.64						
	OW = 21.48						
	No Sample						
	Free Product						

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

Full VOCs by 8260 (3 x 40mL VOA w/ HCl)
GRO/DRO by 8015 (3 x 40mL VOA w/ HCl)
Dissolved Lead by 6010 (250mL poly w/ HNO_3 filtered) Total Lead by 6010 (500mL poly w/ HNO_3)

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

Notes/Comments

revised: 05/23/07

MONITORING WELL SAMPLING RECORD

Monitor Well No: TW-14

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

Site: Thriftway #810 Refinery
Location: Bloomfield, NM
Project: Semi-Annual Sampling
Sampling Technician: NW/DW
Purge / No Purge: NP
Well Diameter (in): 2"
Initial D.T.W. (ft): 16.82 **Time:** 1525 *(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 030203
Date: 12-16-08
Arrival Time: 1522
Air Temp: 34°F
T.O.C. Elev. (ft):
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					
		Present					

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

Full VOCs by 8260 (3 x 40mL VOA w/ HCl)
GRO/DRO by 8015 (3 x 40mL VOA w/ HCl)
Dissolved Lead by 6010 (250mL poly w/ HNO_3 filtered) Total Lead by 6010 (500mL poly w/ HNO_3)

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

Notes/Comments

revised: 05/23/07

MONITORING WELL SAMPLING RECORD

Monitor Well No: TW-15

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

Site: Thriftway #810 Refinery
Location: Bloomfield, NM
Project: Semi-Annual Sampling
Sampling Technician: NW/DW
Purge / No Purge: NP
Well Diameter (in): 2"
Initial D.T.W. (ft): 13.15 **Time:** 1532 *(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 030203
Date: 12-16-08
Arrival Time: 1530
Air Temp: 34°F
T.O.C. Elev. (ft):
Total Well Depth (ft): 22.20

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
1538	13.17	6.647	1.25	6.69	-176.5	0.25	
1543						1	Samples Collected

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

Full VOCs by 8260 (3 x 40mL VOA w/ HCl)
GRO/DRO by 8015 (3 x 40mL VOA w/ HCl)
Dissolved Lead by 6010 (250mL poly w/ HNO_3 filtered) Total Lead by 6010 (500mL poly w/ HNO_3)

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

Notes/Comments

revised: 05/23/07

MONITORING WELL SAMPLING RECORD

Monitor Well No: TW-16

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

Site: Thriftway #810 Refinery
Location: Bloomfield, NM
Project: Semi-Annual Sampling
Sampling Technician: NW / DW
Purge / No Purge: NP
Well Diameter (in): 2"
Initial D.T.W. (ft): 8.76 **Time:** 1220 *(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 030203
Date: Dec 16, 08
Arrival Time: 12:16
Air Temp: 34
T.O.C. Elev. (ft):
Total Well Depth (ft): 15.46

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
1225	14.90	6.593	1.64	6.71	7.3	0.25	
1230						1	Samples Collected

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

Full VOCs by 8260 (3 x 40mL VOA w/ HCl)
GRO/DRO by 8015 (3 x 40mL VOA w/ HCl)
Dissolved Lead by 6010 (250mL poly w/ HNO_3 filtered) Total Lead by 6010 (500mL poly w/ HNO_3)

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

Notes/Comments

revised: 05/23/07

MONITORING WELL SAMPLING RECORD

Monitor Well No: TW-17

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

Site: Thriftway #810 Refinery
Location: Bloomfield, NM
Project: Semi-Annual Sampling
Sampling Technician:
Purge / No Purge: NP
Well Diameter (in): 2"
Initial D.T.W. (ft): 9.99 **Time:** 1253 *(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 030203
Date: Dec 16, 08
Arrival Time: 1250
Air Temp: 35°
T.O.C. Elev. (ft):
Total Well Depth (ft): 17.00

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
1258	14.10	6.643	1.26	6.68	-31.3	0.25	
1303	—	—	—	—	—	1	Samples collected

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

Full VOCs by 8260 (3 x 40mL VOA w/ HCl)
GRO/DRO by 8015 (3 x 40mL VOA w/ HCl)
Dissolved Lead by 6010 (250mL poly w/ HNO_3 filtered) Total Lead by 6010 (500mL poly w/ HNO_3)

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

Notes/Comments

revised: 05/23/07

MONITORING WELL SAMPLING RECORD

Monitor Well No: TW-18

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

Site: Thriftway #810 Refinery
Location: Bloomfield, NM
Project: Semi-Annual Sampling
Sampling Technician: NW / DW
Purge / No Purge: NP
Well Diameter (in): 2"
Initial D.T.W. (ft): 16.40 **Time:** 1606 *(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 030203
Date: Dec 16, 08
Arrival Time: 1604
Air Temp: 34
T.O.C. Elev. (ft): 23.07
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
1612	16.42	5.094	0.88	6.65	-170.9	0.25	
1615						1	samples collected

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

Full VOCs by 8260 (3 x 40mL VOA w/ HCl)
GRO/DRO by 8015 (3 x 40mL VOA w/ HCl)
Dissolved Lead by 6010 (250mL poly w/ HNO_3 filtered) Total Lead by 6010 (500mL poly w/ HNO_3)

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

Notes/Comments

revised: 05/23/07

MONITORING WELL SAMPLING RECORD

Monitor Well No: TW-19

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

Site: Thriftway #810 Refinery
Location: Bloomfield, NM
Project: Semi-Annual Sampling
Sampling Technician: NW/DW
Purge / No Purge: NP
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 030203
Date: Dec 16, 08
Arrival Time: 1010
Air Temp: 35°
T.O.C. Elev. (ft): _____
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
1013	AD =	22.15					
	OW =	22.62					
	NO	Sample					
			Free		Product		

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

Full VOCs by 8260 (3 x 40mL VOA w/ HCl)
GRO/DRO by 8015 (3 x 40mL VOA w/ HCl)
Dissolved Lead by 6010 (250mL poly w/ HNO_3 filtered) Total Lead by 6010 (500mL poly w/ HNO_3)

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

Notes/Comments

revised: 05/23/07

MONITORING WELL SAMPLING RECORD

Monitor Well No: TW-20

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

Site: Thriftway #810 Refinery
Location: Bloomfield, NM
Project: Semi-Annual Sampling
Sampling Technician: BW / DW
Purge / No Purge: NP
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 030203
Date: Dec 17, 08
Arrival Time: 1035
Air Temp: 30
T.O.C. Elev. (ft): _____
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
1040	AO	15.14					
	OW	15.86					
		Free Product - Not Sampled					

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

Full VOCs by 8260 (3 x 40mL VOA w/ HCl)
GRO/DRO by 8015 (3 x 40mL VOA w/ HCl)
Dissolved Lead by 6010 (250mL poly w/ HNO_3 filtered) Total Lead by 6010 (500mL poly w/ HNO_3)

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

Notes/Comments

revised: 05/23/07

MONITORING WELL SAMPLING RECORD

Monitor Well No: **TW-21**

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

Site: Thriftway #810 Refinery
Location: Bloomfield, NM
Project: Semi-Annual Sampling
Sampling Technician: BW / DW
Purge / No Purge: NP
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 030203
Date: Dec 17, 08
Arrival Time: 1100
Air Temp: 35
T.O.C. Elev. (ft): _____
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
	AO	15.42'					
	OW	17.19'					
		Free Product - No Sample Collected					

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

Full VOCs by 8260 (3 x 40mL VOA w/ HCl)
GRO/DRO by 8015 (3 x 40mL VOA w/ HCl)
Dissolved Lead by 6010 (250mL poly w/ HNO_3 filtered) Total Lead by 6010 (500mL poly w/ HNO_3)

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

Notes/Comments

revised: 05/23/07

MONITORING WELL SAMPLING RECORD

Monitor Well No: TW-22

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

Site: Thriftway #810 Refinery
Location: Bloomfield, NM
Project: Semi-Annual Sampling
Sampling Technician: BW/DW
Purge / No Purge: NP
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 030203
Date: Dec 17, 08
Arrival Time: 1135
Air Temp: _____
T.O.C. Elev. (ft): _____
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
1135	AO	14.75'					
	OW	14.76'					
		Free Product -			No	Sample	
						Collected	

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

Full VOCs by 8260 (3 x 40mL VOA w/ HCl)
GRO/DRO by 8015 (3 x 40mL VOA w/ HCl)
Dissolved Lead by 6010 (250mL poly w/ HNO_3 filtered) Total Lead by 6010 (500mL poly w/ HNO_3)

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

Notes/Comments

revised: 05/23/07

MONITORING WELL SAMPLING RECORD

Monitor Well No: **TW-23**

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

Site: Thriftway #810 Refinery
Location: Bloomfield, NM
Project: Semi-Annual Sampling
Sampling Technician: NW/ TDW
Purge / No Purge: NP
Well Diameter (in): 2"
Initial D.T.W. (ft): 6.60 **Time:** 0935 *(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 030203
Date: Dec 18, 08
Arrival Time: 0930
Air Temp: 40
T.O.C. Elev. (ft):
Total Well Depth (ft): 15.48

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
0940	13.65	6.727	3.77	7.09	+138.4	0.25	
0945						1	Samples collected

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

Full VOCs by 8260 (3 x 40mL VOA w/ HCl)
GRO/DRO by 8015 (3 x 40mL VOA w/ HCl)
Dissolved Lead by 6010 (250mL poly w/ HNO_3 filtered) Total Lead by 6010 (500mL poly w/ HNO_3)

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

Notes/Comments organic odor black and silty

revised: 05/23/07

MONITORING WELL SAMPLING RECORD

Monitor Well No: TW-24

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

Site: Thriftway #810 Refinery
Location: Bloomfield, NM
Project: Semi-Annual Sampling
Sampling Technician: BW/DW
Purge / No Purge: NP
Well Diameter (in): 2"
Initial D.T.W. (ft): 10.97 **Time:** 1240 *(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 030203
Date: Dec 17, 08
Arrival Time: 1239
Air Temp: 35
T.O.C. Elev. (ft):
Total Well Depth (ft): 17.45

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
1240	15.6	5.942	4.88	6.21	64.3	0.25	
1254	—	—	—	—	—	1	sample collected

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

Full VOCs by 8260 (3 x 40mL VOA w/ HCl)
GRO/DRO by 8015 (3 x 40mL VOA w/ HCl)
Dissolved Lead by 6010 (250mL poly w/ HNO_3 filtered) Total Lead by 6010 (500mL poly w/ HNO_3)

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

Notes/Comments

revised: 05/23/07

MONITORING WELL SAMPLING RECORD

Monitor Well No: TW-25

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

Site: Thriftway #810 Refinery
Location: Bloomfield, NM
Project: Semi-Annual Sampling
Sampling Technician: BW/OW
Purge / No Purge: NP
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 030203
Date: ~~Dec 17, 08~~ Dec 17, 08
Arrival Time: 1125
Air Temp: 35
T.O.C. Elev. (ft): _____
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
1125	AG	14.13'					
	OW	14.62'					
		Free Product	-	No		Sample Collected	

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

Full VOCs by 8260 (3 x 40mL VOA w/ HCl)
GRO/DRO by 8015 (3 x 40mL VOA w/ HCl)
Dissolved Lead by 6010 (250mL poly w/ HNO_3 filtered) Total Lead by 6010 (500mL poly w/ HNO_3)

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

Notes/Comments

revised: 05/23/07

MONITORING WELL SAMPLING RECORD

Monitor Well No: TW-26

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

Site: Thriftway #810 Refinery
Location: Bloomfield, NM
Project: Semi-Annual Sampling
Sampling Technician: BW / DW
Purge / No Purge: NP
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 030203
Date: Dec 17, 08
Arrival Time: 1327
Air Temp: 35
T.O.C. Elev. (ft): _____
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
1330	AO	13.49'					
	OW	14.47'					
		Free	—	No	Sample Collected		
		Product					

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

Full VOCs by 8260 (3 x 40mL VOA w/ HCl)
GRO/DRO by 8015 (3 x 40mL VOA w/ HCl)
Dissolved Lead by 6010 (250mL poly w/ HNO_3 filtered) Total Lead by 6010 (500mL poly w/ HNO_3)

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

Notes/Comments

revised: 05/23/07

MONITORING WELL SAMPLING RECORD

Monitor Well No: TW-27

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

Site: Thriftway #810 Refinery
Location: Bloomfield, NM
Project: Semi-Annual Sampling
Sampling Technician:
Purge / No Purge: NP
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 030203
Date:
Arrival Time:
Air Temp:
T.O.C. Elev. (ft):
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 well TW-27

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

Full VOCs by 8260 (3 x 40mL VOA w/ HCl)
GRO/DRO by 8015 (3 x 40mL VOA w/ HCl)
Dissolved Lead by 6010 (250mL poly w/ HNO_3 filtered) Total Lead by 6010 (500mL poly w/ HNO_3)

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

Notes/Comments

revised: 05/23/07

MONITORING WELL SAMPLING RECORD

Monitor Well No: TW-28

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

Site: Thriftway #810 Refinery
Location: Bloomfield, NM
Project: Semi-Annual Sampling
Sampling Technician: BW/DW
Purge / No Purge: NP
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 030203
Date: 12/17/08
Arrival Time: 1110
Air Temp: 35
T.O.C. Elev. (ft): _____
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
1116	AO	15.37					
	OW	15.96					
		Free Product	-		No	Sample	
						Collected	

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

Full VOCs by 8260 (3 x 40mL VOA w/ HCl)
GRO/DRO by 8015 (3 x 40mL VOA w/ HCl)
Dissolved Lead by 6010 (250mL poly w/ HNO_3 filtered) Total Lead by 6010 (500mL poly w/ HNO_3)

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

Notes/Comments

revised: 05/23/07

MONITORING WELL SAMPLING RECORD

Monitor Well No: **TW-29**

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

Site: Thriftway #810 Refinery
Location: Bloomfield, NM
Project: Semi-Annual Sampling
Sampling Technician: BW / DW
Purge / No Purge: NP
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 030203
Date: Dec 17, 08
Arrival Time: 1149
Air Temp: 35
T.O.C. Elev. (ft):
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
1150		AO	9.19'				
		OW	9.20'				
		Free	—	NA	Sample		
		Product			Collected.		

