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SWMU No.10
Sludge Pits
(1 of 4)

December 2016

INVESTIGATION REPORT
Solid Waste Management Unit (SWMU)
No. 10 Sludge Pits

Western Refining

Gallup Refinery
Western Refining Southwest, Inc.
Gallup, New Mexico

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Scott Crouch, P.G
DiSorbo Consulting, LLC

DiSorbo
Environmental Consulting Firm

8501 North Mopac Expy | Suite 300 | Austin, TX 78759
512.693.4190 (P) | 512.279.3118 (F) | www.disorboconsult.com

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List of Acronyms

API	American Petroleum Institute
AOCs	areas of concern
BTEX	benzene, toluene, ethylbenzene, and xylene
bgl	below ground level (bgl)
btoc	below top of casing
CFR	Code of Federal Regulations
DRO	diesel range organics
DAF	dilution/attenuation factor
EPA	Environmental Protection Agency
gpm	gallons per minute
HI	hazard index
HSA	hollow-stem auger
IDW	investigation derived waste
LPG	liquefied petroleum gas
LTU	Land Treatment Unit
MADEP	Massachusetts Department of Environmental Protection
MCL	maximum contaminant level
msl	mean sea level
MW	monitoring well
NMAC	New Mexico Administrative Code
NMED	New Mexico Environment Department
RCRA	Resource Conservation and Recovery Act
PID	photoionization detector
PVC	polyvinyl chloride
SPH	separate phase hydrocarbon
SVOC	semi volatile organic compound
SWMUs	Solid Waste Management Units
TPH	total petroleum hydrocarbon
TVOC	total volatile organic content
TCLP	toxicity characteristic leaching procedure
USCS	unified soil classification system

VOC	volatile organic compound
WQCC	Water Quality Control Commission

Executive Summary

The Gallup Refinery, which is located 17 miles east of Gallup, New Mexico, has been in operation since the 1950s. Past inspections by State [New Mexico Environment Department (NMED)] and federal environmental inspectors have identified locations where releases to the environment may have occurred. These locations are generally referred to as Solid Waste Management Units (SWMUs) or Areas of Concern (AOCs). Pursuant to the terms and conditions of the facility's Resource Conservation and Recovery Act (RCRA) Post-Closure Care Permit and 20.4.1.500 New Mexico Administrative Code (NMAC), this environmental site investigation was completed for SWMU No. 10 (Sludge Pits).

The activities completed include sampling and analysis of soils and groundwater throughout the location of the former Sludge Pits to determine current concentrations of any potential contaminants resulting from historical operations and to delineate any such historical releases. This area was previously investigated in 1990 and 1994 with the collection of numerous soil samples during the RCRA Facility Investigation (RFI). The current investigation began on April 28, 2015 and continued through September 21, 2016. This included the completion of 25 soil borings with 73 soil samples (excluding additional quality assurance samples) collected for analysis of potential site-related constituents (e.g., volatile and semi-volatile organics, total petroleum hydrocarbons, and metals). Temporary well completions were installed in 11 boreholes where saturation was encountered. Eleven groundwater samples (excluding additional quality assurance samples) were collected for analysis of potential site-related constituents (e.g., volatile and semi-volatile organics, total petroleum hydrocarbons (TPH), metals, and inorganic/general water quality parameters).

At the former Sludge Pits, seven organic constituents (1,2,4-trimethylbenzene, 1-methylnaphthalene, 2-methylnaphthalene, benzene, ethylbenzene, naphthalene, and xylenes) were detected at concentrations above their soil-to-groundwater [Dilution Attenuation Factor (DAF)= 295] screening levels but no individual organic constituents were reported at concentrations above their respective residential direct contact screening levels. Including diesel range organics (DRO) and motor oil range organics (MRO) with the aforementioned seven individual organic constituents, the exceedances of screening levels occurred in 16 soil samples collected at 12 soil borings (SWMU 10-4, SWMU 10-5, SWMU 10-8, SWMU 10-10, SWMU 10-11, SWMU 10-13, SWMU 10-14, SWMU 10-17, SWMU 10-19, SWMU 10-20, SWMU 10-24, and SWMU 10-25).

Two metals (arsenic and cyanide) were detected in soils at concentrations above the (DAF=295) soil-to-groundwater protection screening levels. Arsenic was also detected at a concentration above the residential soil screening level in one sample [SWMU 10-20 (2-2.5')]. It is possible that some of these detections are reflective of naturally occurring concentrations but a site-specific metals background study will be required to make this determination.

There were numerous inorganic constituents in the totals analyses (arsenic, barium, beryllium, chromium (hexavalent), chromium (total), cobalt, cyanide, iron, lead, manganese, nickel, vanadium, chloride, and sulfate) detected at concentrations above residential/tap water screening levels in groundwater samples collected from the temporary well completions. At least one of these exceedances of screening levels for inorganic constituents occurred in every groundwater sample analyzed. Only arsenic, barium, iron, manganese, and nickel were detected at concentrations above screening levels in the dissolved analyses. Thirteen organic constituents (1-methylnaphthalene, 2-methylnaphthalene, 1,2,4-trimethlybenzene,1,3,5-trimethylbenzene, benzene, bromodichloromethane, MTBE, naphthalene, toluene, xylenes, 2,4-dimethylphenol, 3+4-methylphenol, and phenol) were detected at concentrations above screening levels in seven groundwater samples collected from soil borings SWMU 10-5, SWMU 10-11, SWMU 10-12, SWMU 10-15, SWMU 10-20, SWMU 10-21, and SWMU 10-25.

Western is recommending two additional soil borings to complete lateral delineation of impacts to soil and groundwater. In addition, a separate investigation is recommended to evaluate naturally occurring concentrations of inorganic constituents in soil.

Section 1
Introduction

The Gallup Refinery is located approximately 17 miles east of Gallup, New Mexico along the north side of Interstate Highway I-40 in McKinley County. The physical address is I-40, Exit #39 Jamestown, New Mexico 87347. The Gallup Refinery property covers approximately 810 acres. Figure 1 presents the refinery location and the regional vicinity, which is characterized as high desert plain comprised primarily of public lands used for grazing by cattle and sheep.

The Gallup Refinery generally processes crude oil from the Four Corners area transported to the facility by pipeline or tanker truck. Various process units are operated at the facility, including crude distillation, reforming, fluidized catalytic cracking, alkylation, isomerization, sulfur recovery, merox treater, and hydrotreating. Current and past operations have produced gasoline, diesel fuels, jet fuels, kerosene, propane, butane, and residual fuel.

The area of investigation that is the subject of this report is shown on Figure 2 for the Sludge Pits (SWMU No. 10). The purpose of the site investigation is to determine and evaluate the presence, nature, and extent of releases of contaminants in accordance with 20.4.1.500 NMAC incorporating 40 Code of Federal Regulations (CFR) Section 264.101. The investigation was completed pursuant to the SWMU No. 10 Investigation Work Plan dated September 2014 (approved with modification March 2, 2015).

Section 2 presents background information for SWMU No. 10, including a review of historical waste management activities to help identity the types of waste handled, sources of releases, and previously known impacts to the environment. Section 3 describes the scope of work completed during the site investigation, including completion of soil borings, installation of temporary monitoring wells, and sample collection. The fourth section of the report explains the results of the field investigation, including the general surface and subsurface conditions and detailed site-specific information acquired during subsurface investigations. Section 5 explains the regulatory standards that are used for comparison to the analytical results and Section 6 presents the analytical results of soil and groundwater samples analyzed for volatile and semi-volatile organic compounds, TPH, metals, and inorganic/general chemistry constituents. The results of these analyses are compared

to applicable State or federal screening levels. Section 7 summarizes and provides an evaluation of the potential impacts and provides recommendations for any future actions.

Section 2
Background

This section presents background information for the Sludge Pits (SWMU No. 10) including a review of historical waste management activities to identity the following:

- Type and characteristics of waste and contaminants handled in the SWMU;
- Known and possible sources of impacts;
- History of releases; and
- Known extent of impacts prior to the current investigation.

2.1 Sludge Pits (SWMU No. 10)

The Sludge Pits were originally included as a SWMU in the 1988 Hazardous and Solid Waste Act (HSWA) permit and subsequently included for investigation in the 1990 RCRA Facility Investigation (RFI) Work Plan.

2.2 Operational History

The Sludge Pits were put into service in 1958 and were removed from service in 1980, when the sludge was removed and the pit area was covered with a layer of soil. The source of the fill soil is unknown, but the refinery has historically sourced fill from on-site borrow areas that were not used for site operations. The exact date in 1980 of the removal activity is unknown but the sludge materials in the pits were removed and placed in the RCRA Permitted Land Treatment Unit after the pits were removed from service (Geoscience Consultants, Ltd., 1985). The volume of materials removed is unknown. There were two pits that covered an area of approximately 130 feet by 80 feet and 70 feet by 50 feet with a depth of 2 feet (Figure 2). The pits were used to contain oily waste removed from the API Separator.

An analysis of metals in the refinery wastewater, which flowed through the API Separator, was conducted in July and August 1980. A copy of the summarized results are included in Appendix F (Geoscience Consultants, Ltd., 1985). The metal with the highest concentration is chromium. The sample with the highest chromium concentration was the cooling water tower blowdown. The results are not speciated between chromium III and chromium VI. The fact that the highest concentration was reported at the cooling tower could indicate that at least one source of the chromium was the

cooling tower. It was a common practice during that time period to use chromium VI as a corrosion inhibitor in cooling tower operations and chromate is reported to have been used at the cooling towers (EPA, 1987). An analysis of the separator sludge was conducted in March 1984 and while it did report total chromium at 0.036 mg/l, it did not detect the presence of chromium VI (Appendix F).

2.3 Historical Site Investigations

In 1990, during the Phase I RFI eight soil borings (RFI1001V through RFI1008V) were completed to depths of 13 feet below ground surface (bgs) (Figure 3) (Giant Refining Company, 1991). Soil samples were collected from depths of 0.0 feet bgs, 3.0 feet bgs, 6.0 feet bgs, 9.0 feet bgs, and 12.5 feet bgs. The soil samples were analyzed for metals (antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, nickel, mercury, potassium, selenium, vanadium, and zinc), volatile organic compounds (VOCs), and semi volatile organic compounds (SVOCs) and the results are presented in Table 1. For comparison the NMED soil screening levels (*Risk Assessment Guidance for Site Investigation and Remediation*, dated February 2012) and EPA Regional Screening Levels are also included in Tables 1 and 2. Based on the detection of constituents in the samples collected in 1990, EPA directed that deeper samples be collected from the same area. As shown on Figure 4, eight additional soil borings (RFI1014V through RFI1021V) were drilled to depths of 25 feet bgs using hollow-stem augers with soil samples collected at depths of 19.0 feet bgs and 25.0 feet bgs (Giant Refining Company, 1994). The soil samples were analyzed for VOCs, SVOCs, and metals and the results are summarized in Table 2.

The analytical results for the soil samples collected in 1990 indicated the presence of arsenic, barium, cadmium, chromium (compared to chromium VI screening levels), cobalt, copper, mercury, benzene, ethylbenzene, toluene, xylenes, 2,4-dimethylphenol, 2-methylnaphthalene, o-cresol, m&p-cresol, fluorene, naphthalene, and phenol at concentrations above screening levels. The metals were initially compared to background concentrations in the 1991 RFI report; however, NMED has not approved background concentrations for metals and thus it is not currently known how the reported metals concentrations compare to naturally occurring concentrations. The metals were found at concentrations above screening levels in all samples, in particular for chromium when compared to chromium VI screening levels and cobalt. The soil samples collected in 1990 were not analyzed to determine the valence state of the chromium, but rather it was reported as total chromium. The organic constituents with concentrations above the screening levels were detected in samples collected at boring locations RFI1002 at a depth of 3 feet bgs, RFI1004 from depths of 3 feet bgs to 9 feet bgs, and RFI1005 from depths of 6 feet bgs to 12.5 feet bgs.

The analytical results for the soil samples collected in 1994 indicated the presence of barium and di-n-butyl phthalate at concentrations above their respective screening levels. Barium was detected in all but one soil sample (RFI1015V25.0) above the screening level of 300 mg/kg. Di-n-butyl phthalate was detected at concentrations above the screening level (7.0 mg/kg) in four soil samples (RIF1018V19.0, RFI1019V25.0, RIF1021V19.0, and RFI1021V25.0). Di-n-butyl phthalate is a phthalate ester (plasticizer) and is considered by EPA to be a common laboratory contaminant (EPA, 1989).

Giant proposed to implement the corrective action plan (in-place bioremediation) that had previously been submitted to EPA in February 1993 and approved, with modifications, by EPA on January 7, 1994. There is no record of additional testing of soils to evaluate the effectiveness of in-place bioremediation after EPA's approval of the corrective action plan. During the week of March 23, 1998, an on-site inspection was conducted by Practical Environmental Services, Inc. in support of preparation of a RCRA Post-Closure Care Permit for the Gallup Refinery Land Treatment Unit. The Summary Report is included as Appendix B of the 2014 SWMU 10 Investigation Work Plan (Western Refining Southwest, Inc., 2014). The observations were as follows:

- The sludge pits area was observed to be vacant and inactive. No sign of soil staining or residual waste was evident at or in the vicinity of the site;
- Native shrubs and grasses were observed growing throughout the general vicinity. No signs of distress were evident; and
- Local soil in the vicinity of the sludge pits is bentonitic clays and silts. Similar soil strata from a neighboring SWMU exhibited a hydraulic conductivity of less than 10^{-7} cm/sec.

Section 3
Scope of Activities

3.1 Soil Boring, Temporary Monitoring Well Installation and Sample Collection

Pursuant to the approved Investigation Work Plan, an investigation of soils and groundwater was conducted to determine and evaluate the presence, nature, extent, fate, and transport of contaminants. To accomplish this objective, soil borings and temporary monitoring wells were installed at the Sludge Pits (Figure 7).

As outlined in the Investigation Work Plan, there is the potential for constituents to have been released to soils at known locations and therefore a judgmental sampling design was implemented.

3.1.1 Site Investigation

The scope of work for the investigation at the Sludge Pits consisted of the installation of a minimum of ten soil borings throughout the area of the former Sludge Pits. Borings were scheduled to be drilled to a minimum depth of 20 feet or to the top of bedrock. The scope of work required the collection of a groundwater sample if groundwater was encountered. During the investigation 15 additional soil borings (eight were completed as temporary monitoring wells) were added to the scope in an effort to delineate the extent of impacted soils as observed visually, from the results field screening using a photoionization detector (PID), or elevated concentrations in initial laboratory analytical reports. This includes borings SWMU 10-11 through SWMU 10-25, which were completed to the south, west, north, and northeast of the original area of investigation to further define the lateral extent of potential impacts. Seventy three soil samples (excluding additional quality assurance samples) were collected for analysis of potential site-related constituents including volatile and semi-volatile organics, total petroleum (i.e., gasoline, diesel, and motor oil range) hydrocarbons, Skinner List metals, chromium VI, iron, and manganese.