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

Full VOCs by 8260 (3 x 40mL VOA w/ HCl)
GRO/DRO by 8015 (3 x 40mL VOA w/ HCl)
Dissolved Lead by 6010 (250mL poly w/ HNO_3 filtered) Total Lead by 6010 (500mL poly w/ HNO_3)

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

Notes/Comments

revised: 05/23/07

MONITORING WELL SAMPLING RECORD

Monitor Well No: TW-30

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

Site: Thriftway #810 Refinery
Location: Bloomfield, NM
Project: Semi-Annual Sampling
Sampling Technician: NW / DW
Purge / No Purge: NP
Well Diameter (in): 2"
Initial D.T.W. (ft): 5.90 **Time:** 1013 *(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 030203
Date: Dec 18, 08
Arrival Time: 1011
Air Temp: 38
T.O.C. Elev. (ft):
Total Well Depth (ft): 17.14

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
1024	12.89	6.328	6.25	6.46	-66.2	0.25	
1029						1	samples collected

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

Full VOCs by 8260 (3 x 40mL VOA w/ HCl)
GRO/DRO by 8015 (3 x 40mL VOA w/ HCl)
Dissolved Lead by 6010 (250mL poly w/ HNO_3 filtered) Total Lead by 6010 (500mL poly w/ HNO_3)

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

Notes/Comments possible sheen on sample

revised: 05/23/07

MONITORING WELL SAMPLING RECORD

Monitor Well No: TW-31

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

Site: Thriftway #810 Refinery
Location: Bloomfield, NM
Project: Semi-Annual Sampling
Sampling Technician: NW / DW
Purge / No Purge: NP
Well Diameter (in): 2"
Initial D.T.W. (ft): 7.03 **Time:** 1317 *(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 030203
Date: Dec 16, 08
Arrival Time: 1314
Air Temp: 35
T.O.C. Elev. (ft): _____
Total Well Depth (ft): 12.96

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
1323	14.00	7.298	2.91	6.37	12.8	0.25	
1328	—	—	—	—	—	1	samples collected

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

Full VOCs by 8260 (3 x 40mL VOA w/ HCl)
GRO/DRO by 8015 (3 x 40mL VOA w/ HCl)
Dissolved Lead by 6010 (250mL poly w/ HNO_3 filtered) Total Lead by 6010 (500mL poly w/ HNO_3)

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

Notes/Comments

revised: 05/23/07

MONITORING WELL SAMPLING RECORD

Monitor Well No: TW-32

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

Site: Thriftway #810 Refinery
Location: Bloomfield, NM
Project: Semi-Annual Sampling
Sampling Technician: BW / DW
Purge / No Purge: NP
Well Diameter (in): 2"
Initial D.T.W. (ft): _____ **Time:** _____
Confirm D.T.W. (ft): _____ **Time:** _____
Final D.T.W. (ft): _____ **Time:** _____

Project No.: AES 030203
Date: Dec 17, 08
Arrival Time: 1610
Air Temp: 35
T.O.C. Elev. (ft):
Total Well Depth (ft):
(taken at initial gauging of all wells)
(taken prior to purging well)
(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
	AO	7.22					
	OW	8.79					
		Free	—	No	Sample		
		Product			Collected		

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

Full VOCs by 8260 (3 x 40mL VOA w/ HCl)
GRO/DRO by 8015 (3 x 40mL VOA w/ HCl)
Dissolved Lead by 6010 (250mL poly w/ HNO_3 filtered) Total Lead by 6010 (500mL poly w/ HNO_3)

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

Notes/Comments

revised: 05/23/07

MONITORING WELL SAMPLING RECORD

Monitor Well No: TW-33

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

Site: Thriftway #810 Refinery
Location: Bloomfield, NM
Project: Semi-Annual Sampling
Sampling Technician: BW/DW
Purge / No Purge: NP
Well Diameter (in): 2"
Initial D.T.W. (ft): ____ **Time:** ____
Confirm D.T.W. (ft): ____ **Time:** ____
Final D.T.W. (ft): ____ **Time:** ____

Project No.: AES 030203
Date: Dec 17, 08
Arrival Time: 1340
Air Temp: 35
T.O.C. Elev. (ft):
Total Well Depth (ft):
(taken at initial gauging of all wells)
(taken prior to purging well)
(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
1343	AO	12.96					
	OW	13.02					
		Free Product - No Sample Collected					

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

Full VOCs by 8260 (3 x 40mL VOA w/ HCl)
GRO/DRO by 8015 (3 x 40mL VOA w/ HCl)
Dissolved Lead by 6010 (250mL poly w/ HNO_3 filtered) Total Lead by 6010 (500mL poly w/ HNO_3)

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

Notes/Comments

revised: 05/23/07

MONITORING WELL SAMPLING RECORD

Monitor Well No: TW-34

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

Site: Thriftway #810 Refinery
Location: Bloomfield, NM
Project: Semi-Annual Sampling
Sampling Technician:
Purge / No Purge: NP
Well Diameter (in): 2"
Initial D.T.W. (ft): 19.82 **Time:** 11:56 *(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 030203
Date: Dec 18, 08
Arrival Time: ~~10~~ 1155
Air Temp: 37
T.O.C. Elev. (ft):
Total Well Depth (ft): 26.18

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
1202	14.29	6.744	3.97	7.48	-183.8	0.25	
1207						1	samples collected

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

Full VOCs by 8260 (3 x 40mL VOA w/ HCl)
GRO/DRO by 8015 (3 x 40mL VOA w/ HCl)
Dissolved Lead by 6010 (250mL poly w/ HNO_3 filtered) Total Lead by 6010 (500mL poly w/ HNO_3)

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

Notes/Comments

revised: 05/23/07

MONITORING WELL SAMPLING RECORD

Monitor Well No: TW-35

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

Site: Thriftway #810 Refinery
Location: Bloomfield, NM
Project: Semi-Annual Sampling
Sampling Technician: NW/DW
Purge / No Purge: NP
Well Diameter (in): 2"
Initial D.T.W. (ft): 15.21 **Time:** 1217 *(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 030203
Date: Dec 18, 08
Arrival Time: 1216
Air Temp: 39
T.O.C. Elev. (ft): ~~22~~
Total Well Depth (ft): ~~22~~ 22.34

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
1223	14.98	7.929	4.39	7.04	+189.4	0.25	
1228						1	samples collected

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

Full VOCs by 8260 (3 x 40mL VOA w/ HCl)
GRO/DRO by 8015 (3 x 40mL VOA w/ HCl)
Dissolved Lead by 6010 (250mL poly w/ HNO_3 filtered) Total Lead by 6010 (500mL poly w/ HNO_3)

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

Notes/Comments

revised: 05/23/07

MONITORING WELL SAMPLING RECORD

Monitor Well No: TW-36

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

Site: Thriftway #810 Refinery
Location: Bloomfield, NM
Project: Semi-Annual Sampling
Sampling Technician: NW/DW
Purge / No Purge: NP
Well Diameter (in): 2"
Initial D.T.W. (ft): 13.03 **Time:** 1239 *(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 030203
Date: Dec 18, 08
Arrival Time: 1238
Air Temp: ~~60~~ 40
T.O.C. Elev. (ft):
Total Well Depth (ft): ~~18~~ 20.35

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
1245	15.28	7.874	3.60	6.94	-270.7	0.25	
1249	—	—	—	—	—	1	Samples collected

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

Full VOCs by 8260 (3 x 40mL VOA w/ HCl)
GRO/DRO by 8015 (3 x 40mL VOA w/ HCl)
Dissolved Lead by 6010 (250mL poly w/ HNO_3 filtered) Total Lead by 6010 (500mL poly w/ HNO_3)

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

Notes/Comments Strong odor, gray & silty, possible sheen

revised: 05/23/07

MONITORING WELL SAMPLING RECORD

Monitor Well No: TW-37

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

Site: Thriftway #810 Refinery
Location: Bloomfield, NM
Project: Semi-Annual Sampling
Sampling Technician: BW/DW
Purge / No Purge: NP
Well Diameter (in): 2"
Initial D.T.W. (ft): 10.57 **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 030203
Date: 12/17/08
Arrival Time: 1420
Air Temp: 35
T.O.C. Elev. (ft):
Total Well Depth (ft): ~~35~~ 16.5

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
1425	14.02	4.698	3.50	6.51	-221.3	0.25	
1435						1	Samples collected

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

Full VOCs by 8260 (3 x 40mL VOA w/ HCl)
GRO/DRO by 8015 (3 x 40mL VOA w/ HCl)
Dissolved Lead by 6010 (250mL poly w/ HNO_3 filtered) Total Lead by 6010 (500mL poly w/ HNO_3)

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

Notes/Comments sheen on sample, strong odor
water is silty, dark gray

revised: 05/23/07

MONITORING WELL SAMPLING RECORD

Monitor Well No: **TW-38**

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

Site: Thriftway #810 Refinery
Location: Bloomfield, NM
Project: Semi-Annual Sampling
Sampling Technician: BW | DW
Purge / No Purge: NP
Well Diameter (in): 2"
Initial D.T.W. (ft): 9.55' Time: 1532 *(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 030203
Date: Dec 17, 08
Arrival Time: 1530
Air Temp: 35
T.O.C. Elev. (ft):
Total Well Depth (ft): 15.5'

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
1540	12.82	5.466	4.06	6.95	-179.3	0.25	
1545						1	samples collected

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

Full VOCs by 8260 (3 x 40mL VOA w/ HCl)
GRO/DRO by 8015 (3 x 40mL VOA w/ HCl)
Dissolved Lead by 6010 (250mL poly w/ HNO_3 filtered) Total Lead by 6010 (500mL poly w/ HNO_3)

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

Notes/Comments slight odor, no sheen

revised: 05/23/07

MONITORING WELL SAMPLING RECORD

Monitor Well No: **TW-39**

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

Site: Thriftway #810 Refinery
Location: Bloomfield, NM
Project: Semi-Annual Sampling
Sampling Technician: NW/DW
Purge / No Purge: NP
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 030203
Date: Dec 18, 08
Arrival Time: 1053
Air Temp: 37
T.O.C. Elev. (ft):
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
1055	AO =	7.76					
	DW =	7.71					
		sheen = no				sample collected	

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

Full VOCs by 8260 (3 x 40mL VOA w/ HCl)
GRO/DRO by 8015 (3 x 40mL VOA w/ HCl)
Dissolved Lead by 6010 (250mL poly w/ HNO_3 filtered) Total Lead by 6010 (500mL poly w/ HNO_3)

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

Notes/Comments

revised: 05/23/07

MONITORING WELL SAMPLING RECORD

Monitor Well No: **TW-40**

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

Site: Thriftway #810 Refinery
Location: Bloomfield, NM
Project: Semi-Annual Sampling
Sampling Technician: NW / DW
Purge / No Purge: NP
Well Diameter (in): 2"
Initial D.T.W. (ft): 5.30 **Time:** 1101 *(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 030203
Date: Dec 18, 08
Arrival Time: 1059
Air Temp: 37
T.O.C. Elev. (ft):
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
		Sheen – no sample collected					

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

Full VOCs by 8260 (3 x 40mL VOA w/ HCl)
GRO/DRO by 8015 (3 x 40mL VOA w/ HCl)
Dissolved Lead by 6010 (250mL poly w/ HNO_3 filtered) Total Lead by 6010 (500mL poly w/ HNO_3)

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

Notes/Comments

revised: 05/23/07

MONITORING WELL SAMPLING RECORD

Monitor Well No: TW-41

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

Site: Thriftway #810 Refinery
Location: Bloomfield, NM
Project: Semi-Annual Sampling
Sampling Technician: NW | DW
Purge / No Purge: NP
Well Diameter (in): 2"
Initial D.T.W. (ft): 5.85 **Time:** 1107 *(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 030203
Date: Dec 18, 08
Arrival Time: 1106
Air Temp: 37
T.O.C. Elev. (ft):
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
1110	10.95	5.669	3.92	6.16	-339.4	0.25	
1115						1	samples collected

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

Full VOCs by 8260 (3 x 40mL VOA w/ HCl)
GRO/DRO by 8015 (3 x 40mL VOA w/ HCl)
Dissolved Lead by 6010 (250mL poly w/ HNO_3 filtered) Total Lead by 6010 (500mL poly w/ HNO_3)

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

Notes/Comments rotten odor to well water is v. black

revised: 05/23/07

MONITORING WELL SAMPLING RECORD

Monitor Well No: TW-42

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

Site: Thriftway #810 Refinery
Location: Bloomfield, NM
Project: Semi-Annual Sampling
Sampling Technician: NW / DW
Purge / No Purge: NP
Well Diameter (in): 2"
Initial D.T.W. (ft): 6.09 **Time:** 1341 *(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 030203
Date: Dec 16, 08
Arrival Time: 1339
Air Temp: 35
T.O.C. Elev. (ft): _____
Total Well Depth (ft): 11.82

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
1348	12.04	6.036	1.07	6.48	23.5	0.25	
1353						1	samples collected

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

Full VOCs by 8260 (3 x 40mL VOA w/ HCl)
GRO/DRO by 8015 (3 x 40mL VOA w/ HCl)
Dissolved Lead by 6010 (250mL poly w/ HNO_3 filtered) Total Lead by 6010 (500mL poly w/ HNO_3)

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

Notes/Comments

revised: 05/23/07

MONITORING WELL SAMPLING RECORD

Monitor Well No: TW-43

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

Site: Thriftway #810 Refinery
Location: Bloomfield, NM
Project: Semi-Annual Sampling
Sampling Technician: NW / DW
Purge / No Purge: NP
Well Diameter (in): 2"
Initial D.T.W. (ft): 12.79 **Time:** 1405 *(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 030203
Date: Dec 16, 08
Arrival Time: 1401
Air Temp: 34
T.O.C. Elev. (ft):
Total Well Depth (ft): 18.86

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
1411	14.39	6.716	1.01	6.35	7.0	0.25	
1416						1	Samples Collected

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

Full VOCs by 8260 (3 x 40mL VOA w/ HCl)
GRO/DRO by 8015 (3 x 40mL VOA w/ HCl)
Dissolved Lead by 6010 (250mL poly w/ HNO_3 filtered) Total Lead by 6010 (500mL poly w/ HNO_3)

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

Notes/Comments

revised: 05/23/07

MONITORING WELL SAMPLING RECORD

Monitor Well No: TW-44

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

Site: Thriftway #810 Refinery
Location: Bloomfield, NM
Project: Semi-Annual Sampling
Sampling Technician: BW/DW
Purge / No Purge: NP
Well Diameter (in): 2"
Initial D.T.W. (ft): 12.66 **Time:** 1354 *(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 030203
Date: Dec 17, 08
Arrival Time: 1351
Air Temp: 35
T.O.C. Elev. (ft):
Total Well Depth (ft): ~~20.45~~ 20.45

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
1359	15.75	6.494	2.75	6.71	-43.4	0.25	
1406						1	Samples collected

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

Full VOCs by 8260 (3 x 40mL VOA w/ HCl)
GRO/DRO by 8015 (3 x 40mL VOA w/ HCl)
Dissolved Lead by 6010 (250mL poly w/ HNO_3 filtered) Total Lead by 6010 (500mL poly w/ HNO_3)

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

Notes/Comments petroleum odor on H2O
silty, green brown in color

revised: 05/23/07

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 #810 Refinery
Location: Bloomfield, NM
Project: Semi-Annual Sampling
Sampling Technician: NW / DW
Purge / No Purge: NP
Well Diameter (in): 2"
Initial D.T.W. (ft): 3.43 **Time:** 0907 *(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 030203
Date: Dec 19 08
Arrival Time: 0905
Air Temp: 28
T.O.C. Elev. (ft): _____
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
0911	11.04	7.562	9.78	6.79	-62.4	0.25	
0915						1	samples collected

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

Full VOCs by 8260 (3 x 40mL VOA w/ HCl)
GRO/DRO by 8015 (3 x 40mL VOA w/ HCl)
Dissolved Lead by 6010 (250mL poly w/ HNO_3 filtered) Total Lead by 6010 (500mL poly w/ HNO_3)

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

Notes/Comments

revised: 05/23/07

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 #810 Refinery
Location: Bloomfield, NM
Project: Semi-Annual Sampling
Sampling Technician: DW / NW
Purge / No Purge: NP
Well Diameter (in): 2"
Initial D.T.W. (ft): 4.65 **Time:** 0932 *(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 030203
Date: Dec 19, 08
Arrival Time: 0938
Air Temp: 29
T.O.C. Elev. (ft):
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
0935	9.88	10.96	5.55	6.62	-75.1	0.25	
0939						0.5	samples collected

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

Full VOCs by 8260 (3 x 40mL VOA w/ HCl)
GRO/DRO by 8015 (3 x 40mL VOA w/ HCl)
Dissolved Lead by 6010 (250mL poly w/ HNO_3 filtered) Total Lead by 6010 (500mL poly w/ HNO_3)

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

Notes/Comments

revised: 05/23/07

MONITORING WELL SAMPLING RECORD

Monitor Well No: MW-8

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

Site: Thriftway #810 Refinery
Location: Bloomfield, NM
Project: Semi-Annual Sampling
Sampling Technician:
Purge / No Purge: NP
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 030203
Date: Dec 9, 08
Arrival Time: 1000
Air Temp:
T.O.C. Elev. (ft):
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
	Roots	—		No	Sample Collected		
			Wellhead also missing				

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

Full VOCs by 8260 (3 x 40mL VOA w/ HCl)
GRO/DRO by 8015 (3 x 40mL VOA w/ HCl)
Dissolved Lead by 6010 (250mL poly w/ HNO_3 filtered) Total Lead by 6010 (500mL poly w/ HNO_3)

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

Notes/Comments

revised: 05/23/07

MONITORING WELL SAMPLING RECORD

Monitor Well No: MW-9

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

Site: Thriftway #810 Refinery
Location: Bloomfield, NM
Project: Semi-Annual Sampling
Sampling Technician: NW / DW
Purge / No Purge: NP
Well Diameter (in): 2"
Initial D.T.W. (ft): 5.91 **Time:** 1013 *(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 030203
Date: Dec 19, 08
Arrival Time: 1010
Air Temp: 30
T.O.C. Elev. (ft):
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
1014	9.69	6.368	6.29	6.36	-32.0	low yield	
1019							Samples collected

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

Full VOCs by 8260 (3 x 40mL VOA w/ HCl)
GRO/DRO by 8015 (3 x 40mL VOA w/ HCl)
Dissolved Lead by 6010 (250mL poly w/ HNO_3 filtered) Total Lead by 6010 (500mL poly w/ HNO_3)

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

Notes/Comments

revised: 05/23/07

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 #810 Refinery
Location: Bloomfield, NM
Project: Semi-Annual Sampling
Sampling Technician: NW / DW
Purge / No Purge: NP
Well Diameter (in): 2"
Initial D.T.W. (ft): 5.09 **Time:** 1041 *(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 030203
Date: Dec 19, 08
Arrival Time: 1039
Air Temp: 32
T.O.C. Elev. (ft):
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
1044	9.79	5.439	6.27	6.73	-52.8	0.25	
1049							samples collected

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

Full VOCs by 8260 (3 x 40mL VOA w/ HCl)
GRO/DRO by 8015 (3 x 40mL VOA w/ HCl)
Dissolved Lead by 6010 (250mL poly w/ HNO_3 filtered) Total Lead by 6010 (500mL poly w/ HNO_3)

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

Notes/Comments

revised: 05/23/07

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 #810 Refinery
Location: Bloomfield, NM
Project: Semi-Annual Sampling
Sampling Technician: NW/DW
Purge / No Purge: NP
Well Diameter (in): 2"
Initial D.T.W. (ft): 5.04 **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 030203
Date: Dec 19, 08
Arrival Time: 1101
Air Temp: 35
T.O.C. Elev. (ft):
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
1107	11.73	7.748	4.02	6.76	-45.7	0.25	
1112							Samples collected

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

Full VOCs by 8260 (3 x 40mL VOA w/ HCl)
GRO/DRO by 8015 (3 x 40mL VOA w/ HCl)
Dissolved Lead by 6010 (250mL poly w/ HNO_3 filtered) Total Lead by 6010 (500mL poly w/ HNO_3)

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

Notes/Comments

revised: 05/23/07

MONITORING WELL SAMPLING RECORD

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

Monitor Well No: _____

Site: Thriftway #810 Refinery
Location: Bloomfield, NM
Project: Semi-Annual Sampling
Sampling Technician: _____
Purge / No Purge: NP
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 030203
Date: _____
Arrival Time: _____
Air Temp: _____
T.O.C. Elev. (ft): _____
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

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

Full VOCs by 8260 (3 x 40mL VOA w/ HCl)
GRO/DRO by 8015 (3 x 40mL VOA w/ HCl)
Dissolved Lead by 6010 (250mL poly w/ HNO_3 filtered) Total Lead by 6010 (500mL poly w/ HNO_3)

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

Notes/Comments

revised: 05/23/07

MONITORING WELL SAMPLING RECORD

Monitor Well No: _____

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

Site: Thriftway #810 Refinery
Location: Bloomfield, NM
Project: Semi-Annual Sampling
Sampling Technician: _____
Purge / No Purge: NP
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 030203
Date: _____
Arrival Time: _____
Air Temp: _____
T.O.C. Elev. (ft): _____
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

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

Full VOCs by 8260 (3 x 40mL VOA w/ HCl)

GRO/DRO by 8015 (3 x 40mL VOA w/ HCl)

Dissolved Lead by 6010 (250mL poly w/ HNO_3 filtered) Total Lead by 6010 (500mL poly w/ HNO_3)

Disposal of Purged Water: _____

Collected Samples Stored on Ice in Cooler: _____

Chain of Custody Record Complete: _____

Analytical Laboratory: Hall Environmental Analysis Lab, Albuquerque, NM

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

Notes/Comments

revised: 05/23/07

MONITORING WELL SAMPLING RECORD

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

Monitor Well No: _____

Site: Thriftway #810 Refinery
Location: Bloomfield, NM
Project: Semi-Annual Sampling
Sampling Technician: _____
Purge / No Purge: NP
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 030203
Date: _____
Arrival Time: _____
Air Temp: _____
T.O.C. Elev. (ft): _____
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

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

Full VOCs by 8260 (3 x 40mL VOA w/ HCl)
GRO/DRO by 8015 (3 x 40mL VOA w/ HCl)
Dissolved Lead by 6010 (250mL poly w/ HNO_3 filtered) Total Lead by 6010 (500mL poly w/ HNO_3)

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

Notes/Comments

revised: 05/23/07

MONITORING WELL SAMPLING RECORD

Monitor Well No: _____

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

Site: Thriftway #810 Refinery
Location: Bloomfield, NM
Project: Semi-Annual Sampling
Sampling Technician: _____
Purge / No Purge: NP
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 030203
Date: _____
Arrival Time: _____
Air Temp: _____
T.O.C. Elev. (ft): _____
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

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

Full VOCs by 8260 (3 x 40mL VOA w/ HCl)

GRO/DRO by 8015 (3 x 40mL VOA w/ HCl)

Dissolved Lead by 6010 (250mL poly w/ HNO_3 filtered) Total Lead by 6010 (500mL poly w/ HNO_3)

Disposal of Purged Water: _____

Collected Samples Stored on Ice in Cooler: _____

Chain of Custody Record Complete: _____

Analytical Laboratory: Hall Environmental Analysis Lab, Albuquerque, NM

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

Notes/Comments

revised: 05/23/07

MONITORING WELL SAMPLING RECORD

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

Monitor Well No: _____

Site: Thriftway #810 Refinery
Location: Bloomfield, NM
Project: Semi-Annual Sampling
Sampling Technician: _____
Purge / No Purge: NP
Well Diameter (in): 2"
Initial D.T.W. (ft): _____ **Time:** _____
Confirm D.T.W. (ft): _____ **Time:** _____
Final D.T.W. (ft): _____ **Time:** _____

Project No.: AES 030203
Date: _____
Arrival Time: _____
Air Temp: _____
T.O.C. Elev. (ft): _____
Total Well Depth (ft): _____
(taken at initial gauging of all wells)
(taken prior to purging well)
(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

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

Full VOCs by 8260 (3 x 40mL VOA w/ HCl)

GRO/DRO by 8015 (3 x 40mL VOA w/ HCl)

Dissolved Lead by 6010 (250mL poly w/ HNO_3 filtered) Total Lead by 6010 (500mL poly w/ HNO_3)

Disposal of Purged Water: _____

Collected Samples Stored on Ice in Cooler: _____

Chain of Custody Record Complete: _____

Analytical Laboratory: Hall Environmental Analysis Lab, Albuquerque, NM

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

Notes/Comments

revised: 05/23/07

MONITORING WELL SAMPLING RECORD

Monitor Well No: _____

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

Site: Thriftway #810 Refinery
Location: Bloomfield, NM
Project: Semi-Annual Sampling
Sampling Technician: _____
Purge / No Purge: NP
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 030203
Date: _____
Arrival Time: _____
Air Temp: _____
T.O.C. Elev. (ft): _____
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

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

Full VOCs by 8260 (3 x 40mL VOA w/ HCl)

GRO/DRO by 8015 (3 x 40mL VOA w/ HCl)

Dissolved Lead by 6010 (250mL poly w/ HNO_3 filtered) Total Lead by 6010 (500mL poly w/ HNO_3)

Disposal of Purged Water: _____

Collected Samples Stored on Ice in Cooler: _____

Chain of Custody Record Complete: _____

Analytical Laboratory: Hall Environmental Analysis Lab, Albuquerque, NM

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

Notes/Comments

revised: 05/23/07

MONITORING WELL SAMPLING RECORD

Monitor Well No: _____

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

Site: Thriftway #810 Refinery
Location: Bloomfield, NM
Project: Semi-Annual Sampling
Sampling Technician: _____
Purge / No Purge: NP
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 030203
Date: _____
Arrival Time: _____
Air Temp: _____
T.O.C. Elev. (ft): _____
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

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

Full VOCs by 8260 (3 x 40mL VOA w/ HCl)
GRO/DRO by 8015 (3 x 40mL VOA w/ HCl)
Dissolved Lead by 6010 (250mL poly w/ HNO_3 filtered) Total Lead by 6010 (500mL poly w/ HNO_3)

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

Notes/Comments

revised: 05/23/07

MONITORING WELL SAMPLING RECORD

Animas Environmental Services

Monitor Well No: _____

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

Site: Thriftway #810 Refinery
Location: Bloomfield, NM
Project: Semi-Annual Sampling
Sampling Technician: _____
Purge / No Purge: NP
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 030203
Date: _____
Arrival Time: _____
Air Temp: _____
T.O.C. Elev. (ft): _____
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

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

Full VOCs by 8260 (3 x 40mL VOA w/ HCl)
GRO/DRO by 8015 (3 x 40mL VOA w/ HCl)
Dissolved Lead by 6010 (250mL poly w/ HNO_3 filtered) Total Lead by 6010 (500mL poly w/ HNO_3)

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

Notes/Comments

revised: 05/23/07

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 #810 Refinery
Location: Bloomfield, NM
Project: Semi-Annual Sampling
Sampling Technician: N. Willis
Purge / No Purge: NP
Well Diameter (in): 2"
Initial D.T.W. (ft): _____ **Time:** _____ *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): 5.86 **Time:** 0849 *(taken prior to purging well)*
Final D.T.W. (ft): _____ **Time:** _____ *(taken after sample collection)*

Project No.: AES 030203
Date: 1-21-09
Arrival Time: 0845
Air Temp: 27°F
T.O.C. Elev. (ft): _____
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
0854	8.34	5.996	3.58	6.73	-108.3	0.25	
0900	~	~	~	~	~	0.25	Samples Collected

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

Full VOCs by 8260 (3 x 40mL VOA w/ HCl)
GRO/DRO by 8015 (3 x 40mL VOA w/ HCl)
Dissolved Lead by 6010 (250mL poly w/ HNO_3 filtered) Total Lead by 6010 (500mL poly w/ HNO_3)

Disposal of Purged Water: On Concrete or asphalt
Collected Samples Stored on Ice in Cooler: Yes
Chain of Custody Record Complete: Yes
Analytical Laboratory: Hall Environmental Analysis Lab, Albuquerque, NM
Equipment Used During Sampling: Keck Water Level, YSI Water Quality Meter, and New Disposable Bailer

Notes/Comments

Samples contain organic material

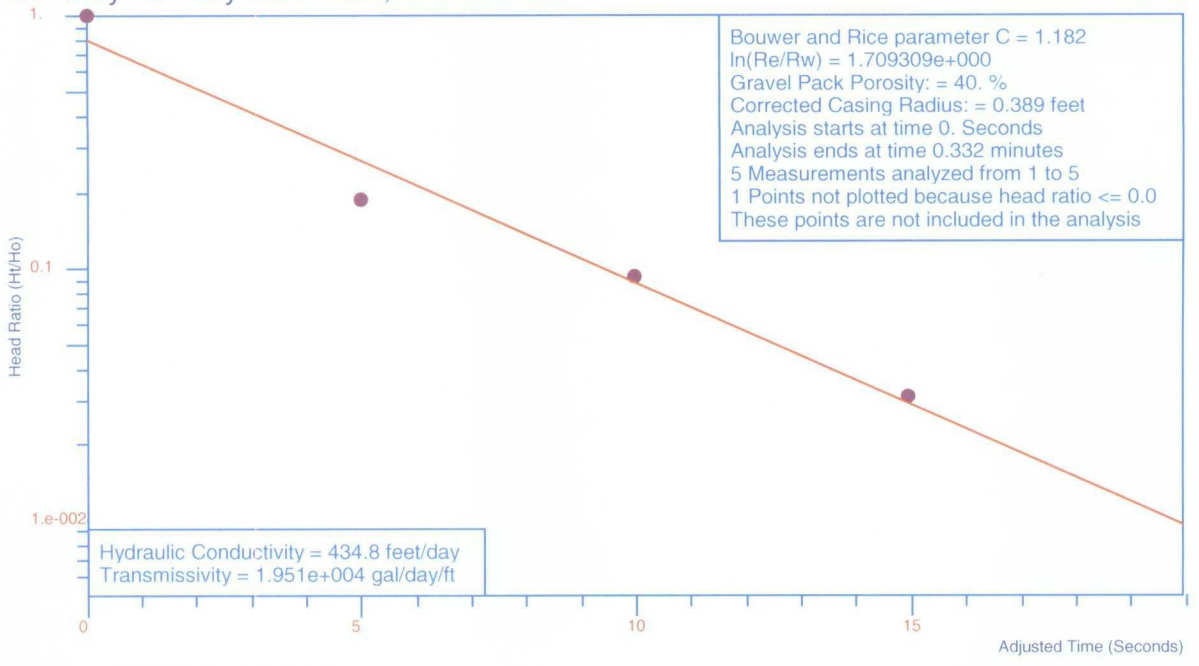
revised: 05/23/07

Falling Head April 28, 2009

Thriftway Refinery Bloomfield, New Mexico

Bouwer and Rice Graph

TW-3



Client:: Thriftway Company

Analysis by Starpoint Software

Ho is 0.32 feet at 0. Seconds

Bouwer and Rice Automatic Parameter Estimation

Falling Head

Site Name:	Thriftway Refinery
Location:	Bloomfield, New Mexico
Test Date:	April 28, 2009
Client:	Thriftway Company