Soil samples were collected at the 25 locations shown on Figure 7. Twenty soil borings were advanced using hollow stem augers. Eight of these borings were on the original scope of work. Twelve borings completed using hollow stem augers were added during the investigation. Temporary wells were installed in 10 of these boreholes and groundwater was subsequently sampled. The following list provides a summary of the soil borings advanced using hollow stem augers:

- SWMU 10-1; advanced to 20 feet below ground level (bgl); temporary well installed;
- SWMU 10-3; advanced to 20 feet bgl; temporary well installed;
- SWMU 10-4; advanced to 20 feet bgl;
- SWMU 10-5; advanced to 24 feet bgl; temporary well installed;
- SWMU 10-7; advanced to 20 feet bgl;
- SWMU 10-8; advanced to 20 feet bgl;
- SWMU 10-9; advanced to 20 feet bgl;
- SWMU 10-10; advanced to 20 feet bgl;
- SWMU 10-11; additional boring; advanced to 20 feet bgl; temporary well installed;
- SWMU 10-12; additional boring; advanced to 22 feet bgl; temporary well installed;
- SWMU 10-13; additional boring; advanced to 20 feet bgl;
- SWMU 10-14; additional boring; advanced to 23 feet bgl; temporary well installed;
- SWMU 10-15; additional boring; advanced to 20 feet bgl; temporary well installed
- SWMU 10-18; additional boring; advanced to 20 feet bgl;
- SWMU 10-19; additional boring; advanced to 20 feet bgl;
- SWMU 10-20; additional boring; advanced to 22 feet bgl; temporary well installed;
- SWMU 10-21; additional boring; advanced to 22 feet bgl; temporary well installed;
- SWMU 10-23; additional boring; advanced to 17 feet bgl;
- SWMU 10-24; additional boring; advanced to 17 feet bgl; and
- SWMU 10-25; additional boring; advanced to 19 feet bgl; temporary well installed.

Five soil borings were advanced using a hand auger. This deviation from the Investigation Work Plan was necessary when the soil boring location was not accessible to the drilling rig (e.g., uneven terrain, overhead electrical lines, and below grade utility lines). Two of these soil borings were on the original scope of work. Three of the soil borings completed with a hand auger were added during the investigation. A temporary well was installed in one of the boreholes and groundwater was subsequently sampled. The following list provides a summary of the soil borings advanced using a hand augers:

- SWMU 10-2; advanced to 4 feet bgl (refusal);
- SWMU 10-6; advanced to 12 feet bgl (refusal);
- SWMU 10-16; additional boring; advanced to 9 feet bgl (refusal); temporary well installed;
- SWMU 10-17; additional boring; advanced to 8 feet bgl (refusal); and

- SWMU 10-22; additional boring; advanced to 9 feet bgl.

Groundwater samples were collected from 11 temporary well completions. The groundwater samples were analyzed for volatile and semi-volatile organics, total petroleum (i.e., gasoline, diesel, and motor oil range) hydrocarbons, Skinner List metals, chromium VI, iron, manganese, chloride, fluoride, and sulfate. The following list provides a brief summary of the groundwater sample collection.

- SWMU 10-1; developed and sampled; yielded enough water for a full analytical suite;
- SWMU 10-3; developed and sampled; yielded enough water for a full analytical suite;
- SWMU 10-5; sampled only due to slow recharge rate; yielded enough water for a full analytical suite;
- SWMU 10-11; developed and sampled; yielded enough water for a full analytical suite; sheen observed on purge water;
- SWMU 10-12; developed and sampled; yielded enough water for a full analytical suite;
- SWMU 10-14; developed and sampled; yielded enough water for a full analytical suite; sheen observed on purge water;
- SWMU 10-15; developed and sampled; yielded enough water for a full analytical suite; and
- SWMU 10-16; sampled only due to a small water column in the temporary well completion; yielded enough water for only VOCs, SVOCs, and gasoline, diesel, and motor oil range petroleum hydrocarbons analyses;
- SWMU 10-20; developed and sampled; yielded enough water for a full analytical suite;
- SWMU 10-21; sampled only due to a small water column in the temporary well completion; yielded enough water for only VOCs, SVOCs, and gasoline, diesel, and motor oil range petroleum hydrocarbons analyses; and
- SWMU 10-25; developed and sampled; yielded enough water for a full analytical suite.

3.2 Collection and Management of Investigation Derived Waste

Drill cuttings, excess sample material and decontamination fluids, and all other investigation derived waste (IDW) associated with soil borings were contained and characterized using methods based on the boring locations and type of contaminants suspected or encountered. All drill cuttings generated during the investigation at the Sludge Pits were collected and put into 55-gallon drums. A composite sample of 24 drums generated during the May 2015 sampling event (SWMU 10-1 through SWMU

10-17) was collected using a decontaminated stainless steel spoon and sent to Hall Environmental Laboratory for waste characterization analysis. The sample was analyzed for the following:

- Reactivity – Cyanide (SW846 CH7);
- Reactivity – Sulfide (SW846 CH7);
- Ignitability (Method 1030);
- Corrosivity – pH (Method 9045);
- Anions (Method 300.0);
- RCRA 8 (TCLP) Metals (Method 6010B);
- Additional Metals (Method 6010B) (Calcium, Magnesium, Potassium; and Sodium);
- Diesel Range Organics (Method 8015B);
- Motor Oil Range Organics (Method 8015B);
- Gasoline Range Organics (Method 8015B);
- TCLP Volatiles (Method 1311/8260B); and
- TCLP Semi-volatiles (Method 1311/8270C).

The Hall analytical report (#1505A00) is included in Appendix D. Based on the analysis, 24 non-hazardous/non-DOT regulated drums (4,384 pounds) were shipped off-site to Advanced Chemical Treatment Facility for disposal on June 16, 2015. An additional 15 drums were generated during the May 2016 sampling event (SWMU 10-18 through SWMU 10-22). This generated 11,000 pounds of non-hazardous/non-DOT regulated soil that was shipped off-site to Advanced Chemical Treatment Facility for disposal on August 1, 2016.

Copies of the waste manifests are included in Appendix A. All purge water and decontamination water was disposed in the refinery wastewater system upstream of the API Separator.

3.3 Surveys

A global positioning system receiver was used to record the coordinates of each soil boring. These coordinates were recorded on the field boring logs.

Section 4
Field Investigation Results

This section provides a summary of the surface and subsurface conditions at the refinery, including the area near the Sludge Pits (SWMU No. 10). A discussion is included on the installation of soil borings, field screening of soils, and collection of soil samples for analysis. This is followed by a description of the installation of temporary well completions and the collection of groundwater samples.

4.1 Surface Conditions

A topographic map of the area near the Sludge Pits is included as Figure 5. Local site topographic features include high ground in the southeast gradually decreasing to lowland fluvial plain in the northwest. Elevations on the refinery property range from 7,040 feet to 6,860 feet. The area of the site near SWMU No. 10 is at an approximate elevation of 6,910 feet to 6,900 feet above mean sea level (msl).

The McKinley County soil survey identifies the soil in the area of SWMU No. 10 as primarily the Simitarq-Celavar sandy loams (USDA, 2005). The Simitarq-Celavar soils are well drained with a conservative permeability of 0.20 in/hr and minimal salinity. Simitarq soils have nearly neutral pH values ranging from 7.2 to 7.4 standard units.

Regional surface water features include the refinery evaporation ponds and aeration lagoons and a number of small ponds. The site is located in the Puerco River valley, north of the Zuni Uplift with overland flows directed northward to the tributaries of the Puerco River. The Puerco River continues to the west to the confluence with the Little Colorado River. The South Fork of the Puerco River is intermittent and retains flow only during and immediately following precipitation events.

4.2 Subsurface Conditions

During the utilities clearance of the Sludge Pit area several underground pipelines were detected. The depth of these pipelines is unknown. It is not known whether these pipelines are active or inactive.

4.2.1 Geology

The shallow subsurface soils consist of fluvial and alluvial deposits comprised of clay and silt with minor inter-bedded sand layers. The diverse properties and complex, irregular stratigraphy of the surface soils across the site cause a wide range of hydraulic conductivity ranging from less than 10^{-2} cm/sec for gravely sands immediately overlying the Petrified Forest Formation to 10^{-8} cm/sec in the clay soils located near the surface (Western Refining, 2009). Generally, shallow groundwater at the refinery follows the upper contact of the Chinle Group with prevailing flow from the southeast to the northwest, with some flow potentially to the northeast on the northeastern portion of the refinery property.

The Quaternary alluvium, which occurs at the land surface in the area of the former Sludge Pits, is mapped regionally as a narrow band trending west-northwest and running just north of I-40 (Figure 6). The Quaternary alluvium is thought to be the parent material of the Simitarq-Celavar soils discussed above in Section 4.1. Two cross sections of the shallow subsurface in the immediate vicinity of the Sludge Pits are included as Figures 8 and Figure 9. Figure 7 shows the location of the two cross sections. As shown on the cross sections, the predominant lithology is silty clay with lesser amounts of sand in varying proportions. The predominant occurrence of sand is in the western portion of the area of investigation.

An isopach map of the sand thickness is included as Figure 10. This reflects lesser sand in the eastern portion of the investigation area with a thickness up to 9 feet measured in two borings (SWMU 10-11 and SWMU 10-14) in the western area. A second map (Figure 11) was prepared to show the current elevation on top of the bedrock (Chinle Group). This surface is probably reflective of the land surface present when the Quaternary alluvium was deposited, but may have been altered when the pits were excavated. A comparison between the sand isopach map and the map of the bedrock surface elevation indicates a general lack of sand across most of the area with the highest surface elevations. There is a prominent northwest-southeast trending ridge on the elevation map with sand present only in boring SWMU 10-17 along this feature. The sand interval present in boring SWMU 10-17 is higher relative to the stratigraphically equivalent sand in other borings (e.g., SWMU 10-11 and SWMU 10-12) and is not saturated in boring SWMU 10-17. The surface elevation of the bedrock is not totally controlling of the sand distribution, as sand is also absent in the area of SWMU 10-5 even though there is a significant drop in the surface elevation at this location.

Subcropping beneath the Quaternary alluvium is the Triassic Chinle Group (Figure 6). The stratigraphy of the Chinle Group was described in detail for the nearby Fort Wingate quadrangle by Lucas et al, 1997. The Painted Desert Member of the Petrified Forest Formation is the uppermost member of the Chinle Group present in the area of the refinery. The Painted Desert Member is described as reddish-brown and grayish red mudstone with minor beds of resistant, laminated or crossbedded, litharenite. This is consistent with the bedrock encountered at the refinery, as depicted on cross sections A-A' and B-B' (Figures 8 and 9). Beneath the Painted Desert Member is the Sonsela Member, which is described by Lucas et al (1997) as gray to yellowish-brown, fine-grained to conglomeratic, crossbedded sandstone. The base of the Sonsela Member is recognized as a basin wide unconformity, which was termed the Tr-4 unconformity (Heckert and Lucas, 1996). The Blue Mesa Member, which underlies the Sonsela Member, is the lowest member of the Petrified Forest Formation. The Blue Mesa Member is described as mostly purple and greenish-gray mudstone.

4.2.2 Hydrogeology

Generally, the potentiometric surface of the shallow groundwater at the refinery follows the land surface (Figure 12). The presence of shallow groundwater in the area of SWMU 10 appears to be controlled by the elevation of the bedrock surface and the presence or absence of permeable sediments (sand vs. clay). Of the 25 soil borings completed, all but two (SWMU 10-2 and SWMU 10-17) were of sufficient depth to have identified the presence of saturation; however, only 11 borings did encounter saturation. Three (SWMU10-1, SWMU 10-3, and SWMU 10-5) of these 11 soil borings, which are located in the eastern portion of the investigation area, did not encounter any significant sand intervals but rather encountered saturation within predominantly silty/sandy clay that is not anticipated to have sufficient permeability to produce practically usable quantities of groundwater. In fact, the yield of water was so low at SWMU 10-5, SWMU 10-16, and SWMU 10-21 that it was not practicable to fully develop these wells and at SWMU 10-16 and SWMU 10-21, there was not a sufficient volume of water to support analyses for all analytes. The primary occurrence of shallow groundwater was identified in the western portion of the investigation area in borings SWMU 10-11, SWMU 10-12, and SWMU 10-14 where significant sand was present and the elevation on top of the bedrock was lower.

The diverse properties and complex, irregular stratigraphy of the Quaternary alluvium across the refinery cause a wide range of hydraulic conductivity ranging from less than 10^{-2} cm/sec for gravel like sands immediately overlying the Painted Desert Member to 10^{-8} cm/sec in the clay soils located

near the surface (Western Refining, 2009). Permeability tests performed on the Quaternary alluvium beneath the nearby Land Treatment Unit (LTU) indicated an average permeability of 1.9E-05 cm/sec (Appendix G). Permeability tests performed on soils in the area of the firewater pond indicated an average permeability of 1.1E-07 cm/sec (Appendix G).

As described above, the bedrock (i.e., Petrified Forest Formation) is mainly composed of low permeability materials (e.g., mudstone) with the exception of the Sonsela Member and some thinner sandstones within the overlying Painted Desert Member. Yield tests, including slug tests and pumping tests have been performed at the refinery to estimate the hydraulic conductivity of the Painted Desert Member (Appendix G). A slug test performed on July 3, 1984 in well OW-4 indicated a hydraulic conductivity of 4.0E-7 cm/sec. A pump test was performed in well OW-24 on February 20, 1985 and it yielded a hydraulic conductivity of 2.5E-7 cm/sec. The Painted Desert Member appears to be a competent aquitard to reduce the potential for downward migration of contaminants from groundwater that may occur within the overlying Quaternary alluvium.

The Sonsela Member is identified as the uppermost aquifer for RCRA monitoring purposes at the LTU because the overlying groundwater bearing units are not capable of supplying sufficient quantities of groundwater to meet the definitions of an aquifer. Wells completed in a thinner permeable sandstone layer within the Painted Desert Member are also monitored near the LTU as a potential early warning network. The Sonsela's highest point occurs southeast of the site and slopes downward to the northwest as it passes under the refinery. The Sonsela Member forms a water-bearing reservoir with artesian conditions throughout the central and western portions of the refinery property (Western, 2009). Aquifer test of the Sonsela Member conducted northeast of Prewitt indicated a transmissivity of greater than 100 ft^2/day (Stone and others, 1983). Yield tests conducted at the site have shown a much lower hydraulic conductivity of 0.34 ft/day (1.2E-04 cm/sec) (Appendix G).