Well Label:	TW-3
Aquifer Thickness:	6. feet
Screen Length:	12. feet
Casing Radius:	0.167 feet
Effective Radius:	0.58 feet
Gravel Pack Porosity:	40. %
Corrected Casing Radius:	0.389 feet
Bouwer and Rice Parameter C	1.182
Radius of Influence of Test	3.205 feet

Trial	Adjusted Time (minutes)	Head (feet)	Head Ratio	Hyd. Con. (feet/day)	Flow to Well (Gallons/Minute)
1	0.	0.32	1.	--	
2	8.3e-002	6.e-002	0.1875	625.9	8.605
3	0.166	3.e-002	9.375e-002	442.5	3.042
4	0.249	1.e-002	3.125e-002	431.9	0.9898
5	0.332	0.	0.	--	

Arithmetic Means:

Hydraulic Conductivity	500.1 feet/day
Transmissivity	2.245e+004 gal/day/ft

Geometric Means:

Hydraulic Conductivity	492.7 feet/day
Transmissivity	2.212e+004 gal/day/ft

Sensitivity Analysis:

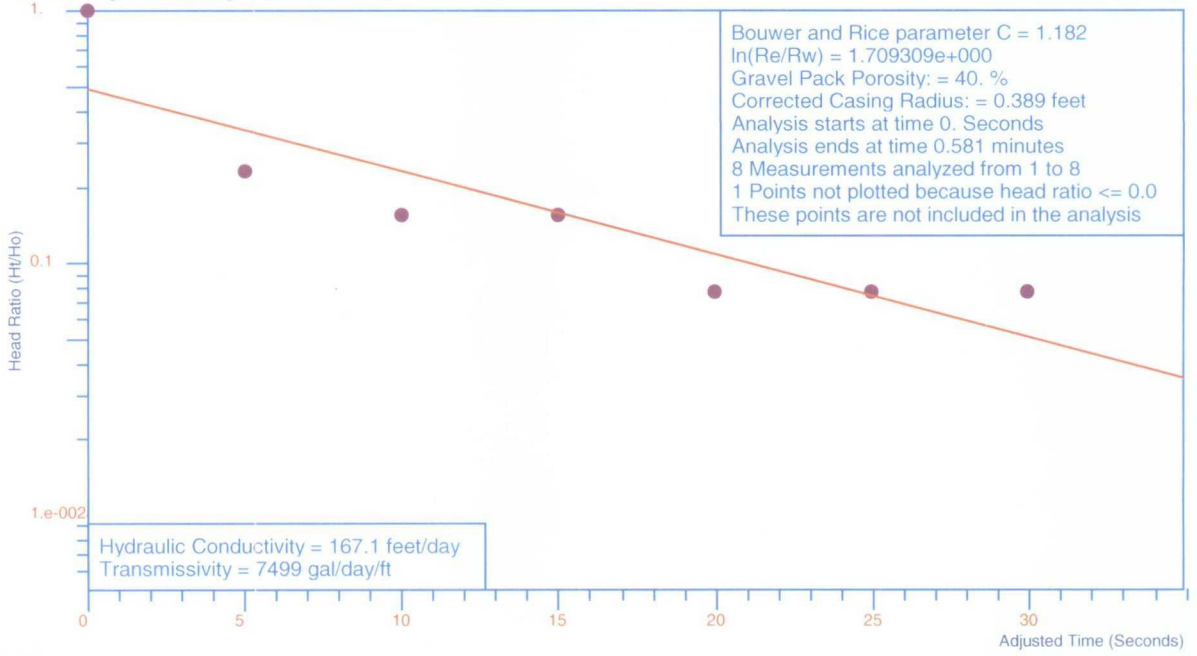
Hydraulic Conductivity	581.5 feet/day
Transmissivity	2.61e+004 gal/day/ft

Rising Head April 28, 2009

Thriftway Refinery Bloomfield, New Mexico

Bouwer and Rice Graph

TW-3



Client:: Thriftway Company

Analysis by Starpoint Software

Ho is 0.13 feet at 0. Seconds

Bouwer and Rice Automatic Parameter Estimation

Rising Head

Site Name:	Thriftway Refinery
Location:	Bloomfield, New Mexico
Test Date:	April 28, 2009
Client:	Thriftway Company

Well Label:	TW-3
Aquifer Thickness:	6. feet
Screen Length:	12. feet
Casing Radius:	0.167 feet
Effective Radius:	0.58 feet
Gravel Pack Porosity:	40. %
Corrected Casing Radius:	0.389 feet
Bouwer and Rice Parameter C	1.182
Radius of Influence of Test	3.205 feet

Trial	Adjusted Time (minutes)	Head (feet)	Head Ratio	Hyd. Con. (feet/day)	Flow to Well (Gallons/Minute)
1	0.	0.13	1.	--	
2	8.3e-002	3.e-002	0.2308	548.2	3.769
3	0.166	2.e-002	0.1538	349.9	1.604
4	0.249	2.e-002	0.1538	233.3	1.069
5	0.332	1.e-002	7.692e-002	239.8	0.5494
6	0.415	1.e-002	7.692e-002	191.8	0.4395
7	0.498	1.e-002	7.692e-002	159.8	0.3663
8	0.581	-27.67	-212.8	--	

Arithmetic Means:

Hydraulic Conductivity	287.1 feet/day
Transmissivity	1.289e+004 gal/day/ft

Geometric Means:

Hydraulic Conductivity	262.7 feet/day
Transmissivity	1.179e+004 gal/day/ft

Sensitivity Analysis:

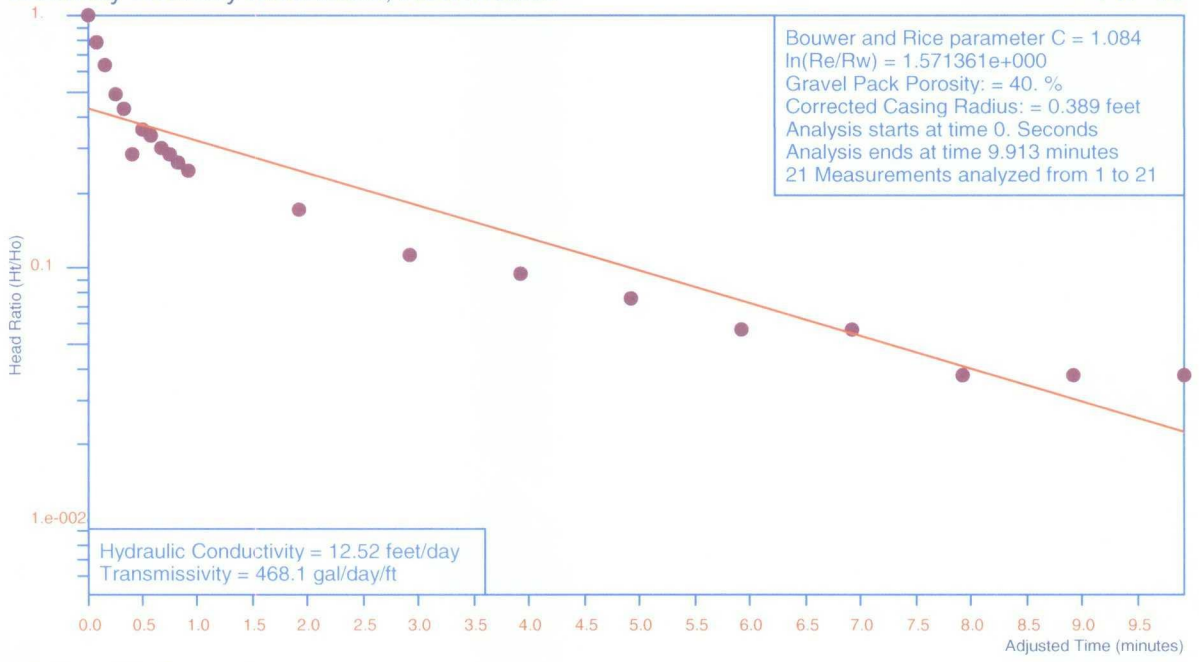
Calculation Error

Falling Head April 29, 2009

Thriftway Refinery Bloomfield, New Mexico

Bouwer and Rice Graph

TW-18



Client:: Thriftway Company

Analysis by Starpoint Software

Ho is 0.53 feet at 0. Seconds

Bouwer and Rice Automatic Parameter Estimation

Falling Head

Site Name:	Thriftway Refinery
Location:	Bloomfield, New Mexico
Test Date:	April 29, 2009
Client:	Thriftway Company

Well Label:	TW-18
Aquifer Thickness:	5. feet
Screen Length:	10. feet
Casing Radius:	0.167 feet
Effective Radius:	0.58 feet
Gravel Pack Porosity:	40. %
Corrected Casing Radius:	0.389 feet
Bouwer and Rice Parameter C	1.084
Radius of Influence of Test	2.792 feet

Trial	Adjusted Time (minutes)	Head (feet)	Head Ratio	Hyd. Con. (feet/day)	Flow to Well (Gallons/Minute)
1	0.	0.53	1.	--	
2	8.3e-002	0.42	0.7925	95.95	8.371
3	0.166	0.34	0.6415	91.55	6.466
4	0.249	0.26	0.4906	97.92	5.288
5	0.332	0.23	0.434	86.08	4.112
6	0.415	0.15	0.283	104.1	3.244
7	0.498	0.19	0.3585	70.52	2.783
8	0.581	0.18	0.3396	63.63	2.379
9	0.664	0.16	0.3019	61.75	2.052
10	0.747	0.15	0.283	57.85	1.802
11	0.83	0.14	0.2642	54.91	1.597
12	0.913	0.13	0.2453	52.7	1.423
13	1.913	9.e-002	0.1698	31.73	0.5932
14	2.913	6.e-002	0.1132	25.6	0.3191
15	3.913	5.e-002	9.434e-002	20.65	0.2145
16	4.913	4.e-002	7.547e-002	18.01	0.1496
17	5.913	3.e-002	5.66e-002	16.63	0.1036
18	6.913	3.e-002	5.66e-002	14.22	8.862e-002
19	7.913	2.e-002	3.774e-002	14.18	5.89e-002
20	8.913	2.e-002	3.774e-002	12.59	5.229e-002
21	9.913	2.e-002	3.774e-002	11.32	4.702e-002

Arithmetic Means:

Hydraulic Conductivity	50.09 feet/day
Transmissivity	1874 gal/day/ft

Geometric Means:

Hydraulic Conductivity	38.51 feet/day
Transmissivity	1441 gal/day/ft

Sensitivity Analysis:

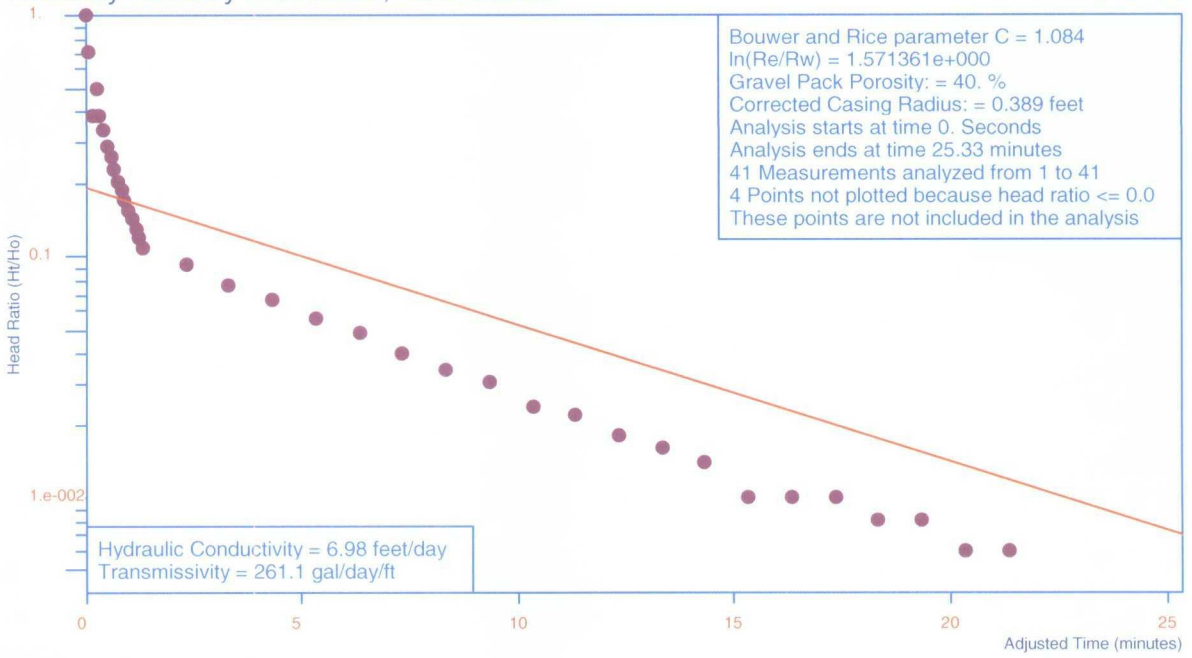
Hydraulic Conductivity	71.64 feet/day
Transmissivity	2680 gal/day/ft

Rising Head April 29, 2009

Thriftway Refinery Bloomfield, New Mexico

Bouwer and Rice Graph

TW-18



Client:: Thriftway Company

Analysis by Starpoint Software

Ho is 4.97 feet at 0. Seconds

Bouwer and Rice Automatic Parameter Estimation

Rising Head

Site Name:	Thriftway Refinery
Location:	Bloomfield, New Mexico
Test Date:	April 29, 2009
Client:	Thriftway Company