4.3 Exploratory Drilling Investigations, Soil Sampling and Boring Abandonment

This subsection provides a description of surface and subsurface investigations to locate potential impacts to soils and also the potential for soil impacts to have migrated vertically to the underlying groundwater. This includes soil field screening results, soil sampling intervals and methods for detection of surface and subsurface impacts in soils.

Discrete soil samples for laboratory analyses were scheduled for collection at the following intervals:

- 0.0-0.5 feet (at soil borings with evidence of impacts near the land surface);
- 2.0-2.5 feet or the top of native soil if identifiable (at all soil borings);
- >2.0 feet (from the interval in each soil boring with the greatest apparent degree of contamination, based on field observations and field screening);
- From the bottom of each borehole (all soil borings);
- From the 0.5 foot interval at the top of saturation (applicable only to borings that reached saturation); and
- additional intervals as determined based on field screening results.

A description of the field screening and soil sampling procedures are presented in Appendix B – Field Methods. Copies of the boring logs are provided in Appendix D. In addition to being included on the soil boring logs, the soil vapor (i.e., headspace) screening results are summarized in Table 3. The locations of the soil borings appear on Figure 7.

4.3.1 Soil Investigation

Twenty soil borings were advanced using the hollow-stem auger (HSA) method and all of these soil borings were drilled to the bedrock (claystone/mudstone). Five soil borings were advanced using a hand auger due to accessibility limitations for the drilling rig and four of these borings did not reach bedrock. Boring SWMU10-22, which was completed using a hand auger, was drilled to the top of bedrock. The drilling equipment and hand auger equipment was decontaminated between each borehole, as described in Appendix B. Detailed soil boring logs are included in Appendix C. The soil boring logs describe the subsurface lithology, the presence of saturation, the field screening results, and any temporary well construction details. The installation of soil borings and collection of soil samples are discussed below in numerical order.

<u>SWMU 10-1</u>

On April 28, 2015 the drilling rig was set up on location SWMU 10-1. Sample collection was accomplished using the HSA drilling method and split spoon samplers. Three soil samples were collected from the following intervals:

- 2 feet bgl - 4 feet bgl – Photoionization Detector (PID) reading - 25.7 ppm;
- 4 feet bgl - 6 feet bgl – Highest PID reading - 30.9 ppm; and
- 18 feet bgl - 20 feet bgl – Bottom of borehole, PID reading - 3.6 ppm.

No petroleum hydrocarbon odor or particularly elevated PID readings were detected. There was no apparent discoloration (i.e., black staining) of the soils.

The lithology encountered consisted of a surficial silty clay from 0 feet bgl - 4 feet bgl with the PID readings ranging from 14.8 ppm to 25.7 ppm. A soft, low plastic sandy clay was encountered from 4 feet bgl - 8 feet bgl. The sandy clay was damp to very moist and appeared to be saturated at 6 feet bgl. The PID readings range from 30.9 ppm to 26.6 ppm. A firm, high plastic clay was encountered from 8 feet bgl - 14 feet bgl with PID readings ranging from 20.7 ppm to 9.2 ppm. A claystone/mudstone (Chinle Group- Painted Desert Member) was encountered from 14 feet bgl – 20 feet bgl. The claystone/mudstone was observed to be low plasticity, very stiff/hard, light reddish brown, and dry. No petroleum odors were detected in this interval. The PID readings ranging from 11.3 ppm to 3.6 ppm.

The sampling terminated at 20 feet bgl. Soil samples were collected in the appropriate sample containers, sealed in sealable bags, and immediately placed in an ice chest containing ice.

A temporary well was constructed of 2-inch Schedule 40 PVC screen and casing. The well was installed with the screened interval ranging from 4 feet to 14 feet. On April 29, 2015 the well was gauged, developed and sampled. On May 1, 2015 the well casing and screen were removed and the borehole was grouted.

SWMU 10-2

On May 4, 2015 sample collection at SWMU 10-2 was accomplished using a hand auger. Overhead utility lines and uneven terrain prevented mobilization of the HSA drilling rig to this location. Two soil samples were collected from 0 feet bgl - 2 feet bgl and 2 feet bgl – 4 feet bgl. No petroleum odors were detected. The PID readings were 10.5 ppm (0 feet bgl – 2 feet bgl) and 8.0 ppm (2 feet bgl - 4 feet bgl).

The lithology encountered consisted of surficial silty clay from 0 feet bgl - 2 feet bgl. This clay was low to moderately plastic, stiff, damp, brown, and gravelly. A moderate to high plastic clay was observed from 2 feet bgl – 4 feet bgl. The clay was very stiff, damp, and reddish brown.

Sampling was terminated at 4 feet bgl due to auger refusal. Soil samples were collected in the appropriate sample containers, sealed in sealable bags, and immediately placed in an ice chest containing ice. The borehole was grouted on May 14, 2015.

SWMU 10-3

On April 28, 2015 the drilling rig was set up on location SWMU 10-3. Sample collection was accomplished using the HSA drilling method and split spoon samplers. Three soil samples were collected from the following intervals:

- 2 feet bgl - 4 feet bgl – PID reading - 24.2 ppm;
- 6 feet bgl - 8 feet bgl – Highest PID reading below 2 feet bgl – 4 feet bgl - 18.9 ppm; and
- 18 feet bgl - 20 feet bgl – Bottom of borehole, PID reading – 2.5 ppm.

No petroleum hydrocarbon odor or elevated PID readings were observed. There was no apparent discoloration of the soils.

The lithology encountered consisted of a silty clay from 0 - 8 feet bgl with the PID readings ranging from 12.9 ppm to 24.2 ppm. A soft, low plastic sandy clay was encountered from 8 feet bgl - 12 feet bgl. The sandy clay was damp to very moist and appeared to be saturated at 8 feet bgl. The PID readings range from 17.6 ppm to 13.7 ppm. A firm, moderately plastic, damp, brown clay was encountered from 12 feet bgl - 13 feet bgl. The PID reading from this interval was 11.2 ppm. A high plastic, firm, damp, brown/reddish brown clay was encountered from 13 feet bgl – 14 feet bgl. A claystone/mudstone was encountered from 14 feet bgl – 20 feet bgl. The claystone/mudstone was observed to be low plasticity, very stiff/hard, light reddish brown, and dry. No petroleum odors were detected in this interval. The PID readings range from 7.6 ppm to 2.5 ppm.

The sampling terminated at 20 feet bgl. Soil samples were collected in the appropriate sample containers, sealed in sealable bags, and immediately placed in an ice chest containing ice.

A temporary well was constructed of 2-inch Schedule 40 PVC screen and casing. The well was installed with the screened interval ranging from 4 feet to 14 feet. On April 29, 2015 the well was gauged, developed and sampled. On May 1, 2015 the well casing and screen were removed and the borehole was grouted.

SWMU 10-4

On April 29, 2015 the drilling rig was set up on location SWMU 10-4. Sample collection was accomplished using the HSA drilling method and split spoon samplers. Four soil samples were collected from the following intervals:

- 0 feet bgl – 2 feet bgl – PID reading – 40.5 ppm, duplicate collected at this interval;
- 2 feet bgl - 4 feet bgl – PID reading – 335 ppm, petroleum odor, black staining;
- 6 feet bgl - 8 feet bgl – Highest PID reading below 2 feet bgl – 4 feet bgl – 42.7 ppm; and
- 18 feet bgl - 20 feet bgl – Bottom of the borehole, PID reading - 3.8 ppm.

A petroleum hydrocarbon odor was observed from 2 feet bgl – 10 feet bgl. Black staining was observed in the sample interval 2 feet bgl – 4 feet bgl.

The lithology encountered consisted of a silty clay from 0 feet bgl - 4 feet bgl with the PID readings ranging from 40.5 ppm to 335 ppm. A silty sandy clay with a faint odor was encountered from 4 feet bgl - 8 feet bgl. The clay had low plasticity and was observed to be firm to soft, damp, and reddish brown. The PID readings range from 36.8 ppm to 42.7 ppm. A stiff, highly plastic, damp, reddish brown clay was encountered from 8 feet bgl - 10 feet bgl. The clay had a faint odor with a PID reading of 37.8 ppm.

A low plastic, soft, damp, reddish brown sandy clay was encountered from 10 feet bgl – 12 feet bgl. The PID reading was 25.6 ppm. A low plastic, firm, damp to dry, silty clay was encountered from 12 feet bgl – 16 feet bgl. The PID readings range from 31.1 ppm to 32.9 ppm. The clay was reddish brown (with a trace of gray), crumbly, and dense at the base. A claystone was encountered from 16 feet bgl – 20 feet bgl. The claystone was observed to be very stiff, light reddish brown, and dry. No odors were detected in this interval. The PID readings ranging from 14.1 ppm to 3.8 ppm.

The sampling terminated at 20 feet bgl. Soil samples were collected in the appropriate sample containers, sealed in sealable bags, and immediately placed in an ice chest containing ice.

A temporary well was not set at this location since saturation was not encountered during the soil sampling. On May 1, 2015 the borehole was grouted.

<u>SWMU 10-5</u>

On April 29, 2015 the drilling rig was set up on location SWMU 10-5. Sample collection was accomplished using the HSA drilling method and split spoon samplers. Five soil samples were collected from the following intervals:

- 0 feet bgl - 2 feet bgl – Interval exhibited petroleum odor, PID reading of 108 ppm and black staining;
- 2 feet bgl – 4 feet bgl – Interval exhibited petroleum odor, PID reading of 61 ppm;

- 4 feet bgl – 6 feet bgl – Interval exhibited petroleum odor, highest PID reading below 2 feet bgl – 4 feet bgl - 445 ppm;
- 14 feet bgl - 16 feet bgl – Interval exhibited petroleum odor, elevated PID reading of 75.2 ppm occurring between two intervals with relatively low PID readings of 3.5 ppm (12 feet bgl – 14 feet bgl) and 9.4 ppm (16 feet bgl – 18 feet bgl) ; and
- 22 feet bgl - 24 feet bgl – Bottom of the borehole, no odor, PID reading of 10.7 ppm.

The lithology encountered consisted of a surficial silty clay from 0 feet bgl - 2 feet bgl with the PID reading of 108 ppm. A very soft, sticky clay was encountered from 2 feet bgl - 22 feet bgl. The clay varied in color from green to brownish green to grayish green. The clay exhibited a hydrocarbon odor. The PID readings range from 445 ppm to 3.5 ppm. A claystone was encountered from 22 feet bgl – 24 feet bgl. The claystone was observed to be very stiff, light reddish brown with gray seams. No odors were detected in this interval. The PID reading was 10.7 ppm.

The sampling terminated at 24 feet bgl. Soil samples were collected in the appropriate sample containers, sealed in sealable bags, and immediately placed in an ice chest containing ice.

A temporary well was constructed of 2-inch Schedule 40 PVC screen and casing. The well was installed with the screened interval ranging from 12 feet to 22 feet. On May 4, 2015 the well was gauged and sampled. On May 4, 2015 the well casing and screen were removed. Phase-separated hydrocarbon (3 feet bgl to 6 feet bgl) was observed on the outside of the PVC casing when it was removed from the borehole. The borehole was grouted.

SWMU 10-6

On May 4, 2015 sample collection at SWMU 10-6 was accomplished using a hand auger. Overhead utility lines and uneven terrain prevented the mobilization of the HSA drilling rig to this location. Two soil samples were collected from 2 feet bgl - 4 feet bgl and 10 feet bgl – 12 feet bgl. A duplicate soil sample was collected from the 10 feet bgl – 12 feet bgl interval. No petroleum odors were detected and no discoloration of the soil was observed. The PID readings range from 2.7 ppm (0 feet bgl – 2 feet bgl) to 4.7 ppm (4 feet bgl - 6 feet bgl).

The lithology encountered consisted of surficial silty clay from 0 feet bgl - 8 feet bgl. This low to moderately plastic clay was firm, damp, and reddish brown. A high plastic clay was observed from 8 feet bgl – 10 feet bgl. The clay was very stiff, damp, and reddish brown. A low plastic clay was encountered from 10 feet bgl – 12 feet bgl. The clay was stiff, dry, and light reddish brown.

The sampling was terminated at 12 feet bgl due to refusal. Soil samples were collected in the appropriate sample containers, sealed in sealable bags, and immediately placed in an ice chest containing ice. The borehole was grouted on May 14, 2015.

SWMU 10-7

On May 1, 2015 the drilling rig was set up on location SWMU 10-7. Sample collection was accomplished using the HSA drilling method and split spoon samplers. Three soil samples were collected from the following intervals:

- 2 feet bgl - 4 feet bgl – PID reading – 9.5 ppm, black staining was observed at the base of this interval;
- 4 feet bgl - 6 feet bgl – Highest PID reading below 2 – 4 feet bgl – 10.6 ppm; and
- 18 feet bgl - 20 feet bgl – Bottom of borehole, PID reading – 2.7 ppm.

No petroleum hydrocarbon odor or elevated PID readings were observed.

The lithology encountered consisted of a silty clay from 0 feet bgl - 4 feet bgl with the PID readings ranging from 6.2 ppm to 9.5 ppm. A stiff to firm, high plastic clay was encountered from 4 feet bgl – 8 feet bgl. The clay was damp and reddish brown. The PID readings range from 10.6 ppm to 9.7 ppm. A claystone was encountered from 8 feet bgl – 20 feet bgl. The claystone was observed to be very stiff, light reddish brown, and dry. No odors were observed in this interval with the PID readings ranging from 9.1 ppm to 2.7 ppm.

The sampling terminated at 20 feet bgl. Soil samples were collected in the appropriate sample containers, sealed in sealable bags, and immediately placed in an ice chest containing ice.

A temporary well was not set at this location since saturation was not encountered during the soil sampling. On May 1, 2015 the borehole was grouted.

SWMU 10-8

On April 30, 2015 the drilling rig was set up on location SWMU 10-8. Sample collection was accomplished using the HSA drilling method and split spoon samplers. Three soil samples were collected from the following intervals:

- 2 feet bgl - 4 feet bgl – Interval exhibited petroleum odor, PID reading of 1489 ppm and black staining at base;

- 4 feet bgl – 6 feet bgl – Interval exhibited petroleum odor, highest PID reading below 2 feet bgl – 4 feet bgl - 400 ppm; and
- 18 feet bgl - 20 feet bgl – Bottom of the borehole, no odor, PID reading of 5.7 ppm.

The lithology encountered consisted of a silty clay from 0 feet bgl - 2 feet bgl with the PID reading of 12.9 ppm. Silty sandy clay was encountered from 2 feet bgl – 6 feet bgl. Hydrocarbon odor and staining was observed in this interval. There was no recovery of soil from the 6 feet bgl – 8 feet bgl interval. A claystone/mudstone was encountered from 8 feet bgl – 20 feet bgl. The claystone/mudstone was observed to be very stiff, dry, light reddish brown and gray. No odors were detected in this interval. The PID readings range from 24.6 ppm to 5.7 ppm.

The sampling terminated at 20 feet bgl. Soil samples were collected in the appropriate sample containers, sealed in sealable bags, and immediately placed in an ice chest containing ice.

A temporary well was not set at this location since saturation was not encountered during the soil sampling. On May 1, 2015 the borehole was grouted.

SWMU 10-9

On April 30, 2015 the drilling rig was set up on location SWMU 10-9. Sample collection was accomplished using the HSA drilling method and split spoon samplers. Three soil samples were collected from the following intervals:

- 2 feet bgl - 4 feet bgl – PID reading of 19.1, no odor;
- 4 feet bgl – 6 feet bgl – Interval exhibited petroleum odor, highest PID reading below 2 feet bgl – 4 feet bgl - 380 ppm; black staining was observed; a duplicate soil sample was collected from this interval; and
- 18 feet bgl - 20 feet bgl – Bottom of the borehole, no odor, PID reading of 6.2 ppm.

The lithology encountered consisted of a silty clay from 0 feet bgl - 4 feet bgl with the PID readings of 18 ppm and 19.1 ppm. Sandy clay was encountered from 4 feet bgl – 6 feet bgl. Hydrocarbon odor and staining was observed in this interval. A claystone was encountered from 6 feet bgl – 20 feet bgl. The claystone was observed to be very stiff, damp to dry, light reddish brown and gray. The interval from 6 feet bgl – 8 feet bgl exhibited a hydrocarbon odor. The PID readings range from 28.9 ppm to 4 ppm.

The sampling terminated at 20 feet bgl. Soil samples were collected in the appropriate sample containers, sealed in sealable bags, and immediately placed in an ice chest containing ice.

A temporary well was not set at this location since saturation was not encountered during the soil sampling. On May 1, 2015 the borehole was grouted.

SWMU 10-10

On April 30, 2015 the drilling rig was set up on location SWMU 10-10. Sample collection was accomplished using the HSA drilling method and split spoon samplers. Three soil samples were collected from the following intervals:

- 2 feet bgl - 4 feet bgl – PID reading of 18.4 ppm, no odor;
- 4 feet bgl – 6 feet bgl – Interval exhibited petroleum odor, black staining, highest PID reading below 2 feet bgl – 4 feet bgl - 1685 ppm; and
- 18 feet bgl - 20 feet bgl – Bottom of the borehole, no odor, PID reading of 8.5 ppm.

The lithology encountered consisted of clayey sand from 0 feet bgl - 6 feet bgl with the PID readings of 11.9, 18.4, and 1685 ppm. The clayey sand exhibited a petroleum odor and black staining was observed. The clayey sand was compact to loose and dry to damp. A low plastic, soft, damp, sandy clay was encountered from 6 feet bgl – 10 feet bgl. Hydrocarbon odor and staining was observed in this interval. The PID readings were 1514 ppm (6 feet bgl – 8 feet bgl) and 686 ppm (8 feet bgl – 10 feet bgl). A silty clay was encountered from 10 feet bgl - 12 feet bgl. This clay also exhibited a hydrocarbon odor and hydrocarbon staining. The PID reading was 655 ppm. A claystone was encountered from 12 feet bgl – 20 feet bgl. The claystone was observed to be very stiff/dense, dry, light reddish brown and gray. The interval from 12 feet bgl - 14 feet bgl exhibited a faint hydrocarbon odor. The PID readings range from 75 ppm (12 feet bgl – 14 feet bgl) to 8.5 ppm (18 feet bgl – 20 feet bgl).

The sampling terminated at 20 feet bgl. Soil samples were collected in the appropriate sample containers, sealed in sealable bags, and immediately placed in an ice chest containing ice.

A temporary well was not set at this location since saturation was not encountered during the soil sampling. On May 1, 2015 the borehole was grouted.

SWMU 10-11

On May 12, 2015 the drilling rig was set up on location SWMU 10-11. Sample collection was accomplished using the HSA drilling method and split spoon samplers. A sample was not collected from the 2 feet bgl – 4 feet bgl interval due to poor recovery during the sampling process. Three soil samples were collected from the following intervals:

- 4 feet bgl - 6 feet bgl – Interval exhibited petroleum odor, black staining, PID reading of 524 ppm;
- 8 feet bgl – 10 feet bgl – Interval exhibited petroleum odor, black sludge/staining, PID reading of 570 ppm; and
- 18 feet bgl - 20 feet bgl – Bottom of the borehole, no odor, PID reading of 13.4 ppm.

The lithology encountered consisted of silty clay from 0 feet bgl - 4 feet bgl with the PID readings of 13.1 ppm and 4.0 ppm. This low plastic clay was firm, damp, brown, and did not exhibit an odor or staining.

Clayey sand was encountered from 4 feet bgl - 12 feet bgl. The sand was fine grain, compact, and moist to saturated. The sand was stained and exhibited a hydrocarbon odor. The PID readings range from 570 ppm to 8.5 ppm. In the 12 feet bgl – 14 feet bgl interval the clayey sand transitioned to a sandy clay that was damp to very moist and exhibited a petroleum odor. The PID reading was 69.2 ppm. Sandy clay extended to a depth of 17 feet bgl. A noticeable hydrocarbon odor extended to 16 feet bgl. The PID reading decreased from 20.6 ppm (14 feet bgl – 16 feet bgl) to 7.2 ppm (16 feet bgl - 18 feet bgl).

A claystone was encountered from 17 feet bgl – 20 feet bgl. The claystone was observed to be very stiff, damp to dry, and reddish purple. This bottom interval did not exhibit an odor. The PID reading from 18 feet bgl – 20 feet bgl was 13.4 ppm.

The sampling terminated at 20 feet bgl. Soil samples were collected in the appropriate sample containers, sealed in sealable bags, and immediately placed in an ice chest containing ice.

A temporary well was constructed of 2-inch Schedule 40 PVC screen and casing. The well was installed with the screened interval ranging from 3 feet to 13 feet. On May 14, 2015 the well was gauged, developed and sampled. On May 14, 2015 the well casing and screen were removed and the borehole was grouted.

SWMU 10-12

On May 12, 2015 the drilling rig was set up on location SWMU 10-12. Sample collection was accomplished using the HSA drilling method and split spoon samplers. A sample was not collected from the 2 feet bgl – 4 feet bgl interval due to poor recovery during the sampling process. Two soil samples were collected from the following intervals:

- 6 feet bgl - 8 feet bgl – Interval exhibited black staining and asphalt type rock, PID reading of 4.5 ppm; and
- 20 feet bgl – 22 feet bgl – Bottom of the borehole, no odor, PID reading of 1.5 ppm.

The lithology encountered consisted of a silty clay from 0 feet bgl – 11 feet bgl with the PID readings ranging from 3.0 ppm to 6.9 ppm. This low plastic clay was firm, damp, and brown. Black staining and asphalt type rock was observed in the 6 feet bgl – 8 feet bgl interval. A clayey sand was encountered from 11 feet bgl – 12 feet bgl. The sand was fine grained, compact, saturated, and brown. No odors were detected in this interval. The PID reading was 6.1 ppm.

A fine grained, loose, saturated, brown silty sand was encountered from 12 feet bgl – 16 feet bgl. The PID readings were 4.9 ppm (12 feet bgl – 14 feet bgl) and 2.9 ppm (14 feet bgl – 16 feet bgl). A low plastic, firm, damp, brown, sandy clay was encountered from 16 feet bgl - 18 feet bgl. The PID reading was 1.8 ppm and no odors were detected. A gravelly clay was encountered from 18 feet bgl – 20 feet bgl. No odors were exhibited from this interval. The PID reading was 1.2 ppm.

A claystone was encountered from 20 feet bgl to 22 feet bgl. The claystone was observed to be very stiff, damp to dry, reddish purple, gray and dark reddish brown. This bottom interval did not exhibit an odor. The PID reading from 20 feet bgl - 22 feet bgl was 1.5 ppm.

The sampling terminated at 22 feet bgl. Soil samples were collected in the appropriate sample containers, sealed in sealable bags, and immediately placed in an ice chest containing ice.

A temporary well was constructed of 2-inch Schedule 40 PVC screen and casing. The well was installed with the screened interval ranging from 4 feet to 14 feet. On May 14, 2015 the well was gauged, developed and sampled. On May 14, 2015 the well casing and screen were removed and the borehole was grouted.

SWMU 10-13

On May 13, 2015 the drilling rig was set up on location SWMU 10-13. Sample collection was accomplished using the HSA drilling method and split spoon samplers. Three soil samples were collected from the following intervals:

- 2 feet bgl- 4 feet bgl – PID reading of 5.6, no odor;
- 6 feet bgl - 8 feet bgl – Interval exhibited odor and black staining, highest PID reading below 2 feet bgl – 4 feet bgl - 1055 ppm; and
- 18 feet bgl - 20 feet bgl – Bottom of the borehole, no odor, PID reading of 14.1 ppm.

The lithology encountered consisted of a silty clay from 0 - 6 feet bgl with the PID readings ranging from 4.4 ppm (0 feet bgl – 2 feet bgl) to 775 ppm (4 feet bgl – 6 feet bgl). This silty clay was observed to be low plastic, very stiff to firm, damp to dry, and calcareous. A high plastic clay was encountered from 6 feet bgl – 8 feet bgl. The clay was observed to be firm, damp, dark brown with black hydrocarbon staining. Petroleum odors were exhibited from the interval. This interval also had a PID reading of 1055 ppm. A gravelly clay similar to the clay encountered from 6 feet bgl – 8 feet bgl was encountered from 8 feet bgl – 9 feet bgl. This clay had a petroleum odor and PID reading of 721 ppm.

A claystone was encountered from 9 feet bgl – 20 feet bgl. The claystone was observed to be very stiff, dry, and reddish purple. The interval from 9 feet bgl - 10 feet bgl exhibited a faint hydrocarbon odor. The PID readings range from 11 to 14.1 ppm.

The sampling terminated at 20 feet bgl. Soil samples were collected in the appropriate sample containers, sealed in sealable bags, and immediately placed in an ice chest containing ice.

A temporary well was not set at this location since saturation was not encountered during the soil sampling. On May 14, 2015 the borehole was grouted.

SWMU 10-14

On May 12, 2015 the drilling rig was set up on location SWMU 10-14. Sample collection was accomplished using the HSA drilling method and split spoon samplers. A sample was not collected from the 2 feet bgl – 4 feet bgl interval due to no soil recovery during the sampling process. Two soil samples were collected from the following intervals:

- 6 feet bgl - 8 feet bgl – Interval exhibited petroleum odor and was dark brown, highest PID reading below 2 feet bgl – 4 feet bgl - 900 ppm; and
- 21 feet bgl - 23 feet bgl – Bottom of the borehole, no odor, PID reading of 1.8 ppm.

The lithology encountered consisted of a silty clay from 0 feet bgl - 2 feet bgl with a PID reading of 3.2 ppm. This silty clay was observed to be low plastic, firm, dry to damp, and calcareous. No odor was exhibited from this interval. There was no recovery from the 2 feet bgl – 4 feet bgl interval. A loose, light tan, saturated clayey gravel was encountered from 4 feet bgl – 6 feet bgl. The PID reading was 10.1 ppm. A faint petroleum odor was detected. A high plastic clay was encountered from 6 feet bgl – 6.75 feet bgl. The clay was observed to be stiff, damp, dark brown with a petroleum odor. This interval had a PID reading of 900 ppm.

A saturated clayey sand was encountered from 6.75 feet bgl – 8 feet bgl. The sand was fine grain, compact, and dark brown. The sand had a petroleum odor. A sandy clay was encountered below the clayey sand and was found to have low plasticity, very soft, damp to moist, and brown. This interval had a petroleum odor. The PID reading was 23.7 ppm.

A clayey gravelly sand was encountered from 10 feet bgl – 16 feet bgl. The sand was fine to coarse, brown, and saturated. No odor was detected and the PID readings range from 15.9 feet bgl to 22.4 feet bgl. A low plastic gravelly clay was below the clayey gravelly sand. The clay was very stiff, damp, reddish brown and gray. No odors were detected. The PID readings were 7.9 ppm (16 feet bgl – 18 feet bgl) and 5.2 ppm (18 feet bgl – 19 feet bgl).

A claystone was encountered from 19 feet bgl – 23 feet bgl. The claystone was observed to be very stiff, dry, reddish brown and gray. No odors were detected. The PID readings range from 6.1 ppm to 1.8 ppm.

The sampling terminated at 23 feet bgl. Soil samples were collected in the appropriate sample containers, sealed in sealable bags, and immediately placed in an ice chest containing ice.

A temporary well was installed with the screened interval ranging from 2 feet to 12 feet. On May 14, 2015 the well was gauged, developed and sampled. On May 14, 2015 the well casing and screen were removed and the borehole was grouted.

SWMU 10-15

On May 13, 2015 the drilling rig was set up on location SWMU 10-15. Sample collection was accomplished using the HSA drilling method and split spoon samplers. Three soil samples were collected from the following intervals:

- 2 feet bgl - 4 feet bgl – PID reading of 11.1 ppm, faint petroleum odor, black staining at 3.5 feet bgl;
- 4 feet bgl - 6 feet bgl – Interval exhibited faint petroleum odor and black staining, highest PID reading below 2 feet bgl – 4 feet bgl – 13.9 ppm; and
- 18 feet bgl - 20 feet bgl – Bottom of the borehole, no odor, PID reading of 7.1 ppm.

The lithology encountered consisted of the following alternating clays and sands:

- Silty clay 0 feet bgl – 0.5 feet bgl (low plastic, firm, and dry to damp);
- Clay 0.5 feet bgl – 2 feet bgl (high plastic, soft, damp);
- Sandy Clay 2 feet bgl – 4.5 feet bgl (low to moderate plasticity, soft, damp with black staining at 3.5 feet bgl, faint petroleum odor);
- Clay 4.5 feet bgl – 5.5 feet bgl (high plastic, soft, damp, faint petroleum odor);
- Sandy Clay 5.5 feet bgl – 8 feet bgl (low plasticity, soft, damp with saturated sand seam at 7 feet bgl);
- Clayey Sand 8 feet bgl – 9.5 feet bgl (loose, fine grained to small gravel, saturated);
- Clay 9.5 feet bgl – 10 feet bgl (high plastic, stiff, damp);
- Silty Clay 10 feet bgl – 11.5 feet bgl (moderate plasticity, firm, damp);
- Sandy Clay 11.5 feet bgl – 12.5 feet bgl (fine grained, moist to saturated);
- Silty Clay 12.5 feet bgl – 13 feet bgl (low plastic, firm, and damp);
- Clayey Sand 13 feet bgl – 14 feet bgl (fine grained, loose, saturated);
- Sandy Clay 14 feet bgl – 16 feet bgl (low plastic, firm, and damp);
- Clay 16 feet bgl – 17.5 feet bgl (low plastic, stiff, and damp)
- Claystone 17.5 feet bgl – 20 feet bgl (very stiff, dry)

The PID readings range from 7.1 ppm (18 feet bgl – 20 feet bgl) to 13.9 ppm (4 feet bgl – 6 feet bgl). Saturation was encountered at the following depths:

- 7 feet bgl – Sand seam approximately 3 inches thick;

- 8 feet bgl - 9.5 feet bgl – Clayey sand;
- 11.5 feet bgl - 12.50 feet bgl – Sandy clay; and
- 13 feet bgl – 14 feet bgl – Clayey sand.