Well Label:	TW-18
Aquifer Thickness:	5. feet
Screen Length:	10. feet
Casing Radius:	0.167 feet
Effective Radius:	0.58 feet
Gravel Pack Porosity:	40. %
Corrected Casing Radius:	0.389 feet
Bouwer and Rice Parameter C	1.084
Radius of Influence of Test	2.792 feet

Trial	Adjusted Time (minutes)	Head (feet)	Head Ratio	Hyd. Con. (feet/day)	Flow to Well (Gallons/Minute)
1	0.	4.97	1.	--	
2	8.3e-002	3.52	0.7082	142.3	104.
3	0.166	1.9	0.3823	198.3	78.26
4	0.249	2.48	0.499	95.58	49.23
5	0.332	1.92	0.3863	98.07	39.11
6	0.415	1.66	0.334	90.46	31.19
7	0.498	1.42	0.2857	86.12	25.4
8	0.581	1.28	0.2575	79.93	21.25
9	0.664	1.14	0.2294	75.91	17.98
10	0.747	1.02	0.2052	72.58	15.38
11	0.83	0.95	0.1911	68.25	13.47
12	0.913	0.86	0.173	65.78	11.75
13	0.996	0.78	0.1569	63.65	10.31
14	1.079	0.72	0.1449	61.3	9.167
15	1.162	0.65	0.1308	59.93	8.092
16	1.245	0.6	0.1207	58.14	7.245
17	1.328	0.54	0.1087	57.22	6.418
18	2.328	0.46	9.256e-002	35.	3.344
19	3.328	0.38	7.646e-002	26.45	2.088
20	4.328	0.33	6.64e-002	21.45	1.47
21	5.328	0.28	5.634e-002	18.48	1.075
22	6.328	0.24	4.829e-002	16.4	0.8173
23	7.328	0.2	4.024e-002	15.01	0.6235
24	8.328	0.17	3.421e-002	13.88	0.49
25	9.328	0.15	3.018e-002	12.85	0.4003
26	10.33	0.12	2.414e-002	12.34	0.3077
27	11.33	0.11	2.213e-002	11.52	0.2631
28	12.33	9.e-002	1.811e-002	11.14	0.2082
29	13.33	8.e-002	1.61e-002	10.61	0.1762
30	14.33	7.e-002	1.408e-002	10.18	0.1481
31	15.33	5.e-002	1.006e-002	10.27	0.1067
32	16.33	5.e-002	1.006e-002	9.643	0.1001
33	17.33	5.e-002	1.006e-002	9.086	9.437e-002
34	18.33	4.e-002	8.048e-003	9.007	7.484e-002
35	19.33	4.e-002	8.048e-003	8.541	7.097e-002
36	20.33	3.e-002	6.036e-003	8.606	5.363e-002
37	21.33	3.e-002	6.036e-003	8.202	5.111e-002
38	22.33	2.e-002	4.024e-003	8.456	3.513e-002
39	23.33	2.e-002	4.024e-003	8.094	3.363e-002
40	24.33	2.e-002	4.024e-003	7.761	3.224e-002
41	25.33	-16.13	-3.245	--	

Arithmetic Means:

Hydraulic Conductivity	42.99 feet/day
Transmissivity	1608 gal/day/ft

Geometric Means:

Hydraulic Conductivity	26.26 feet/day
Transmissivity	982.3 gal/day/ft

Sensitivity Analysis:

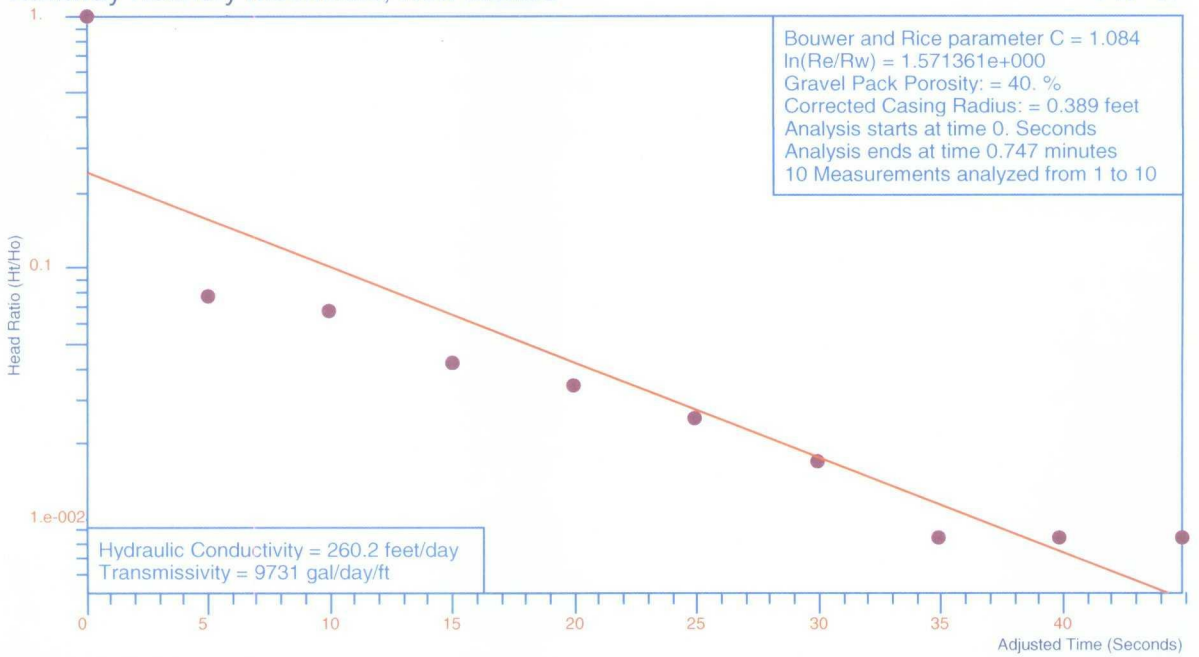
Hydraulic Conductivity	85.73 feet/day
Transmissivity	3207 gal/day/ft

Falling Head April 28, 2009

Thriftway Refinery Bloomfield, New Mexico

Bouwer and Rice Graph

TW-41



Client:: Thriftway Company

Analysis by Starpoint Software

Ho is 1.18 feet at 0. Seconds

Bouwer and Rice Automatic Parameter Estimation

Falling Head

Site Name:	Thriftway Refinery
Location:	Bloomfield, New Mexico
Test Date:	April 28, 2009
Client:	Thriftway Company

Well Label:	TW-41
Aquifer Thickness:	5. feet
Screen Length:	8. feet
Casing Radius:	0.167 feet
Effective Radius:	0.58 feet
Gravel Pack Porosity:	40. %
Corrected Casing Radius:	0.389 feet
Bouwer and Rice Parameter C	1.084
Radius of Influence of Test	2.792 feet

Trial	Adjusted Time (minutes)	Head (feet)	Head Ratio	Hyd. Con. (feet/day)	Flow to Well (Gallons/Minute)
1	0.	1.18	1.	--	
2	8.3e-002	9.e-002	7.627e-002	1061	15.87
3	0.166	8.e-002	6.78e-002	555.	7.378
4	0.249	5.e-002	4.237e-002	434.6	3.611
5	0.332	4.e-002	3.39e-002	349.	2.32
6	0.415	3.e-002	2.542e-002	302.9	1.51
7	0.498	2.e-002	1.695e-002	280.3	0.9316
8	0.581	1.e-002	8.475e-003	281.1	0.4671
9	0.664	1.e-002	8.475e-003	246.	0.4087
10	0.747	1.e-002	8.475e-003	218.6	0.3633

Arithmetic Means:

Hydraulic Conductivity	414.3 feet/day
Transmissivity	1.55e+004 gal/day/ft

Geometric Means:

Hydraulic Conductivity	364.9 feet/day
Transmissivity	1.365e+004 gal/day/ft

Sensitivity Analysis:

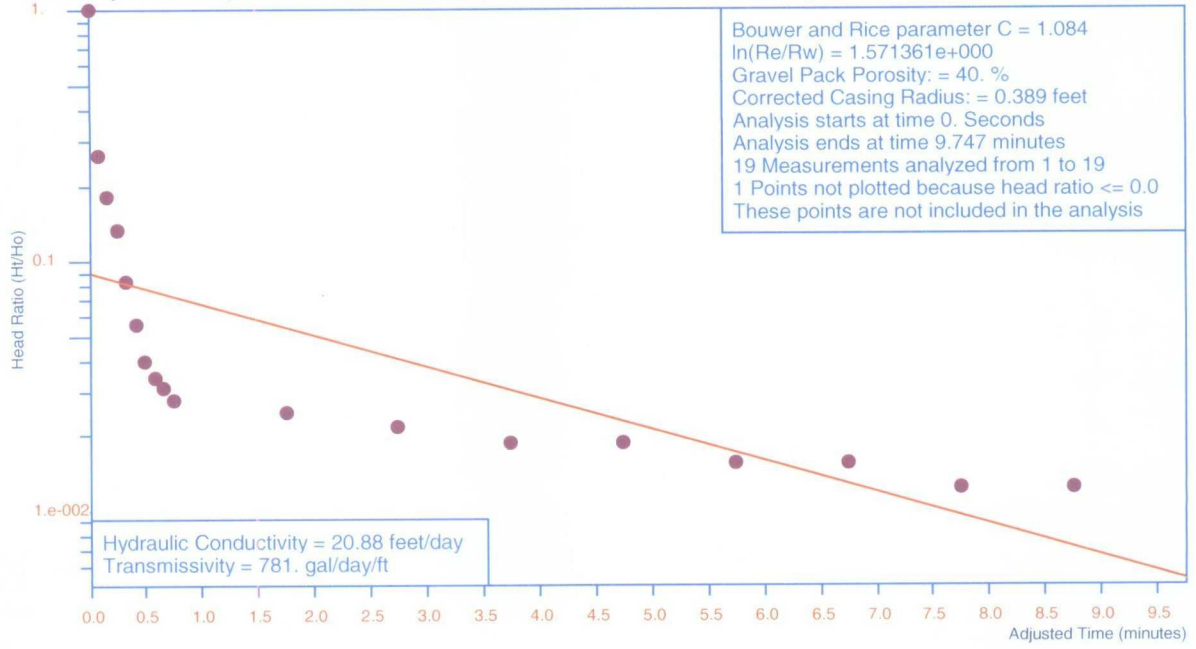
Hydraulic Conductivity	1003 feet/day
Transmissivity	3.751e+004 gal/day/ft

Rising Head April 28, 2009

Thriftway Refinery Bloomfield, New Mexico

Bouwer and Rice Graph

TW-41



Client:: Thriftway Company

Analysis by Starpoint Software

Ho is 3.25 feet at 0. Seconds

Bouwer and Rice Automatic Parameter Estimation

Rising Head

Site Name:	Thriftway Refinery
Location:	Bloomfield, New Mexico
Test Date:	April 28, 2009
Client:	Thriftway Company

Well Label:	TW-41
Aquifer Thickness:	5. feet
Screen Length:	8. feet
Casing Radius:	0.167 feet
Effective Radius:	0.58 feet
Gravel Pack Porosity:	40. %
Corrected Casing Radius:	0.389 feet
Bouwer and Rice Parameter C	1.084
Radius of Influence of Test	2.792 feet

Trial	Adjusted Time (minutes)	Head (feet)	Head Ratio	Hyd. Con. (feet/day)	Flow to Well (Gallons/Minute)
1	0.	3.25	1.	--	
2	8.3e-002	0.85	0.2615	553.2	78.14
3	0.166	0.59	0.1815	351.9	34.5
4	0.249	0.43	0.1323	278.1	19.87
5	0.332	0.27	8.308e-002	256.5	11.51
6	0.415	0.18	5.538e-002	238.7	7.139
7	0.498	0.13	4.e-002	221.3	4.78
8	0.581	0.11	3.385e-002	199.5	3.647
9	0.664	0.1	3.077e-002	179.5	2.983
10	0.747	9.e-002	2.769e-002	164.4	2.458
11	1.747	8.e-002	2.462e-002	72.59	0.965
12	2.747	7.e-002	2.154e-002	47.83	0.5564
13	3.747	6.e-002	1.846e-002	36.47	0.3637
14	4.747	6.e-002	1.846e-002	28.79	0.287
15	5.747	5.e-002	1.538e-002	24.87	0.2066
16	6.747	5.e-002	1.538e-002	21.18	0.176
17	7.747	4.e-002	1.231e-002	19.43	0.1292
18	8.747	4.e-002	1.231e-002	17.21	0.1144
19	9.747	-6.55	-2.015	--	

Arithmetic Means:

Hydraulic Conductivity	159.5 feet/day
Transmissivity	5965 gal/day/ft

Geometric Means:

Hydraulic Conductivity	92.73 feet/day
Transmissivity	3468 gal/day/ft

Sensitivity Analysis:

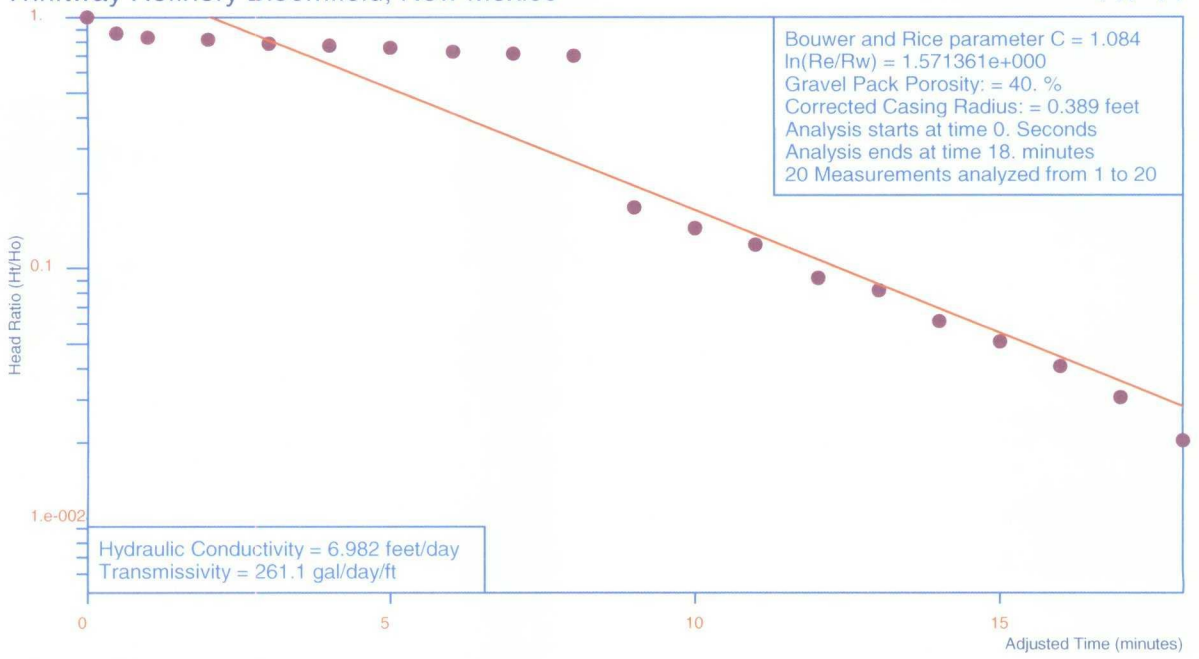
Hydraulic Conductivity	430. feet/day
Transmissivity	1.608e+004 gal/day/ft