The sampling terminated at 20 feet bgl. Soil samples were collected in the appropriate sample containers, sealed in sealable bags, and immediately placed in an ice chest containing ice.

A temporary well was installed with the screened interval ranging from 6 feet to 16 feet. On May 14, 2015 the well was gauged, developed and sampled. On May 14, 2015 the well casing and screen were removed and the borehole was grouted.

SWMU 10-16

On May 13, 2015 sample collection at SWMU 10-16 was accomplished using the hand auger. Overhead utility lines prevented the mobilization of the HSA drilling rig to this location. Three soil samples were collected from the following depths:

- 2 feet bgl - 4 feet bgl – PID reading of 4.9 ppm;
- 4 feet bgl – 5.5 feet bgl – PID reading of 4.4 ppm, immediately above saturation; and
- 8 feet bgl – 9 feet bgl – PID reading of 6.8 ppm, bottom-most sample.

The lithology encountered consisted of silty clay from 0 feet bgl - 5 feet bgl. This low plastic clay was firm, damp, and brown. A low plastic sandy clay was observed from 5 feet bgl – 5.5 feet bgl. The clay was firm to soft, damp to moist, and brown. A saturated clayey sand was encountered from 5.5 feet bgl to 8 feet bgl. The sand was fine grained, loose, and brown. The sampling was terminated at 9 feet in a high plastic, stiff, damp, brown clay. No odors, elevated PID readings or soil staining were observed in the soils from this boring.

Soil samples were collected in the appropriate sample containers, sealed in sealable bags, and immediately placed in an ice chest containing ice. A temporary well was installed with the screened interval ranging from 0 feet to 8.5 feet. On May 14, 2015 the well was gauged and sampled. The well was not purged due to the small fluid column in the well (2.78 feet). On May 14, 2015 the well casing and screen were removed and the borehole was grouted.

SWMU 10-17

On May 13, 2015 sample collection at SWMU 10-17 was accomplished using the hand auger. The lithology encountered consisted of silty clay from 0 feet bgl - 4 feet bgl. This low plastic, stiff clay was damp and brown. A clayey sand was encountered from 4 to 8 feet bgl. The sand was fine grained, compact, and damp to moist. The sand exhibited a petroleum odor and a PID reading of 1667 ppm. A soil sample and a duplicate soil sample were collected from the 6 feet bgl – 8 feet bgl interval. The sampling was terminated at 8 feet bgl. The soil samples were collected in the appropriate sample containers, sealed in sealable bags, and immediately placed in an ice chest containing ice. A temporary well was not installed at this location. On May 14, 2015 the borehole was grouted.

SWMU 10-18

On May 16, 2016 the drilling rig was set up on location SWMU 10-18. Sample collection was accomplished using the HSA drilling method and split spoon samplers. Three soil samples were collected from the following intervals:

- 2 feet bgl – 2.5 feet bgl – PID reading of 6.2 ppm, no odor;
- 8 feet bgl - 10 feet bgl – Interval immediately above the claystone, no odor and PID reading of 20.6 ppm; and
- 18 feet bgl - 20 feet bgl – Bottom of the borehole, no odor, PID reading of 8.7 ppm.

The lithology encountered consisted of a silty clay from 0 - 10 feet bgl with the PID readings ranging from 6.2 ppm (2 feet bgl – 4 feet bgl) to 20.6 ppm (8 feet bgl – 10 feet bgl). This silty clay was observed to be low plastic, firm, dry to damp, and brown.

A claystone was encountered from 10 feet bgl – 20 feet bgl. The claystone was observed to be very stiff, dry, and reddish purple. The PID readings range from 14.1 ppm to 8.7 ppm.

The sampling terminated at 20 feet bgl. Soil samples were collected in the appropriate sample containers, sealed in sealable bags, and immediately placed in an ice chest containing ice.

A temporary well was not set at this location since saturation was not encountered during the soil sampling. On May 16, 2016 the borehole was grouted.

SWMU 10-19

On May 17, 2016 the drilling rig was set up on location SWMU 10-19. Sample collection was accomplished using the HSA drilling method and split spoon samplers. Three soil samples were collected from the following intervals:

- 2 feet bgl – 2.5 feet bgl – PID reading of 1.5 ppm, no odor;
- 12 feet bgl - 14 feet bgl – Top of claystone, chemical odor and PID reading of 900 ppm; and
- 18 feet bgl - 20 feet bgl – Bottom of the borehole, odor, PID reading of 30.1 ppm.

The lithology encountered consisted of a silty clay from 0 - 6 feet bgl with the PID readings ranging from 1.5 ppm (2 feet bgl – 2.5 feet bgl) to 3.5 ppm (0 – 2 feet bgl). This silty clay was observed to be low plastic, firm, dry to damp, and brown. A high plasticity clay was encountered from 6 feet bgl to 10 feet bgl. The clay was firm, damp, brown and did not exhibit an odor. The PID readings were 8.2 ppm (6 feet bgl to 8 feet bgl) and 12.6 ppm (8 feet bgl to 10 feet bgl). A low plasticity clay was encountered from 10 feet bgl to 12 feet bgl. The clay was firm, damp, reddish brown and did not exhibit an odor. At the base of this interval the clay was found to be moist, dense and gray.

A claystone was encountered from 12 feet bgl – 20 feet bgl. The claystone was observed to be very stiff, dry, and reddish brown and gray. The claystone exhibited a chemical odor. The PID readings range from 900 ppm (12 feet bgl to 14 feet bgl) to 30.1 ppm (18 feet bgl to 20 feet bgl).

The sampling terminated at 20 feet bgl. Soil samples were collected in the appropriate sample containers, sealed in sealable bags, and immediately placed in an ice chest containing ice.

A temporary well was not set at this location since saturation was not encountered during the soil sampling. On May 17, 2016 the borehole was grouted.

SWMU 10-20

On May 17, 2016 the drilling rig was set up on location SWMU 10-20. Sample collection was accomplished using the HSA drilling method and split spoon samplers. Five soil samples were collected from the following intervals:

- 2 feet bgl – 2.5 feet bgl – PID reading of 0.7 ppm;
- 8 feet bgl - 10 feet bgl – Interval exhibited chemical odor and black staining, PID reading was 1603 ppm;

- 10 feet bgl – 12 feet bgl – Interval immediately above saturation, exhibited a chemical odor, PID reading was 1715 ppm;
- 16 feet bgl – 18 feet bgl – Interval exhibited chemical odor and black staining, PID reading was 1022 ppm; and
- 20 feet bgl - 22 feet bgl – Bottom of the borehole, no odor, PID reading of 10.2 ppm.

The lithology encountered consisted of the following alternating clays:

- Silty Clay: 0 – 8 feet bgl (low plastic, firm, damp, brown, odor from 6 feet bgl to 8 feet bgl);
- Clay: 8 feet bgl – 10 feet bgl (high plasticity, firm, damp, brown, chemical odor and black staining at base);
- Silty Sandy Clay: 10 feet bgl – 18 feet bgl (moderate plasticity, firm, damp to moist to saturated with black staining at 16 feet bgl to 18 feet bgl, chemical odor);
- Silty Clay: 18 feet bgl – 20 feet bgl (low, soft, damp to moist, brown, chemical odor); and
- Claystone: 20 feet bgl – 22 feet bgl (very stiff, dry, reddish purple and gray, no odor).

The PID readings ranged from 0.7 ppm (2 feet bgl – 4 feet bgl) to 1715 ppm (10 feet bgl – 12 feet bgl). Saturation was encountered in silty sandy clay at the following depths:

- 12 feet bgl to 14 feet bgl – Moist to saturated;
- 14 feet bgl to 16 feet bgl – Moist to saturated in sand seam at 15.5 feet bgl; and
- 16 feet bgl - 18 feet bgl – Moist to saturated.

The sampling terminated at 22 feet bgl. Soil samples were collected in the appropriate sample containers, sealed in sealable bags, and immediately placed in an ice chest containing ice.

A temporary well was installed with the screened interval ranging from 5 feet to 20 feet. On May 19, 2016 the well was gauged and developed. The well bailed dry after approximately 7 gallons of groundwater were removed from the well. The groundwater was sampled on May 20, 2016. On May 23, 2016 the well casing and screen were removed and the borehole was grouted.

SWMU 10-21

On May 18, 2016 the drilling rig was set up on location SWMU 10-21. Sample collection was accomplished using the HSA drilling method and split spoon samplers. Three soil samples were collected from the following intervals:

- 2 feet bgl – 2.5 feet bgl – PID reading of 17 ppm, no odor;
- 12 feet bgl - 14 feet bgl – Interval immediately above saturation, PID reading of 12.1 ppm; and
- 20 feet bgl - 22 feet bgl – Bottom of the borehole, no odor, PID reading of 2.7 ppm.

The lithology encountered consisted of the following predominantly clays:

- Silt/gravel: 0 – 2 feet bgl (compact, damp, no odor);
- Silty Clay: 2 feet bgl – 6 feet bgl (low plasticity, firm, damp, brown, no odor);
- Sandy Silty Clay: 6 feet bgl – 10 feet bgl (low plasticity, soft, damp, brown, no odor);
- Clay: 10 feet bgl – 14 feet bgl (high plasticity, soft, damp brown, no odor);
- Sandy Silty Clay: 14 feet bgl – 20 feet bgl (low, soft, moist to saturated in sand seams, no odor); and
- Claystone: 20 feet bgl – 22 feet bgl (very stiff, dry, reddish purple and gray, no odor).

The sampling terminated at 22 feet bgl. Soil samples were collected in the appropriate sample containers, sealed in sealable bags, and immediately placed in an ice chest containing ice.

A temporary well was installed with the screened interval ranging from 10 feet to 20 feet. On May 19, 2016 the well was gauged. The depth to groundwater was 19.80 feet below top of casing (btoc) and the total depth was 20.23 feet btoc. The well was not developed due to the small volume of groundwater in the well. The groundwater was sampled on May 20, 2016. On May 23, 2016 the well casing and screen were removed and the borehole was grouted.

SWMU 10-22

On May 18, 2016 sample collection at SWMU 10-22 was accomplished using the hand auger. The lithology encountered consisted of clay from 0 to 7 feet bgl. This moderately plastic, firm clay was damp and brown and did not exhibit an odor.

Claystone was encountered from 7 feet bgl to 9 feet bgl. A soil sample and a duplicate soil sample were collected from the 2 feet bgl – 2.5 feet bgl interval. A soil sample was collected from the bottom of the borehole (8 feet bgl – 9 feet bgl). The sampling was terminated at 9 feet bgl. The soil samples were collected in the appropriate sample containers, sealed in sealable bags, and immediately placed in an ice chest containing ice.

A temporary well was not installed at this location. On May 18, 2016 the borehole was grouted.

SWMU 10-23

On September 19, 2016 the drilling rig was set up on location SWMU 10-23. Sample collection was accomplished using the HSA drilling method and split spoon samplers. Two soil samples were collected for chemical analyses from the following intervals:

- 2 feet bgl – 2.5 feet bgl – PID reading of 0.2 ppm, no odor; and
- 15 feet bgl - 16 feet bgl – Top of claystone, dry, no odor and PID reading of 1.4 ppm.

The lithology encountered consisted of a silt from 0 - 6 feet bgl with the PID readings ranging from 0.0 ppm (0 feet bgl – 2.0 feet bgl) to 0.2 ppm (2 – 6 feet bgl). This silt was observed to be low plastic, soft, damp, and brown with no odor. A low plasticity silty clay was encountered from 6 feet bgl to 15 feet bgl. The clay was firm, damp, and brown with a trace of sand and did not exhibit an odor. The PID readings ranged from 2.0 ppm to 3.7 ppm.

A claystone was encountered from 15 feet bgl – 17 feet bgl. The claystone was observed to be very stiff, dry, and pink. The claystone did not exhibited an odor. The PID reading was 1.4 ppm.

The sampling terminated at 17 feet bgl. Soil samples were collected in the appropriate sample containers, sealed in sealable bags, and immediately placed in an ice chest containing ice.

A temporary well was not set at this location since saturation was not encountered during the soil sampling. On September 19 the borehole was grouted.

SWMU 10-24

On September 19, 2016 the drilling rig was set up on location SWMU 10-24. Sample collection was accomplished using the HSA drilling method and split spoon samplers. Four soil samples were collected for chemical analyses from the following intervals:

- 2 feet bgl – 2.5 feet bgl – PID reading of 2.5 ppm, no odor;
- 6 feet bgl – 8 feet bgl – PID reading of 3,000 ppm, hydrocarbon odor;
- 8 feet bgl – 10 feet bgl – PID reading of 2,021 ppm, hydrocarbon odor; and
- 15 feet bgl - 16 feet bgl – Top of claystone, dry, faint hydrocarbon odor, and PID reading of 56 ppm.

The lithology encountered consisted of a silt from 0 - 6 feet bgl with the PID readings ranging from 1.1 ppm (4 feet bgl – 6 feet bgl) to 2.5 ppm (2 – 4 feet bgl). This silt was observed to be low plastic, soft, damp, and brown with no odor. A low plasticity silty clay was encountered from 6 feet bgl to 15 feet bgl. The clay was soft to firm, damp, dark brown with a trace of sand and exhibited a hydrocarbon odor throughout. Phase-separated hydrocarbon was observed in the interval from 8 feet bgl to 10 feet bgl along with a slight increase in moisture and sand content near the base of the two-foot interval. The PID readings ranged from 123 ppm in the 14 feet bgl to 15 feet bgl interval just above the top of the bedrock to 3,000 ppm at the top of the silty clay at a depth of 6 feet bgl to 8 feet bgl.

A claystone was encountered from 15 feet bgl – 17 feet bgl. The claystone was observed to be very stiff, slightly sandy, dry, and pink. The claystone had a faint hydrocarbon odor. The PID readings ranged from 56 ppm to 80 ppm.

The sampling terminated at 17 feet bgl. Soil samples were collected in the appropriate sample containers, sealed in sealable bags, and immediately placed in an ice chest containing ice.

A temporary well was not set at this location since saturation was not encountered during the soil sampling. On September 19, 2016 the borehole was grouted.

SWMU 10-25

On September 19, 2016 the drilling rig was set up on location SWMU 10-25. Sample collection was accomplished using the HSA drilling method and split spoon samplers. Three soil samples were collected for chemical analyses from the following intervals:

- 2 feet bgl – 2.5 feet bgl – PID reading of 1,319 ppm, hydrocarbon odor;
- 10 feet bgl – 12 feet bgl – PID reading of 367 ppm, hydrocarbon odor; and
- 16.5 feet bgl - 18 feet bgl – Top of claystone, dry, no odor, and PID reading of 5 ppm.

The lithology encountered consisted of a silt from 0 - 2 feet bgl with a PID reading of 1.9 ppm. This silt was observed to be low plastic, soft, damp, and brown with no odor. A low plasticity silty clay was encountered from 2 feet bgl to 9 feet bgl. The clay was soft, damp, dark brown and exhibited a hydrocarbon odor throughout. The PID readings ranged from a low of 108 ppm in the 6 feet bgl to 8 feet bgl interval to a high of 1,319 ppm at the top of the silty clay at a depth of 2 feet bgl to 4 feet bgl. From 9 feet bgl to the top of the claystone bedrock at 16.5 feet bgl, the clay alternated from

sand clay (9 feet bgl – 11 feet bgl, 12 feet bgl - 13 feet bgl, and 14 feet bgl - 16.5 feet bgl) to silty clay (11 feet bgl – 12 feet bgl and 13 feet – 14 feet bgl). Both the sandy clay and silty clay intervals were low plasticity, brown, and had a hydrocarbon odor. While the silty clay was firm, the sandy clay intervals were soft. The sandy clay interval from 12 feet bgl to 13 feet bgl was saturated, while other intervals were damp. The PID readings increased with depth from 201 ppm in the 8 feet bgl to 10 feet bgl interval to a maximum of 338 ppm in the 12 feet bgl to 13 feet bgl interval. The PID reading then decreased with depth to 10.6 ppm in the 14 feet bgl to 16 feet bgl interval.

A claystone was encountered from 16.5 feet bgl – 19 feet bgl. The claystone was observed to be very stiff, dry, brown and gray. The claystone did not have an odor. The PID readings were 5 ppm.

The sampling terminated at 19 feet bgl. Soil samples were collected in the appropriate sample containers, sealed in sealable bags, and immediately placed in an ice chest containing ice.

A temporary well was set at this location since saturation was encountered during the soil sampling with the screen placed from 8 feet bgl to 18 feet bgl. On September 19, 2016 the temporary well was gauged. No phase-separated hydrocarbon was detected in the well. The depth to water was 18.95 feet btoc. The groundwater level was approximately 16.95 feet bgl. The depth to the bottom of the well was 20.50 feet bgl.

On September 21, 2016 the well was gauged with the water level measured at 10.74 feet btoc (8.74 feet bgl). Water samples were collected and immediately after the groundwater sample collection the well casing and screen were removed and the borehole was grouted.

4.4 Temporary Monitor Well Construction and Groundwater Sampling

This subsection provides a description of groundwater investigations to locate potential impacts to the groundwater in the area of the Sludge Pits. This includes the installation of temporary monitor wells, measurement of fluid levels, well development/purging, collection of groundwater field data, and the collection of groundwater samples.

A description of the well installations and groundwater sampling procedures are presented in Appendix B – Field Methods. Copies of the boring logs that include the well settings are provided in Appendix C. Field measurements of groundwater stabilization parameters included pH, specific conductance, dissolved oxygen concentrations, oxidation-reduction potential, and temperature.

These measurements are presented in Table 4 . The locations of the soil borings with temporary well completions appear on Figure 7.

4.4.1 Groundwater Investigation

Groundwater samples were collected from eleven temporary well completions. The following list provides a brief summary of the well development and groundwater sample collection activities:

- SWMU 10-1; developed and sampled; yielded enough water for a full analytical suite;
- SWMU 10-3; developed and sampled; yielded enough water for a full analytical suite;
- SWMU 10-5; sampled only due to slow recharge rate; yielded enough water for a full analytical suite;
- SWMU 10-11; developed and sampled; yielded enough water for a full analytical suite; sheen observed on purge water;
- SWMU 10-12; developed and sampled; yielded enough water for a full analytical suite;
- SWMU 10-14; developed and sampled; yielded enough water for a full analytical suite; sheen observed on purge water;
- SWMU 10-15; developed and sampled; yielded enough water for a full analytical suite;
- SWMU 10-16; sampled only due to a small water column in the temporary well completion; yielded enough water for VOCs, SVOCs, and gasoline, diesel, and motor oil range petroleum hydrocarbons analyses;
- SWMU 10-20; developed and sampled; yielded enough water for the full analytical suite;
- SWMU 10-21; developed and sampled; yielded enough water for VOCs, SVOCs, and gasoline, range petroleum hydrocarbons analyses; and
- SWMU 10-25; sampled only due to a small water column in the temporary well completion; yielded enough water for the full analytical suite.

The drilling equipment and hand auger equipment was decontaminated between each borehole, as described in Appendix B. The well development and purging is also discussed in Appendix B. The installation of the temporary wells and collection of groundwater samples are discussed below in numerical order for the samples collected near the former Sludge Pits.

SWMU 10-1

On April 28, 2015 the drilling rig was set up on location SWMU 10-1. The boring was installed using the HSA drilling method. Groundwater was encountered at approximately 6 feet bgl in a sandy clay.

A temporary well was constructed of 2-inch Schedule 40 PVC screen and casing. The well was installed with the screened interval ranging from 4 feet bgl to 14 feet bgl to include the sandy clay interval at a depth of 6 feet bgl to 8 feet bgl that indicated the presence of saturation. The screen extends downward to the top of the bedrock to also potentially encounter any groundwater on top of the bedrock surface. A sand filter pack was installed to approximately 2 feet bgl. A bentonite seal was installed to approximately 1 foot bgl. The top of casing was approximately 3.25 feet above ground level.

On April 29, 2015 the well was gauged. The depth to water was 10.63 feet below the top of casing (btoc). The groundwater level was approximately 7.38 feet bgl. Approximately 5 gallons of groundwater were developed/purged from the well by 9:20 am on April 29, 2015. The purge water was brown and turbid. The well was sampled on April 29, 2015 at 5:10 pm. There was a sufficient volume of groundwater to collect samples for a full analytical suite as specified in the Investigation Work Plan and discussed further in Section 6.2. All purge/development water was disposed at the bundle cleaning pad on April 29, 2015. On May 1, 2015 the well casing and screen were removed and the borehole was grouted.

SWMU 10-3

On April 28, 2015 the drilling rig was set up on location SWMU 10-3. The boring was installed using the HSA drilling method. Groundwater was encountered in sand seams that were identified in a sandy clay interval, which extended from 8 feet bgl to 12 feet bgl. A temporary well was constructed of 2-inch Schedule 40 PVC screen and casing. The well was installed with the screened interval ranging from 4 feet bgl to 14 feet bgl to cover the length of the silty clay from 8 feet bgl to 12 feet bgl, which was very moist and indicated the greatest potential to yield groundwater. The screen also extended to the top of bedrock to encounter any groundwater accumulating on this surface. A filter pack was installed to approximately 2 feet bgl. A bentonite seal was installed to approximately 1 foot bgl. The top of casing was approximately 3.13 feet above ground level.

On April 29, 2015 the well was gauged. The depth to water was 14.18 feet btoc. The groundwater level was approximately 11.05 feet bgl. Approximately two gallons of groundwater were developed/purged from the well on April 29, 2015. The purge water was brown, cloudy and did not exhibit an odor. There was enough groundwater to collect samples for a full analytical suite on April 29, 2015. All purge/development water was disposed at the bundle cleaning pad. On May 1, 2015 the well casing and screen were removed and the borehole was grouted.

SWMU 10-5

On April 29, 2015 the drilling rig was set up on location SWMU 10-5. The boring was installed using the HSA drilling method. Groundwater saturation was not readily apparent during the collection of soil samples, which consisted clay from the land surface to the top of bedrock at 22 feet bgl. A temporary well was constructed of 2-inch Schedule 40 PVC screen and casing. The well was installed with the screened interval ranging from 12 feet bgl to 22 feet bgl to include the top of bedrock. A filter pack was installed to approximately 10 feet bgl. A bentonite seal was installed to approximately 9 feet bgl. The top of casing was approximately 3.00 feet above ground level. The well was gauged immediately after the installation of the well materials. No groundwater was detected in the well. The total depth of the well was 24.48 feet btoc (21.48 feet bgl).

On May 1, 2015 the well was gauged and the depth to groundwater was 19.48 feet btoc. The groundwater level was approximately 16.48 feet bgl. The fluid column in the well was 5 feet in thickness. On May 4, 2015 the well was gauged. The depth to water was 14.91 feet btoc. The groundwater level was approximately 11.91 feet bgl. The fluid column in the well was 9.57 feet.

Due to the very slow groundwater recharge rate in this well, the well was not developed/purged. There was enough groundwater to collect samples on May 4, 2015 for a full analytical suite. The water was slightly turbid and did not exhibit an odor.

On May 4, 2015 the well casing and screen were removed from the borehole. Separate phase hydrocarbon (SPH) was observed on the outside of the well casing at approximately three to six feet below ground level. This is above the level to which groundwater recovered and there was no indication of SPH in the soil samples, thus the source of the SPH is not readily apparent. The borehole was grouted.

SWMU 10-11

On May 12, 2015 the drilling rig was set up on location SWMU 10-11. The boring was installed using the HSA drilling method. Groundwater saturation was encountered at four feet bgl in a clayey sand that was black and exhibited a petroleum odor.

A temporary well was constructed of 2-inch Schedule 40 PVC screen and casing. The well was installed with the screened interval ranging from 3 feet bgl to 13 feet bgl to include all of the saturated clayey sand interval that extended from 4 feet to 12 feet, where it transitioned to a damp

sandy clay. A filter pack was installed to approximately 1 feet bgl. A bentonite seal was installed to ground level. The top of casing was approximately 3.08 feet above ground level.

On May 14, 2015 the well was gauged. The depth to water was 6.43 feet btoc. The groundwater level was approximately 3.35 feet bgl. The depth to the bottom of the well was 16.65 feet btoc. Approximately 5.25 gallons of groundwater were developed/purged from the well on May 14, 2015 prior to collection of the groundwater samples.

The purge water was turbid and a sheen was observed on the purge water. The water did not exhibit an odor. There was enough groundwater to collect samples for a full analytical suite. All purge water was disposed at the bundle cleaning pad on May 14, 2015. On May 14, 2015 the well casing and screen were removed and the borehole was grouted.

SWMU 10-12

On May 12, 2015 the drilling rig was set up on location SWMU 10-12. The boring was installed using the HSA drilling method. Groundwater saturation was first encountered at 4 feet bgl in a very moist silty clay. A temporary well was constructed of 2-inch Schedule 40 PVC screen and casing. The well was installed with the screened interval ranging from 4 feet to 14 feet. The screen placement included the uppermost interval indicating the potential to produce water in the silty clay that extended from 4 feet bgl to 11 feet bgl and the underlying clayey/silty sand that was saturated. A filter pack was installed to approximately 2 feet bgl. A bentonite seal was installed to ground level. The top of casing was approximately 2.92 feet above ground level.

On May 14, 2015 the well was gauged. The depth to water was 6.30 feet btoc. The groundwater level was approximately 3.38 feet bgl. The depth to the bottom of the well was 17.48 feet btoc. Approximately 5.75 gallons of groundwater were developed/purged from the well by on May 14, 2015 prior to sample collection.

The purge water was turbid and did not exhibit an odor. There was enough groundwater to collect samples for a full analytical suite. All purge water was disposed at the bundle cleaning pad on May 14, 2015. On May 14, 2015 the well casing and screen were removed and the borehole was grouted.

SWMU 10-14

On May 12, 2015 the drilling rig was set up on location SWMU 10-14. The boring was installed using the HSA drilling method. Groundwater saturation was encountered at two feet bgl. A temporary well was constructed of 2-inch Schedule 40 PVC screen and casing. The well was installed with the screened interval ranging from 2 feet to 12 feet. The top of the well screened corresponded with the anticipated depth of groundwater and extended deeper to include the upper 10 feet of saturated soils. The screened soils included loose, light tan, saturated clayey gravel from 4 feet bgl to 6 feet bgl, a high plastic clay from 6 feet bgl to 6.75 feet bgl, saturated clayey sand from 6.75 feet bgl to 8 feet bgl, sandy clay from 8 feet bgl to 10 feet bgl, and clayey gravelly sand was encountered from 10 feet bgl to 16 feet bgl.

A filter pack was installed to approximately 1 feet bgl. A bentonite seal was installed to ground level. The top of casing was approximately 2.00 feet above ground level.

On May 14, 2015 the well was gauged. The depth to water was 6.00 feet btoc. The groundwater level was approximately 4.00 feet bgl. The depth to the bottom of the well was 14.50 feet btoc. Approximately 5 gallons of groundwater were purged from the well by on May 14, 2015 before collecting the groundwater samples.

The purge water was turbid, reddish brown and a sheen was observed on the purge water. The water did not exhibit an odor. There was enough groundwater to collect samples for a full analytical suite. All purge water was disposed at the bundle cleaning pad on May 14, 2015. On May 14, 2015 the well casing and screen were removed and the borehole was grouted.

SWMU 10-15

On May 13, 2015 the drilling rig was set up on location SWMU 10-15. The boring was installed using the HSA drilling method. Groundwater saturation was first encountered at 7 feet bgl in a sand seam within a sandy clay. A temporary well was constructed of 2-inch Schedule 40 PVC screen and casing. The well was installed with the screened interval ranging from 6 feet to 16 feet. The screened interval included the uppermost indication of saturation and included the 10-foot interval below. The screened soils included sandy clay from 6 to 8 feet bgl with saturated sand seams at 7 feet, saturated clayey sand from 8 feet bgl to 9.5 feet bgl, clay from 9.5 feet bgl to 10 feet bgl, silty clay from 10 feet bgl to 11.5 feet bgl, very moist to saturated sandy clay from 11.5 feet bgl to 12.5 feet

bgl, silty clay from 12.5 feet bgl to 13 feet bgl, saturated clayey sand from 13 feet bgl to 14 feet bgl, and sandy clay from 14 feet bgl to 16 feet bgl.