Falling Head April 28, 2009

Thriftway Refinery Bloomfield, New Mexico

Bouwer and Rice Graph

TW-44



Client:: Thriftway Company

Analysis by Starpoint Software

Ho is 0.98 feet at 0. Seconds

Bouwer and Rice Automatic Parameter Estimation

Falling Head

Site Name:	Thriftway Refinery
Location:	Bloomfield, New Mexico
Test Date:	April 28, 2009
Client:	Thriftway Company

Well Label:	TW-44
Aquifer Thickness:	5. feet
Screen Length:	10. feet
Casing Radius:	0.167 feet
Effective Radius:	0.58 feet
Gravel Pack Porosity:	40. %
Corrected Casing Radius:	0.389 feet
Bouwer and Rice Parameter C	1.084
Radius of Influence of Test	2.792 feet

Trial	Adjusted Time (minutes)	Head (feet)	Head Ratio	Hyd. Con. (feet/day)	Flow to Well (Gallons/Minute)
1	0.	0.98	1.	--	
2	0.5	0.85	0.8673	9.744	1.72
3	1.	0.82	0.8367	6.102	1.039
4	2.	0.8	0.8163	3.474	0.5772
5	3.	0.78	0.7959	2.605	0.422
6	4.	0.76	0.7755	2.176	0.3435
7	5.	0.74	0.7551	1.923	0.2956
8	6.	0.72	0.7347	1.759	0.2631
9	7.	0.7	0.7143	1.646	0.2393
10	8.	0.69	0.7041	1.501	0.2152
11	9.	0.17	0.1735	6.663	0.2353
12	10.	0.14	0.1429	6.662	0.1937
13	11.	0.12	0.1224	6.536	0.1629
14	12.	9.e-002	9.184e-002	6.812	0.1273
15	13.	8.e-002	8.163e-002	6.598	0.1096
16	14.	6.e-002	6.122e-002	6.83	8.512e-002
17	15.	5.e-002	5.102e-002	6.791	7.053e-002
18	16.	4.e-002	4.082e-002	6.844	5.686e-002
19	17.	3.e-002	3.061e-002	7.021	4.375e-002
20	18.	2.e-002	2.041e-002	7.402	3.075e-002

Arithmetic Means:

Hydraulic Conductivity	5.215 feet/day
Transmissivity	195.1 gal/day/ft

Geometric Means:

Hydraulic Conductivity	4.452 feet/day
Transmissivity	166.5 gal/day/ft

Sensitivity Analysis:

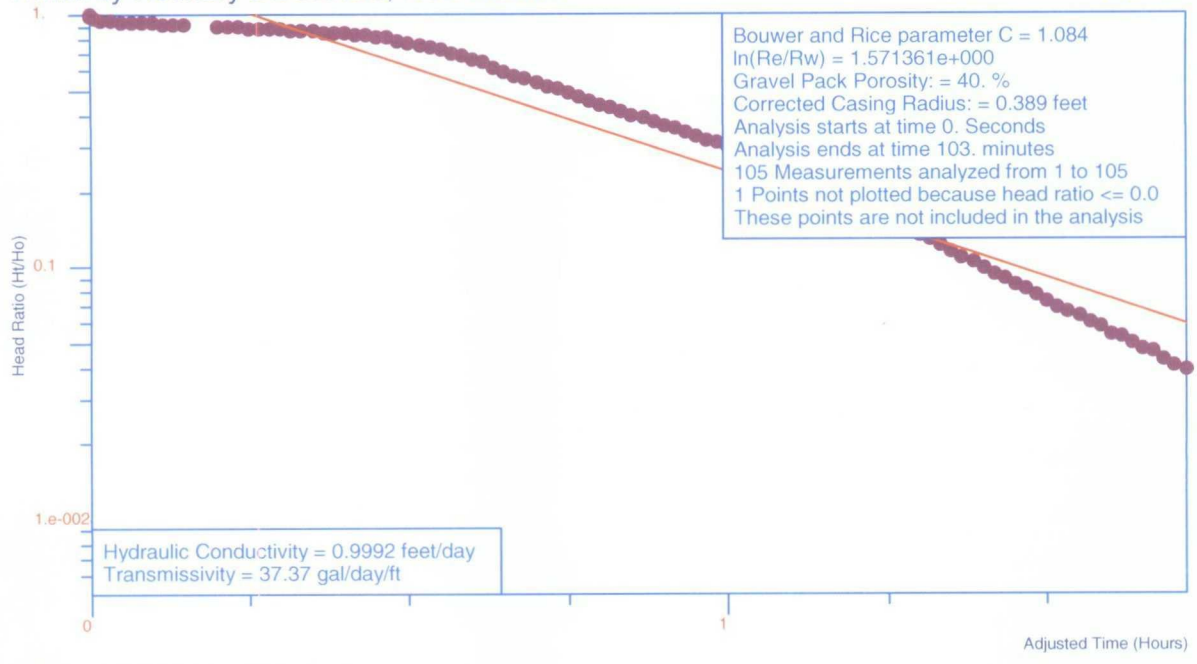
Hydraulic Conductivity	4.05 feet/day
Transmissivity	151.5 gal/day/ft

Rising Head April 28, 2009

Thriftway Refinery Bloomfield, New Mexico

Bouwer and Rice Graph

TW-44



Client:: Thriftway Company

Analysis by Starpoint Software

Ho is 7.43 feet at 0. Seconds

Bouwer and Rice Automatic Parameter Estimation

Rising Head

Site Name:	Thriftway Refinery
Location:	Bloomfield, New Mexico
Test Date:	April 28, 2009
Client:	Thriftway Company

Well Label:	TW-44
Aquifer Thickness:	5. feet
Screen Length:	10. feet
Casing Radius:	0.167 feet
Effective Radius:	0.58 feet
Gravel Pack Porosity:	40. %
Corrected Casing Radius:	0.389 feet
Bouwer and Rice Parameter C	1.084
Radius of Influence of Test	2.792 feet

Trial	Adjusted Time (minutes)	Head (feet)	Head Ratio	Hyd. Con. (feet/day)	Flow to Well (Gallons/Minute)
1	0.	7.43	1.	--	
2	8.3e-002	7.33	0.9865	5.589	8.51
3	0.5	7.24	0.9744	1.774	2.667
4	1.	7.13	0.9596	1.411	2.09
5	1.5	-0.33	-4.441e-002	--	
6	2.	7.07	0.9515	0.8501	1.248
7	3.	7.	0.9421	0.6803	0.9892
8	4.	6.96	0.9367	0.5593	0.8085
9	5.	6.92	0.9314	0.4869	0.6998
10	6.	6.89	0.9273	0.4305	0.6161
11	7.	6.85	0.9219	0.3975	0.5656
12	8.	6.82	0.9179	0.3666	0.5193
13	9.	6.78	0.9125	0.3482	0.4904
14	12.	6.75	0.9085	0.2738	0.3839
15	13.	6.71	0.9031	0.2684	0.3741
16	14.	6.67	0.8977	0.2639	0.3656
17	15.	6.63	0.8923	0.26	0.3581
18	16.	6.6	0.8883	0.2535	0.3475
19	17.	6.57	0.8843	0.2477	0.3381
20	18.	6.52	0.8775	0.2485	0.3365
21	19.	6.48	0.8721	0.2465	0.3318
22	20.	6.45	0.8681	0.2421	0.3244
23	21.	6.41	0.8627	0.2407	0.3205
24	22.	6.36	0.856	0.242	0.3197
25	23.	6.31	0.8493	0.2432	0.3188
26	24.	6.27	0.8439	0.2421	0.3154
27	25.	6.23	0.8385	0.2412	0.3121
28	26.	6.19	0.8331	0.2404	0.3091
29	27.	6.14	0.8264	0.2418	0.3084
30	28.	6.06	0.8156	0.2492	0.3137
31	29.	5.92	0.7968	0.2682	0.3298
32	30.	5.8	0.7806	0.2826	0.3405
33	31.	5.66	0.7618	0.3005	0.3533
34	32.	5.52	0.7429	0.3179	0.3645
35	33.	5.39	0.7254	0.333	0.3728
36	34.	5.26	0.7079	0.3478	0.38
37	35.	5.13	0.6904	0.3623	0.3861
38	36.	4.99	0.6716	0.3786	0.3924
39	37.	4.862	0.6544	0.3924	0.3963
40	38.	4.58	0.6164	0.4359	0.4147
41	39.	4.44	0.5976	0.452	0.4168
42	40.	4.29	0.5774	0.4701	0.4189
43	41.	4.15	0.5585	0.4863	0.4192
44	42.	4.01	0.5397	0.5027	0.4187
45	43.	3.88	0.5222	0.5172	0.4169
46	44.	3.76	0.5061	0.5299	0.4139
47	45.	3.62	0.4872	0.547	0.4113
48	46.	3.51	0.4724	0.5581	0.4069
49	47.	3.4	0.4576	0.5694	0.4021
50	48.	3.27	0.4401	0.5854	0.3976
51	49.	3.2	0.4307	0.5885	0.3912

52	50.	3.09	0.4159	0.6007	0.3856
53	51.	2.99	0.4024	0.611	0.3795
54	52.	2.91	0.3917	0.6171	0.373
55	53.	2.81	0.3782	0.6281	0.3666
56	54.	2.72	0.3661	0.6371	0.3599
57	55.	2.63	0.354	0.6464	0.3531
58	56.	2.55	0.3432	0.6538	0.3463
59	57.	2.46	0.3311	0.6639	0.3392
60	58.	2.38	0.3203	0.6719	0.3322
61	59.	2.3	0.3096	0.6804	0.3251
62	60.	2.22	0.2988	0.6893	0.3178
63	61.	2.13	0.2867	0.7012	0.3102
64	62.	2.04	0.2746	0.7137	0.3024
65	63.	1.96	0.2638	0.7241	0.2948
66	64.	1.88	0.253	0.7351	0.2871
67	65.	1.8	0.2423	0.7467	0.2792
68	66.	1.72	0.2315	0.759	0.2712
69	67.	1.66	0.2234	0.7658	0.264
70	68.	1.58	0.2127	0.7794	0.2558
71	69.	1.51	0.2032	0.7906	0.248
72	70.	1.44	0.1938	0.8025	0.24
73	71.	1.38	0.1857	0.8117	0.2327
74	72.	1.31	0.1763	0.8252	0.2245
75	73.	1.26	0.1696	0.8321	0.2178
76	74.	1.2	0.1615	0.8435	0.2102
77	75.	1.14	0.1534	0.8556	0.2026
78	76.	1.1	0.148	0.8605	0.1966
79	77.	1.06	0.1427	0.8657	0.1906
80	78.	0.99	0.1332	0.8846	0.1819
81	79.	0.95	0.1279	0.8913	0.1759
82	80.	0.9	0.1211	0.9033	0.1689
83	81.	0.85	0.1144	0.9163	0.1618
84	82.	0.81	0.109	0.9253	0.1557
85	83.	0.77	0.1036	0.935	0.1495
86	84.	0.73	9.825e-002	0.9456	0.1434
87	85.	0.69	9.287e-002	0.9572	0.1372
88	86.	0.66	8.883e-002	0.9637	0.1321
89	87.	0.63	8.479e-002	0.971	0.1271
90	88.	0.6	8.075e-002	0.9789	0.122
91	89.	0.57	7.672e-002	0.9877	0.1169
92	90.	0.54	7.268e-002	0.9972	0.1119
93	91.	0.51	6.864e-002	1.008	0.1068
94	92.	0.49	6.595e-002	1.012	0.103
95	93.	0.47	6.326e-002	1.016	9.921e-002
96	94.	0.45	6.057e-002	1.021	9.545e-002
97	95.	0.43	5.787e-002	1.027	9.172e-002
98	96.	0.4	5.384e-002	1.042	8.657e-002
99	97.	0.39	5.249e-002	1.04	8.426e-002
100	98.	0.37	4.98e-002	1.048	8.054e-002
101	99.	0.35	4.711e-002	1.057	7.681e-002
102	100.	0.34	4.576e-002	1.056	7.457e-002
103	101.	0.32	4.307e-002	1.066	7.086e-002
104	102.	0.3	4.038e-002	1.077	6.713e-002
105	103.	0.29	3.903e-002	1.078	6.494e-002

Arithmetic Means:

Hydraulic Conductivity	0.7056 feet/day
Transmissivity	26.39 gal/day/ft

Geometric Means:

Hydraulic Conductivity	0.5939 feet/day
Transmissivity	22.21 gal/day/ft

Sensitivity Analysis:

Hydraulic Conductivity	0.6217 feet/day
Transmissivity	23.25 gal/day/ft

Remediation Service Int'l
4835 Colt Unit D
Ventura CA 93003
805.644.8382
805.644.8378 FAX
www.rsi-save.com

384.7912

Report Generator Version 1.3

Date of Report:	2/6/2009
Project Name:	Thriftway #810 MPE Pilot Study
Unit ID:	1294
Controller S/N:	322
Software version:	844

Date Range From:	2/5/2009 6:23
Date Range To :	2/6/2009 6:58
Lbs. Removed/Period:	79.73
Gal Removed/Period:	12.85
SCF Processed/Period	16736

Assumptions:

20000	Btu/lb
6.2	lb/gallon of gasoline
120	Mole Weight of Extracted VOC
2520	Btu/Cubic Foot of Propane
1000	Btu/Cubic Foot of Natural Gas

Parts/Million by Volume (PPMV) Conversion to Micrograms/Liter (ug/L):
(PPMV/24.055)*AVG. Mole Weight=ug/L

Mass Transfer Equation to Convert to Pounds/Hour:
(ug/L)*(Flow SCFM)*28.3 L/SCF*60 Minutes/Hour*2.2 lbs/Kg*(1/10^9

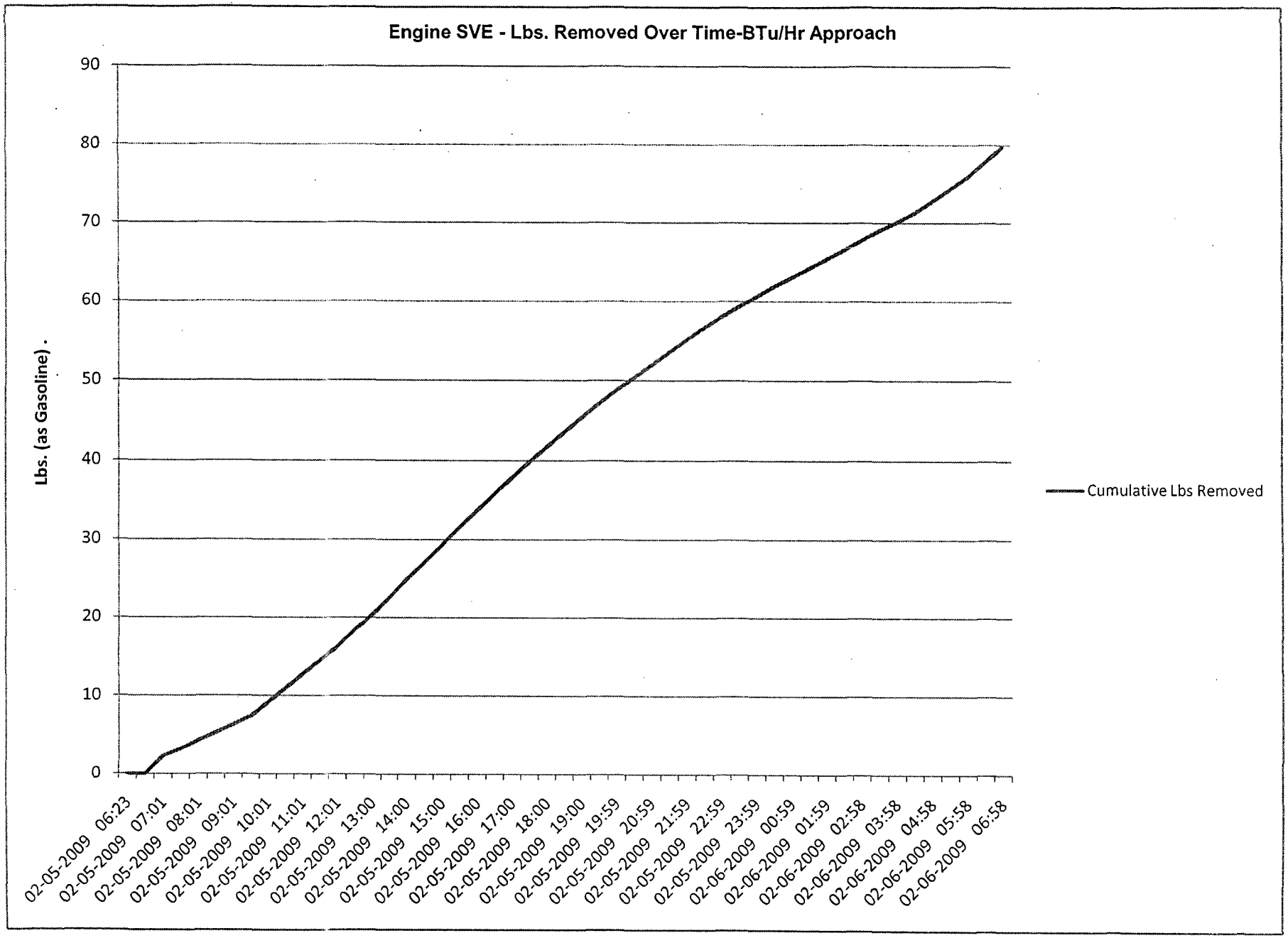
There are no express or implied warranties for fitness of use or any other purpose of the data contained herein
See report footnotes for disclaimer details and other technical information relating to calculation procedures.

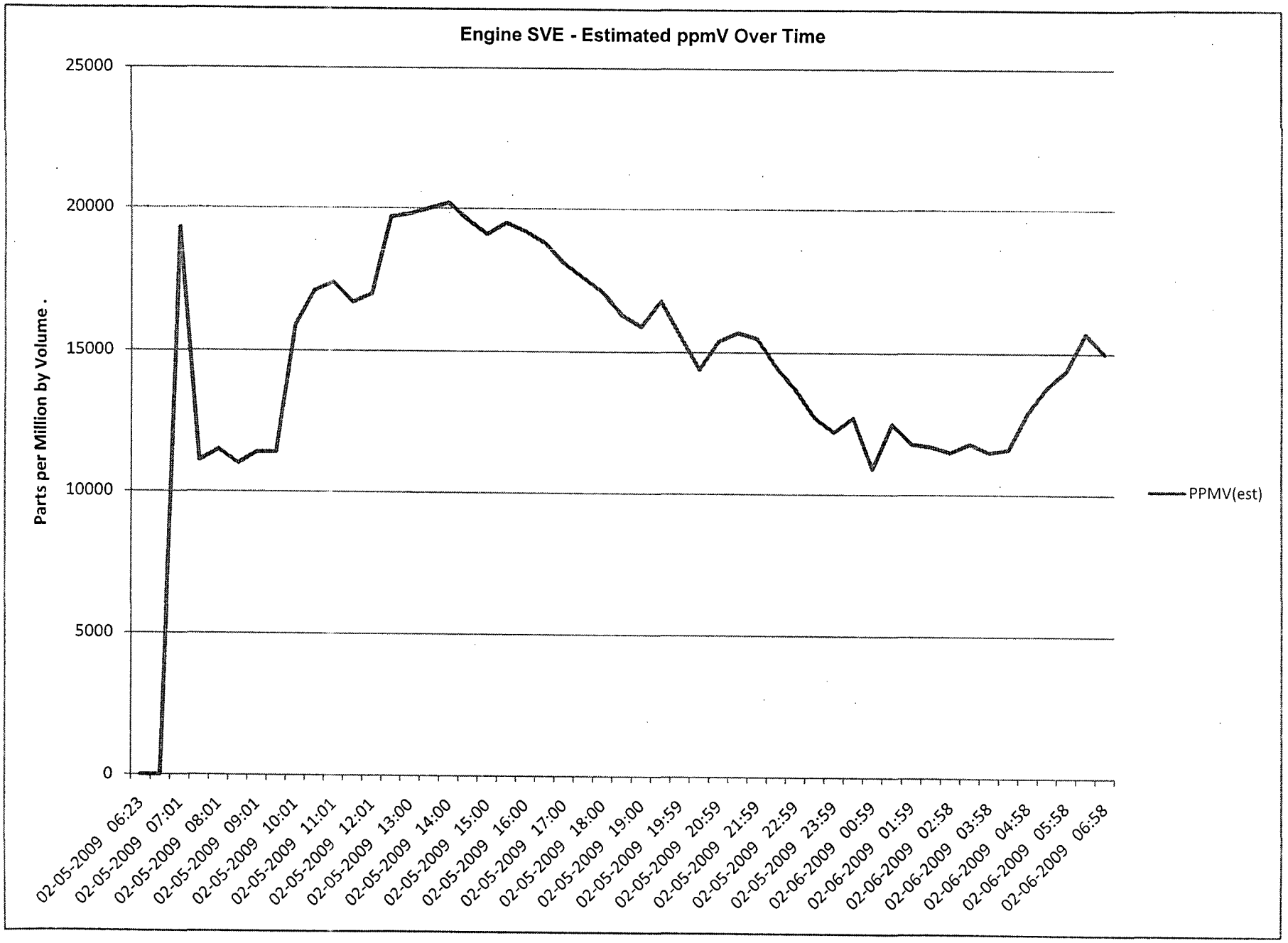
Footnotes:

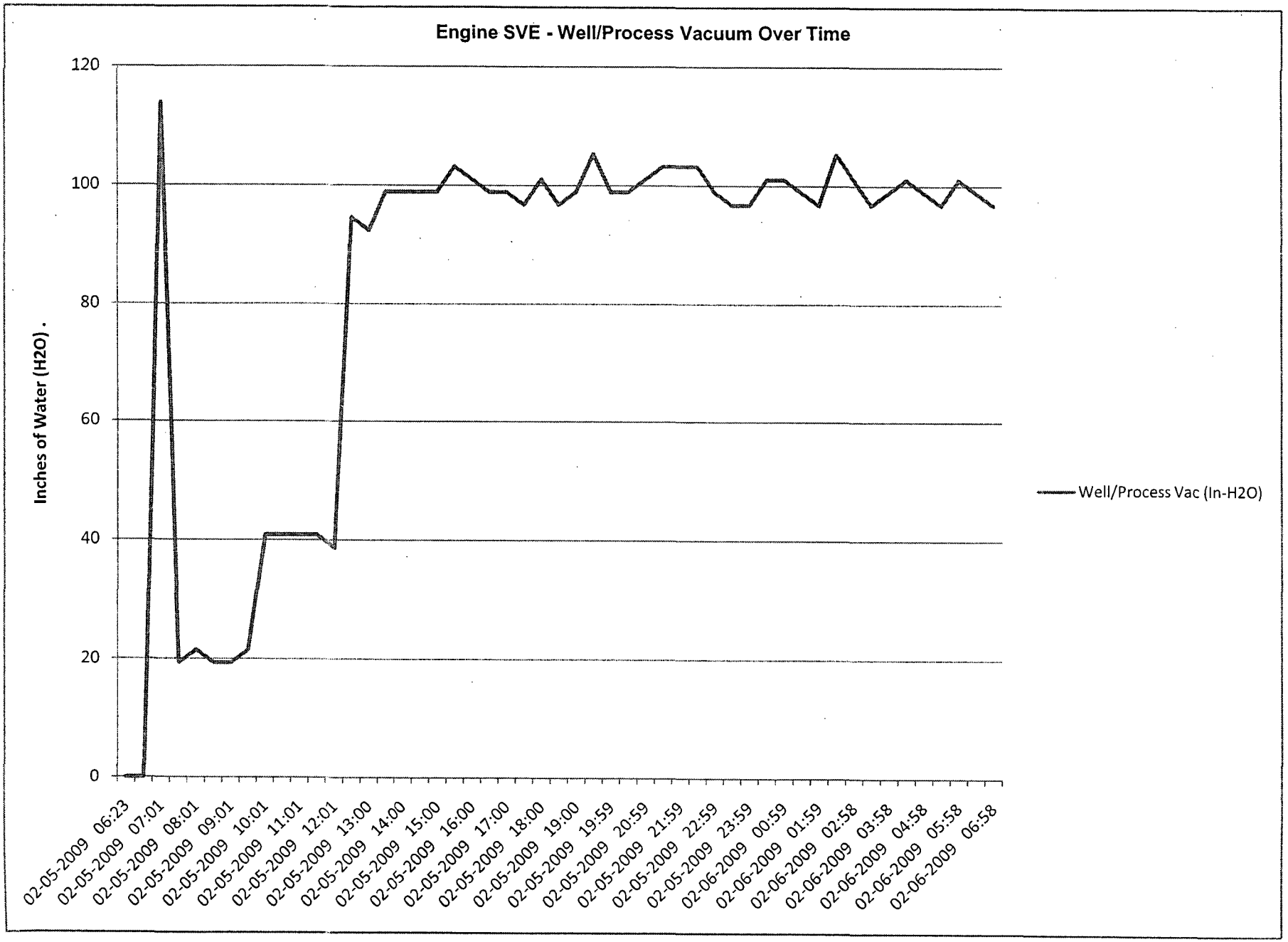
RSIs Innovative Approach to Estimating Btu/Hr:
1. Measure alternate fuel usage of engine prior to introduction of process flow
2. Multiply the SCFM flow rate of the alternate fuel (propane or natural gas) by the Btu value to determine energy demand on the engine at static conditions
3. The controller records a "snapshot" of the energy demand at a given RPM and engine manifold vacuum just prior to allowing the process flow to begin
4. The controller adjusts the initial baseline based on engine load or oxygen deficiency as necessary
5. Any drop in energy demand is assumed to be caused by the introduction of the process flow and is displayed as Estimated Btu/hr and recorded accordingl

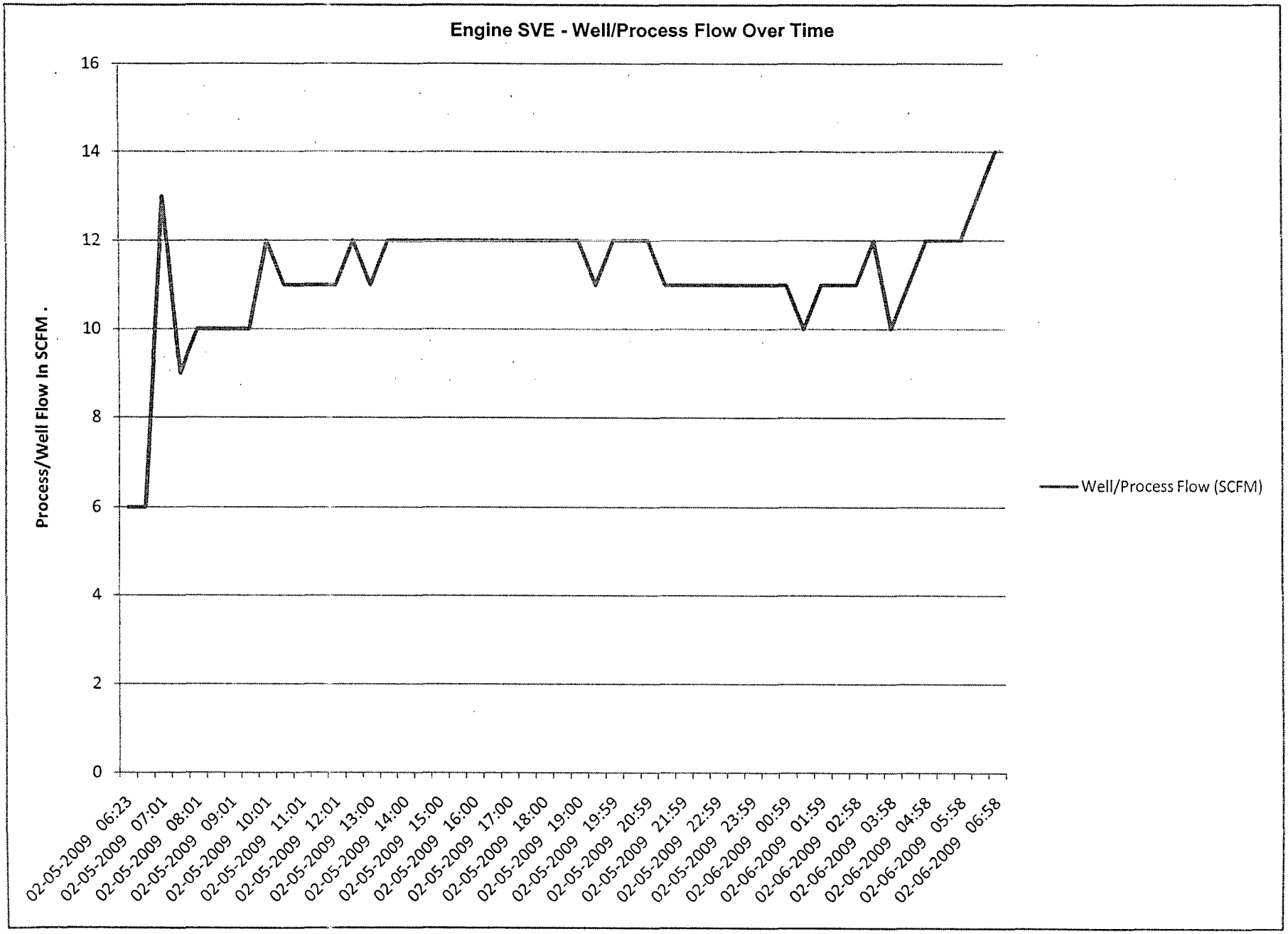
RSIs Innovative Approach to Estimating PPMV:
1. The controller completes the Btu/hr calculation as explained above
2. The controller looks at the well flow rate (estimated or measured in SCFM)
3. The controller then computes the average PPMV using the mass transfer equation to solve for PPMV
4. If the flow rate is estimated then PPMV is subject to accuracy of estimated flow and accuracy of the Btu/hr calculation
5. If the flow rate is measured then this PPMV estimate will be relative to actual lab data assuming the flow measurement and the Btu calculations are correc