A filter pack was installed to approximately 4 feet bgl. A bentonite seal was installed to ground level. The top of casing was approximately 3.33 feet above ground level.

On May 14, 2015 the well was gauged. The depth to water was 7.64 feet btoc. The groundwater level was approximately 4.31 feet bgl. The depth to the bottom of the well was 20.10 feet btoc. Approximately 6.5 gallons of groundwater were purged from the well by on May 14, 2015 and groundwater samples were collected.

The purge water was turbid and did not exhibit a petroleum odor. There was enough groundwater to collect samples for a full analytical suite. A duplicate groundwater sample was also collected from this location. All purge water was disposed at the bundle cleaning pad on May 14, 2015. On May 14, 2015 the well casing and screen were removed and the borehole was grouted.

SWMU 10-16

On May 13, 2015 sample collection at SWMU 10-16 was accomplished using the hand auger. Overhead utility lines prevented the mobilization of the HSA drilling rig to this location. Groundwater saturation was encountered at 5.5 feet bgl in a clayey sand. A temporary well was constructed of 2-inch Schedule 40 PVC screen and casing. Due to the shallow depth of the boring, it was possible to install the screen from ground level to bottom of the boring at 9 feet bgl. The soils indicating saturation consisted of clayey sand and extended from 5.5 feet bgl to 8 feet bgl. A filter pack and bentonite seal were not installed. The top of screen extended to approximately 1.5 feet above ground level.

On May 14, 2015 the well was gauged. The depth to water was 7.70 feet btoc. The groundwater level was approximately 6.20 feet bgl. The depth to the bottom of the well was 10.48 feet btoc. Due to the small fluid column (2.78 feet - 0.47 gallons) in this well, the well was not developed/purged. There was enough groundwater to collect samples for only VOCs, TPH, and SVOC analyses. The water was turbid and did not exhibit an odor.

SWMU 10-20

On May 17, 2016 the drilling rig was set up on location SWMU 10-20. The boring was installed using the HSA drilling method. Groundwater saturation was first encountered at 12 feet bgl in a silty sandy

clay. A temporary well was constructed of 2-inch Schedule 40 PVC screen and casing. The well was installed with the screened interval ranging from 5 feet to 20 feet. The screened interval included the uppermost indication of saturation and included the 10-foot interval below. The screened soils included the following:

- Silty Sandy Clay - 12 feet bgl to 14 feet bgl – moist to saturated;
- Silty Sandy Clay – 14 feet bgl to 16 feet bgl – moist to saturated in sand seam at 15.5 feet bgl; and
- Silty Sandy Clay - 16 feet bgl - 18 feet bgl – moist to saturated.

A filter pack was installed to approximately 3 feet bgl. A bentonite seal was installed to 2 feet bgl. The top of casing was approximately 1.71 feet above ground level.

On May 19, 2016 the well was gauged. The depth to water was 12.60 feet btoc. The groundwater level was approximately 10.89 feet bgl. The depth to the bottom of the well was 19.29 feet bgl. The well was bailed dry after removing approximately 7 gallons of groundwater during development. Groundwater samples were collected on May 20, 2016.

The purge water was clear and exhibited a faint hydrocarbon odor. There was enough groundwater to collect samples for a full analytical suite. All purge water was disposed at the bundle cleaning pad on May 19, 2016. On May 23, 2016 the well casing and screen were removed and the borehole was grouted.

SWMU 10-21

On May 18, 2016 the drilling rig was set up on location SWMU 10-21. The boring was installed using the HSA drilling method. Groundwater saturation was encountered from 14 feet to 18 feet within sand seams in a sandy silty clay. A temporary well was constructed of 2-inch Schedule 40 PVC screen and casing. The well was installed with the screened interval ranging from 10 feet bgl to 20 feet bgl. A filter pack was installed to approximately 8 feet bgl. A bentonite seal was installed to approximately 6 feet bgl. The top of casing was approximately 0.46 feet above ground level.

On May 19, 2016 the well was gauged and the depth to groundwater was 19.80 feet btoc/19.34 feet bgl. The fluid column in the well was 0.43 feet in thickness. Due to the very slow groundwater recharge rate in this well, the well was not developed/purged. The depth to groundwater was gauged on May 19, 2016 and determined to be 19.60 feet btoc/19.14 feet bgl. There was enough

groundwater to collect samples on May 19, 2016 for a volatile organics, semivolatile organics and gasoline range petroleum hydrocarbons analyses.

The water was clear to turbid and did not exhibit an odor. On May 23, 2016 the well casing and screen were removed and the borehole was grouted.

SWMU 10-25

On September 19, 2016 the drilling rig was set up on location SWMU 10-25. The boring was installed using the HSA drilling method. Groundwater saturation was first encountered at 12 feet bgl in a sandy clay. A temporary well was constructed of 2-inch Schedule 40 PVC screen and casing. The well was installed with the screened interval ranging from 8 feet to 18 feet. The screened interval included the uppermost indication of saturation and extended to the top of bedrock. The screened soils included the following:

- Silty Clay - 8 feet bgl to 9 feet bgl – damp;
- Sandy Clay - 9 feet bgl to 11 feet bgl – damp, brown to black discoloration;
- Silty Clay - 11 feet bgl to 12 feet bgl – damp;
- Sandy Clay - 12 feet bgl to 13 feet bgl – saturated;
- Silty Clay – 13 feet bgl to 14 feet bgl – damp;
- Sandy Clay - 14 feet bgl to 16.5 feet bgl – damp to moist; and
- Claystone – 16.5 feet bgl to 18 feet bgl - dry.

A filter pack was installed to approximately 6 feet bgl. A bentonite seal was installed to the land surface. The top of casing was approximately 2.0 feet above ground level.

On September 19, 2016 the temporary well was gauged. No phase-separated hydrocarbon was detected in the well. The depth to water was 18.95 feet btoc. The groundwater level was approximately 16.95 feet bgl. The depth to the bottom of the well was 20.50 feet bgl. The fluid column in the well was 1.55 feet in thickness.

On September 20, 2016 at approximately 08:56 a.m. the well was gauged with the water level measured at 10.58 feet btoc (8.58 feet bgl). The well was bailed dry after removing approximately 6 gallons of groundwater during development. The purge water was clear to amber and exhibited a hydrocarbon odor. All purge water was disposed at the bundle cleaning pad.

On September 21, 2016 the well was gauged with the water level measured at 10.74 feet btoc (8.74 feet bgl). The well was sampled at 08:50 a.m. There was enough groundwater to collect samples for a full analytical suite. Immediately after the groundwater sample collection the well casing and screen were removed and the borehole was grouted.

Section 5
Regulatory Criteria

The applicable screening and potential cleanup levels are specified in NMED's *Risk Assessment Guidance for Site Investigations and Remediation* dated July 2015 and in the Environmental Protection Agency's (EPA) Regional Screening Levels dated November 2015.

For non-residential properties (e.g., the Gallup Refinery), the soil screening levels must be protective of commercial/industrial workers throughout the upper one foot of surface soils and construction workers throughout the upper ten feet based on NMED criteria. NMED residential soil screening levels are applied to the upper ten feet and soil screening levels for protection of groundwater apply throughout the vadose zone. EPA soil screening levels for direct contact exposure apply to the upper two feet of the vadose zone. To achieve closure as "corrective action complete without controls", the affected media must meet residential screening levels, which are presented in Table 5. Table 5 also provides a list of the available NMED and EPA soil screening levels for non-residential properties. While Table 5 indicates the various depths to which the individual soil screening levels are applicable, Table 7 discussed below does not include this level of detail.

The groundwater cleanup levels are based on New Mexico Water Quality Control Commission (WQCC) standards (20.6.2.7 WW NMAC, 20.6.2.3103, and 20.6.2.4103) unless there is a federal maximum contaminant level (MCL), in which case the lower of the two values is selected as the cleanup level. If neither a WCQQ standard nor an MCL is available, then the cleanup level is based on a NMED Tap Water Screening Level. If a NMED Tap Water Screening Level is not available for a constituent, then an EPA Regional Screening Level is used. If an EPA Regional Screening Level is for a carcinogenic compound, then the screening level is multiplied by 10 to bring the risk level to 1E-05 to be consistent with the NMED screening levels. Table 6 presents the groundwater cleanup levels, with the applicable cleanup level bolded.

The aforementioned Table 5 has soil screening levels for the soil-to-groundwater pathway that are based on a dilution/attenuation factor (DAF) of 1.0, which is NMED's most conservative screening level for this pathway. A review of site conditions (i.e., predominance of very fine-grained soils and limited occurrence of groundwater with low yields) indicates that a DAF of 1.0 is overly conservative,

thus a site-specific DAF value was calculated. The documentation of the calculation of the site-specific DAF value is provided in Appendix G.

The screening levels that are compared to individual soil sample results from SWMU No. 10 (Sludge Pits) are presented in Table 7. The screening levels included in Table 7 are based on residential and non-residential land use and include a site-specific screening level to evaluate the potential for constituents to migrate to groundwater using a DAF value of 295. For the non-residential screening levels, the lower of the construction worker scenario and commercial/industrial scenario screening levels for each constituent is included in the data tables if NMED screening levels are available. If NMED soil screening levels are not available for a particular constituent, then EPA soils screening levels are used. If an EPA soil screening level is for a carcinogenic compound, then the screening level is multiplied by 10 to bring the risk level to 1E-05 to be consistent with the NMED screening levels. The screening levels in Table 7 have not been segregated based on depth of the soil sample as discussed above for Table 5. The screening levels that are compared to individual groundwater sample results from SWMU No. 10 are presented in Table 8.

A review of the NMED guidelines for TPH indicates that the TPH screening levels were developed based on screening levels and compositional assumptions developed by the Massachusetts Department of Environmental Protection (MADEP). The analytical results, as presented in Table 7, are reported for gasoline range organics (C6-C10), diesel range organics (>C10-C28), and motor oil range organics (>C28-C35). The applicable TPH screening levels for comparison to the individual soil samples are selected from Table 6-2 of the NMED guidance (NMED, 2015).

There are no soil screening levels for gasoline range organics and the individual compounds listed for groundwater (gasoline range criteria) are included in the list of analytes used for site samples. As there could have been a variety of petroleum types (e.g., crude oil or various refined products) going to the former Sludge Pits, the screening level for “unknown oil” was selected for comparison to the diesel range and motor oil range soil analytical results.

The motor oil range analytical results are compared to the “unknown oil” screening level as directed by NMED. However, it is noted that the laboratory analyses for motor oil range organics only reports results for the >C28 to C35 hydrocarbon range, while the “unknown oil” screening level is based on a hydrocarbon mixture assumed to include only C11-C22 aromatics.

Some of the individual constituents reported by the laboratory do not have screening levels but were all non-detect with respect to soil, except 4-isopropyltoluene and 3+4-methylphenol. With respect to groundwater, there were also detections of constituents that do not have screening levels. The constituents detected in groundwater that do not have screening levels include, 2-hexanone, 4-isopropyltoluene, 4-methyl-2-pentanone, n-butylbenzene, n-propylbenzene, sec-butylbenzene, and carbazole. None of these constituents are classified as a known carcinogen.

Section 6
Site Impacts

This section discusses the chemical analyses performed and presents the analytical results that were obtained through the analysis of soil and groundwater samples, which were collected at the former Sludge Pits. The results for soils and groundwater analyses are presented and compared to applicable screening levels, as described in Section 5.0.

6.1 Soil Analytical Results

Soil samples were analyzed by Hall Environmental Analysis Laboratory in Albuquerque, New Mexico using the following methods for organic constituents:

- SW-846 Method 8260/5035 volatile organic compounds;
- SW-846 Method 8270C semi-volatile organic compounds; and
- SW-846 Method 8015D gasoline, diesel, and motor oil range petroleum hydrocarbons.

Soil samples were analyzed for the following metals using the indicated analytical methods, respectively.

Analyte	Analytical Method
Antimony	SW-846 Method 6010B
Arsenic	SW-846 Method 6010B
Barium	SW-846 Method 6010B
Beryllium	SW-846 Method 6010B
Cadmium	SW-846 Method 6010B
Chromium	SW-846 Method 6010B
Cobalt	SW-846 Method 6010B
Cyanide	SW-846 Method 9012B
Hexavalent Chromium	SW-846 Method 3060A/7196A
Iron	SW-846 Method 6010B
Lead	SW-846 Method 6010B
Mercury	SW-846 Method 7471

Analyte	Analytical Method
Manganese	SW-846 Method 6010B
Nickel	SW-846 Method 6010B
Selenium	SW-846 Method 6010B
Silver	SW-846 Method 6010B
Vanadium	SW-846 Method 6010B
Zinc	SW-846 Method 6010B

The analytical results for soil samples collected at the former Sludge Pits are summarized in Table 7. The individual results that exceed the applicable cleanup levels are highlighted, as noted in the table footnotes. Maps showing the distribution of constituents detected in soils above the lowest applicable screening levels are included as Figures 13 through 23. The concentrations shown on figures that exceed the screening levels in Table 7 are underlined on the figures. The laboratory analytical reports are included in Appendix D and the data validation of the results, which includes the analytical results for the associated QA/QC samples, is included in Appendix E. The constituents that have concentrations in soils above screening levels as measured in samples collected from the Sludge Pits are discussed below.

Arsenic was detected at a concentration above the residential screening level of 4.25 mg/kg in one soil sample [SWMU 10-20 (2-2.5')] at a concentration of 5.4 mg/kg. The concentrations are shown on Figure 13. The detected concentrations range from 0.84 mg/kg to 5.4 mg/kg. The concentration of 5.4 mg/kg also exceeded the DAF screening level of 4.41 mg/kg.

Cyanide was detected at concentrations above the DAF screening level of 0.077 mg/kg in 15 soil samples [SWMU 10-18 (2-2.5'), SWMU 10-18 (8-10'), SWMU 10-20 (2-2.5'), SWMU 10-20 (8-10'), SWMU 10-20 (10-12'), SWMU 10-21 (2-2.5'), SWMU 10-23 (2-2.5'), SWMU 10-23 (15-16'), SWMU 10-24 (2-2.5'), SWMU 10-24 (6-8'), SWMU 10-24 (8-10'), SWMU 10-24 (15-16'), SWMU 10-25 (2-2.5'), SWMU 10-25 (10-12'), and SWMU 10-25 (16.5-18')]. The detected concentrations range from 0.04 mg/kg to 3.9 mg/kg, with 11 of the 15 detections being "J" flagged or estimated concentrations. The results are presented on Figure 14.

There were six soil samples with concentrations of 1,2,4-trimethylbenzene above the DAF screening level of 6.2 mg/kg [SWMU 10-5 (4-6'), SWMU 10-8 (2-4'), SWMU 10-10 (4-6'), SWMU 10-17 (6-8'), SWMU 10-20 (8-10'), and SWMU 10-20 (10-12')] as indicated with highlighting in Table 7. The

detected concentrations range from 0.0003 to 27 mg/kg. The concentrations are plotted on Figure 15. All sample results are less than the residential soil screening level of 58 mg/kg.