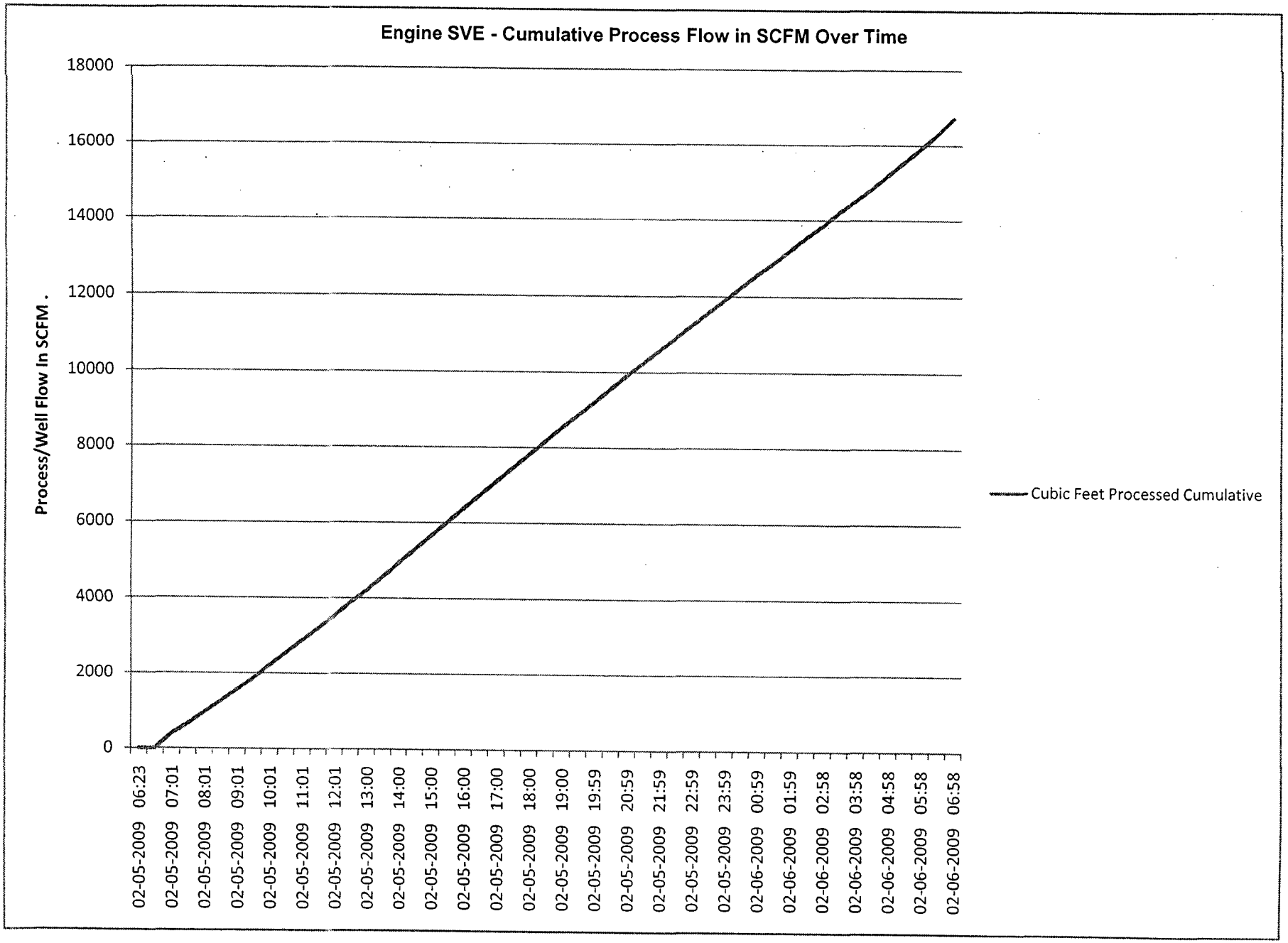
There are many advantages to using RSIs innovative approach in calculating how much mass was removed from a project in a given time period
Our method eliminates human calculation error and prevents incorrect or non-calibrated use of field instrumentation and it is a consisten
periodic measurement over time which when used properly will reduces costly laboratory analysis

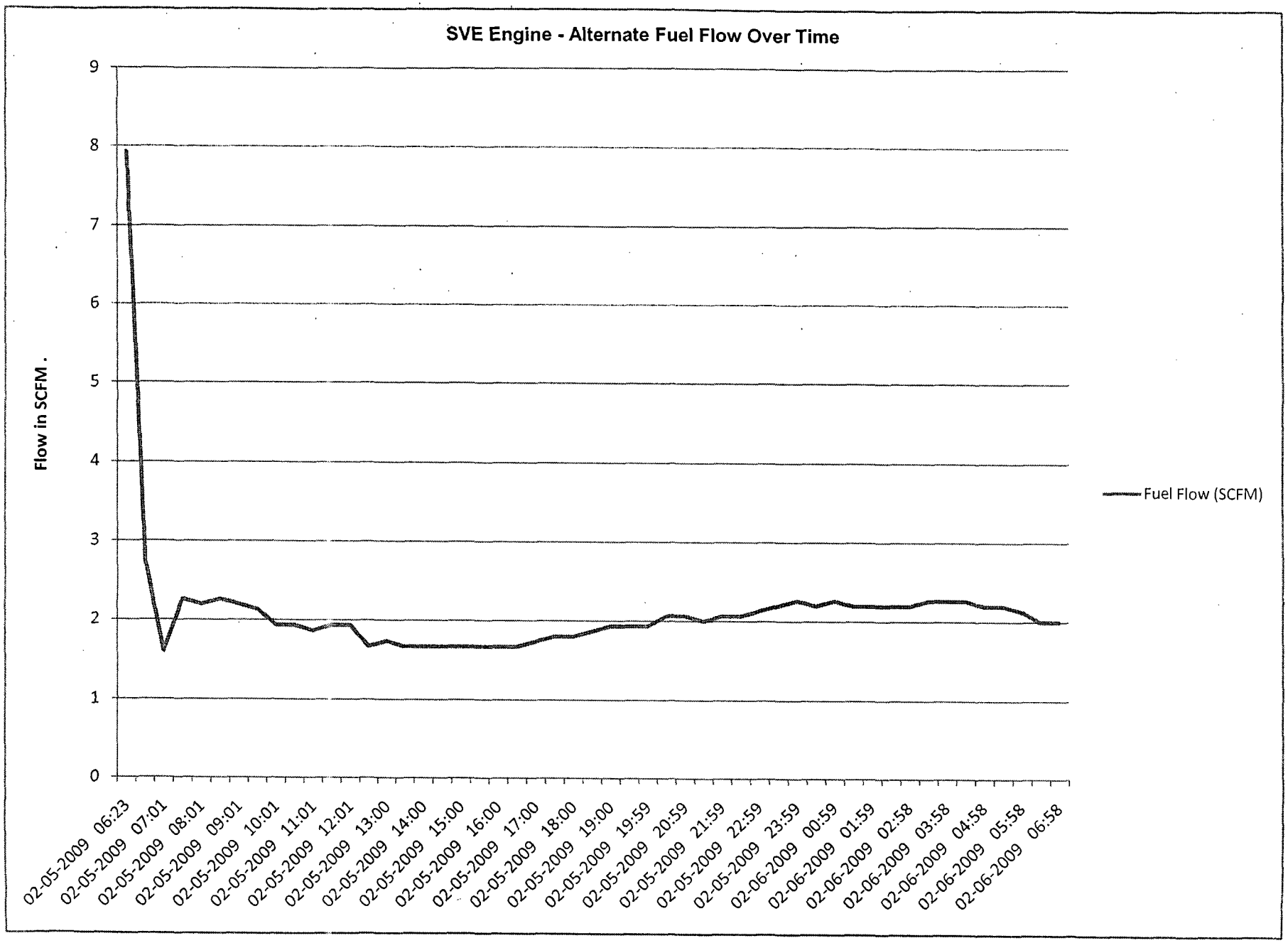

Engine SVE - Lbs. Removed Over Time-BTu/Hr Approach
Lbs. (as Gasoline)
90
80
70
60
50
40
30
20
10
0
02-05-2009 06:23
02-05-2009 07:01
02-05-2009 08:01
02-05-2009 09:01
02-05-2009 10:01
02-05-2009 11:01
02-05-2009 12:01
02-05-2009 13:00
02-05-2009 14:00
02-05-2009 15:00
02-05-2009 16:00
02-05-2009 17:00
02-05-2009 18:00
02-05-2009 19:00
02-05-2009 19:59
02-05-2009 20:59
02-05-2009 21:59
02-05-2009 22:59
02-05-2009 23:59
02-06-2009 00:59
02-06-2009 01:59
02-06-2009 02:58
02-06-2009 03:58
02-06-2009 04:58
02-06-2009 05:58
02-06-2009 06:58
Cumulative Lbs Removed


Engine SVE - Estimated ppmV Over Time
Parts per Million by Volume .
25000
20000
15000
10000
5000
0
PPMV(est)
02-05-2009 06:23
02-05-2009 07:01
02-05-2009 08:01
02-05-2009 09:01
02-05-2009 10:01
02-05-2009 11:01
02-05-2009 12:01
02-05-2009 13:00
02-05-2009 14:00
02-05-2009 15:00
02-05-2009 16:00
02-05-2009 17:00
02-05-2009 18:00
02-05-2009 19:00
02-05-2009 19:59
02-05-2009 20:59
02-05-2009 21:59
02-05-2009 22:59
02-05-2009 23:59
02-06-2009 00:59
02-06-2009 01:59
02-06-2009 02:58
02-06-2009 03:58
02-06-2009 04:58
02-06-2009 05:58
02-06-2009 06:58


Engine SVE - Well/Process Vacuum Over Time
Inches of Water (H2O) .
120
100
80
60
40
20
0
02-05-2009 06:23
02-05-2009 07:01
02-05-2009 08:01
02-05-2009 09:01
02-05-2009 10:01
02-05-2009 11:01
02-05-2009 12:01
02-05-2009 13:00
02-05-2009 14:00
02-05-2009 15:00
02-05-2009 16:00
02-05-2009 17:00
02-05-2009 18:00
02-05-2009 19:00
02-05-2009 19:59
02-05-2009 20:59
02-05-2009 21:59
02-05-2009 22:59
02-05-2009 23:59
02-06-2009 00:59
02-06-2009 01:59
02-06-2009 02:58
02-06-2009 03:58
02-06-2009 04:58
02-06-2009 05:58
02-06-2009 06:58
Well/Process Vac (In-H2O)


Engine SVE - Well/Process Flow Over Time
Process/Well Flow In SCFM .
16
14
12
10
8
6
4
2
0
02-05-2009 06:23
02-05-2009 07:01
02-05-2009 08:01
02-05-2009 09:01
02-05-2009 10:01
02-05-2009 11:01
02-05-2009 12:01
02-05-2009 13:00
02-05-2009 14:00
02-05-2009 15:00
02-05-2009 16:00
02-05-2009 17:00
02-05-2009 18:00
02-05-2009 19:00
02-05-2009 19:59
02-05-2009 20:59
02-05-2009 21:59
02-05-2009 22:59
02-05-2009 23:59
02-06-2009 00:59
02-06-2009 01:59
02-06-2009 02:58
02-06-2009 03:58
02-06-2009 04:58
02-06-2009 05:58
02-06-2009 06:58
Well/Process Flow (SCFM)


Engine SVE - Cumulative Process Flow in SCFM Over Time
Process/Well Flow In SCFM .
18000
16000
14000
12000
10000
8000
6000
4000
2000
0
02-05-2009 06:23
02-05-2009 07:01
02-05-2009 08:01
02-05-2009 09:01
02-05-2009 10:01
02-05-2009 11:01
02-05-2009 12:01
02-05-2009 13:00
02-05-2009 14:00
02-05-2009 15:00
02-05-2009 16:00
02-05-2009 17:00
02-05-2009 18:00
02-05-2009 19:00
02-05-2009 19:59
02-05-2009 20:59
02-05-2009 21:59
02-05-2009 22:59
02-05-2009 23:59
02-06-2009 00:59
02-06-2009 01:59
02-06-2009 02:58
02-06-2009 03:58
02-06-2009 04:58
02-06-2009 05:58
02-06-2009 06:58
Cubic Feet Processed Cumulative


SVE Engine - Alternate Fuel Flow Over Time
Flow in SCFM .
9
8
7
6
5
4
3
2
1
0
02-05-2009 06:23
02-05-2009 07:01
02-05-2009 08:01
02-05-2009 09:01
02-05-2009 10:01
02-05-2009 11:01
02-05-2009 12:01
02-05-2009 13:00
02-05-2009 14:00
02-05-2009 15:00
02-05-2009 16:00
02-05-2009 17:00
02-05-2009 18:00
02-05-2009 19:00
02-05-2009 19:59
02-05-2009 20:59
02-05-2009 21:59
02-05-2009 22:59
02-05-2009 23:59
02-06-2009 00:59
02-06-2009 01:59
02-06-2009 02:58
02-06-2009 03:58
02-06-2009 04:58
02-06-2009 05:58
02-06-2009 06:58
Fuel Flow (SCFM)