1-Methylnaphthalene was detected at concentrations above the DAF screening level of 1.71 mg/kg in 14 soil samples [SWMU 10-4 (2-4'), SWMU 10-5 (4-6'), SWMU 10-8 (2-4'), SWMU 10-10 (4-6'), SWMU 10-11 (4-6'), SWMU 10-11 (8-10'), SWMU 10-13 (6-8'), SWMU 10-17 (6-8'), SWMU 10-19 (12-14'), SWMU 10-20 (8-10'), SWMU 10-20 (10-12'), SWMU 10-20 (16-18'), SWMU 10-24 (6-8'), and SWMU 10-25 (2-2.5').] as indicated with highlighting in Table 7. The detected concentrations range from 0.0002 mg/kg to 76 mg/kg and all detected concentrations are less than the residential screening level of 180 mg/kg. The concentrations are plotted on Figure 16.

2-Methylnaphthalene was detected at concentrations above the DAF screening level of 56.1 mg/kg in four soil samples [SWMU 10-5 (4-6'), SWMU 10-8 (2-4'), SWMU 10-17 (6-8'), and SWMU 10-20 (8-10') as indicated with highlighting in Table 7. The detected concentrations range from 0.0006 to 130 mg/kg and all detected concentrations are less than the residential screening level of 240 mg/kg. The concentrations are plotted on Figure 17.

Benzene was detected at concentrations above the DAF screening level of 0.56 mg/kg in four soil samples [SWMU 10-5 (4-6'), SWMU 10-17 (6-8'), SWMU 10-20 (8-10'), and SWMU 10-20 (10-12')] as indicated with highlighting in Table 7. The detected concentrations range from 0.000788 to 8 mg/kg. The concentrations are plotted on Figure 18. All sample results are less than the residential soil screening level of 17.8 mg/kg.

There are four soil samples [SWMU 10-5 (4-6'), SWMU 10-17 (6-8'), SWMU 10-20 (8-10'), and SWMU 10-20 (10-12')] with a concentration of ethylbenzene detected above the DAF screening level of 3.87 mg/kg as indicated with highlighting in Table 7. The detected concentrations range from 0.0003 mg/kg to 14 mg/kg. The concentrations are plotted on Figure 19. All sample results are less than the residential soil screening level of 75.1 mg/kg.

Naphthalene was detected at concentrations above the DAF screening level of 1.21 mg/kg in 12 soil samples [SWMU 10-5 (4-6'), SWMU 10-8 (2-4'), SWMU 10-10 (4-6'), SWMU 10-11 (4-6'), SWMU 10-13 (6-8'), SWMU 10-17 (6-8'), SWMU 10-19 (12-14'), SWMU 10-20 (8-10'), SWMU 10-20 (10-12'), SWMU 10-20 (16-18'), SWMU 10-24 (6-8'), and SWMU 10-25 (2-2.5')] as indicated with highlighting in Table 7. The detected concentrations range from 0.0007 mg/kg to 26 mg/kg. The

concentrations are plotted on Figure 20. All sample results are less than the residential soil screening level of 49.7 mg/kg.

There are three soil samples [SWMU 10-5 (4-6'), SWMU 10-17 (6-8'), and SWMU 10-20 (8-10')] with a concentration of xylenes detected above the DAF screening level of 43.9 mg/kg as indicated with highlighting in Table 7. The detected concentrations range from 0.0009 mg/kg to 86 mg/kg. The concentrations are plotted on Figure 21. All sample results are less than the residential soil screening level of 871 mg/kg.

Diesel Range Organics were detected at concentrations above the residential soil screening level of 1,000 mg/kg in 12 soil samples [SWMU 10-4 (2-4'), SWMU 10-5 (0-2'), SWMU 10-5 (4-6'), SWMU 10-8 (2-4'), SWMU 10-10 (4-6'), SWMU 10-11 (4-6'), SWMU 10-13 (6-8'), SWMU 10-14 (6-8') SWMU 10-17 (6-8'), SWMU 10-20 (2-2.5'), SWMU 10-20 (8-10'), and SWMU 10-20 (10-12')] as indicated with highlighting in Table 7. The detected concentrations range from 2.9 to 9,700 mg/kg. The concentrations are plotted on Figure 22.

Motor Oil Range Organics were detected at concentrations above the residential soil screening level of 1,000 mg/kg in four soil samples [SWMU 10-5 (0-2'), SWMU 10-8 (2-4'), SWMU 10-10 (4-6'), and SWMU 10-20 (2-2.5')] as indicated with highlighting in Table 7. The detected concentrations range from 53 mg/kg to 6,700 mg/kg. The concentrations are plotted on Figure 23.

6.2 Groundwater Analytical Results

The groundwater samples were analyzed for organic constituents by the following methods:

- SW-846 Method 8260 volatile organic compounds;
- SW-846 Method 8270 semi-volatile organic compounds;
- SW-846 Method 8015D gasoline range organics; and
- SW-846 Method 8015M/D diesel and motor oil range organics.

Groundwater samples were analyzed for the following total and dissolved metals using the indicated analytical methods.

Analyte	Analytical Method
Antimony	SW-846 Method 200.8
Arsenic	SW-846 Method 200.8

Analyte	Analytical Method
Barium	SW-846 Method 200.7
Beryllium	SW-846 Method 200.7
Cadmium	SW-846 Method 200.7
Chromium	SW-846 Method 200.7
Cobalt	SW-846 Method 200.7
Iron	SW-846 Method 200.7
Lead	SW-846 Method 200.8
Manganese	SW-846 Method 200.7
Nickel	SW-846 Method 200.7
Selenium	SW-846 Method 200.8
Silver	SW-846 Method 200.7
Vanadium	SW-846 Method 200.7
Zinc	SW-846 Method 200.7

Groundwater samples were also analyzed for the following total metals using the indicated analytical methods.

Analyte	Analytical Method
Cyanide	SW-846 Method 9012B
Hexavalent Chromium	SW-846 Method 7199
Mercury	SW-846 Method 245.1

In addition, groundwater samples were analyzed for chloride, fluoride, and sulfate using EPA method 300.

The analytical results and the applicable cleanup levels are presented in Table 8. The individual results that exceed the applicable cleanup levels are highlighted. Maps depicting the distribution of the various constituents detected in groundwater samples above the screening levels are provided in Figures 24 through 34, with the concentrations that exceed the screening levels underlined. The results for the associated QA/QC samples and the data validation are provided in Appendix E. The laboratory analytical reports are included in Appendix D.

All of the groundwater samples collected at the former Sludge Pits were collected from temporary well completions and there are numerous metals detected in the total analyses at concentrations above their respective screening levels. The samples collected at temporary wells SWMU 10-16 and SWMU 10-21 were not analyzed for metals because the wells did not produce a sufficient volume of water to run all analyses. The constituents with reported concentrations that exceed screening levels are discussed below.

Arsenic was detected above the screening level of 0.01 mg/l in eight of the nine samples collected when reviewing both the total and dissolved analyses. This includes samples collected at SWMU 10-3, SWMU 10-5, SWMU 10-11, SWMU 10-12, SWMU 10-14, SWMU 10-15, SWMU 10-20, and SWMU 10-25. The higher of the two results (total and dissolved analyses) are shown on Figure 24. The detected arsenic results range from 0.0025 to 0.029 mg/l.

For the total analyses, barium was detected above the screening level of 2.0 mg/l in three of the nine samples collected, including SWMU 10-11, SWMU 10-12, and SWMU 10-14 with concentrations ranging from 5.3 mg/l to 7.3 mg/l. However, only one of the samples (SWMU 10-25) from the dissolved analyses exceeds the screening level of 1.0 mg/l. The dissolved analyses range from 0.085 mg/l to 1.4 mg/l.

Similar to barium, beryllium was detected above the screening level of 0.004 mg/l in three of the nine samples collected, including SWMU 10-11, SWMU 10-12, and SWMU 10-14 with total concentrations ranging from 0.00043 mg/l to 0.037 mg/l. However, none of the samples from the dissolved analyses exceed the screening level. The detected dissolved analyses range from 0.0004 mg/l to 0.0009 mg/l.

Chromium and vanadium were both detected above their respective screening levels in the total analyses of groundwater samples collected from the same three temporary wells (SWMU 10-11, SWMU 10-12, and SWMU 10-14), while none of the dissolved analyses exceed screening levels. Chromium total analyses for detected results range from 0.0051 mg/l to 0.17 mg/l vs. the screening level of 0.05 mg/l. Dissolved analyses (detected results) for chromium range from 0.0039 mg/l to 0.0094 mg/l. All results for chromium VI were non-detect except for SWMU 10-20, which had a reported concentration of 0.0005 mg/l vs. the screening level of 0.000252 mg/l. The detected results for total vanadium range from 0.0068 mg/l to 0.17 mg/l in comparison to a screening level of 0.0631 mg/l. The detected results for dissolved vanadium range from 0.002 mg/l to 0.016 mg/l.

Cobalt (total analyses) was detected at concentrations above the screening in six (SWMU 10-1, SWMU 10-11, SWMU 10-12, SWMU 10-14, SWMU 10-15, and SWMU 10-20) of the nine groundwater samples collected, but none of the dissolved analyses exceed the screening level. The total cobalt analyses range from 0.0033 mg/l to 0.14 mg/l vs. the screening level of 0.006 mg/l. The dissolved analyses for cobalt range from 0.0035 mg/l to 0.023 mg/l in comparison to the screening level of 0.05 mg/l.

Iron was detected above the screening level in samples analyzed for total (four exceedances at SWMU 10-1, SWMU 10-11, SWMU 10-12 and SWMU 10-14) and dissolved analyses (two exceedances at SWMU 10-12 and SWMU 10-14). The total analyses range from 1.9 mg/l to 140 mg/l in comparison to a screening level of 13.8 mg/l. The dissolved analyses range from 0.011 mg/l to 3.9 mg/l vs. a screening level of 1.0 mg/l. The dissolved analyses results are shown on Figure 25.

Lead (total analyses) was detected at concentrations above the screening in four (SWMU 10-1, SWMU 10-11, SWMU 10-12, and SWMU 10-14) of the nine groundwater samples collected, but none of the dissolved analyses exceed the screening level. The total lead analyses range from 0.0021 mg/l to 0.28 mg/l vs. the screening level of 0.015 mg/l. The dissolved analyses for lead range from 0.00074 mg/l to 0.0068 mg/l in comparison to the screening level of 0.015 mg/l.

Manganese was detected above the screening levels in both total and dissolved analyses. The total concentration screening level of 2.0 mg/l was exceeded in five of the groundwater samples collected at temporary wells SWMU 10-11, SWMU 10-12, SWMU 10-14, SWMU 10-15, and SWMU 10-25. The total analyses results range from 0.52 mg/l to 22 mg/l. All nine of the analyses of groundwater detected concentrations of dissolved manganese above the screening level of 0.2 mg/l, with concentrations ranging from 0.27 mg/l to 3.9 mg/l. The dissolved analyses results are shown on Figure 26.

One groundwater sample, which was collected at temporary well SWMU 10-15, has concentrations of nickel that exceed the screening level of 0.372 mg/l in both total and dissolved analyses. The detected results for the total analyses range from 0.0044 mg/l to 0.64 mg/l, while the detected results for dissolved analyses range from 0.0028 mg/l to 0.65 mg/l. The dissolved analyses are shown on Figure 25.

Chloride was detected above the screening level in all nine groundwater samples with concentrations ranging from 330 mg/l to 7,100 mg/l vs. the screening level of 250 mg/l. Sulfate was detected above the screening level of 600 mg/l in one groundwater sample collected at temporary well SWMU 10-3. The sulfate concentrations range from 110 mg/l to 1,100 mg/l. The chloride and sulfate concentrations are shown on Figure 27.

1,2,4-Trimethylbenzene was detected above the screening level of 15 micrograms per liter (ug/l) in the groundwater samples collected at SWMU 10-11, SWMU 10-20, and SWMU 10-25 at concentrations of 64 ug/l, 220 ug/l, and 170 ug/l, respectively. The detected concentrations range from 0.18 ug/l to 210 ug/l and are shown on Figure 28.

The screening level for 1,3,5-Trimethylbenzene was exceeded in the groundwater samples collected at SWMU 10-11, SWMU 10-20, and SWMU 10-25 with detected results of 22 ug/l, 64 ug/l, and 46 ug/l, respectively, vs. the screening level of 12 ug/l. The detected concentrations range from 3.9 ug/l to 64 ug/l and are shown on Figure 29.

1-Methylnaphthalene was detected above the screening level of 11 ug/l in the groundwater samples collected at SWMU 10-11, SWMU 10-20, and SWMU 10-25 at concentrations of 70 ug/l, 170 ug/l, and 120 ug/l, respectively. The detected concentrations range from 3.1 ug/l to 170 ug/l and are shown on Figure 30.

2-Methylnaphthalene was detected above the screening level of 36 ug/l in the groundwater samples collected at SWMU 10-11, SWMU 10-20, and SWMU 10-25 at concentrations of 98 ug/l, 240 ug/l, and 180 ug/l, respectively. The detected concentrations range from 1.5 ug/l to 240 ug/l and are shown on Figure 31.

The screening level for benzene was exceeded in the groundwater samples collected at three locations (SWMU 10-5, SWMU 10-20, and SWMU 10-25) with results of 27 ug/l, 1,600 ug/l, and 320 ug/l, respectively, vs. the screening level of 5 ug/l. The detected concentrations range from 0.15 ug/l to 1,600 ug/l and are shown on Figure 32.

Methyl tert-butyl ether (MTBE) was detected slightly above the screening level of 143 ug/l in one groundwater sample, which was collected at SWMU 10-15, at a concentration of 150 ug/l. The detected concentrations range from 0.8 ug/l to 150 ug/l and are shown on Figure 33. In addition to the SWMU 10 groundwater results, the MTBE concentration detected at boring location SWMU 1-37,

which was installed during investigation of nearby SWMU 1, is also shown as it defines the eastern extent of MTBE concentrations above the screening level (Western Refining Southwest, Inc., 2015).

Naphthalene was detected above the screening level of 1.65 ug/l in three groundwater samples collected at SWMU 10-11, SWMU 10-20, and SWMU 10-25 at concentrations of 45 ug/l, 310 ug/l, and 200 ug/l, respectively. The detected concentrations range from 0.52 ug/l to 310 ug/l and are shown on Figure 34.

6.3 General Groundwater Chemistry

The measurement of field purging parameters included measurement of groundwater pH, specific conductance, dissolved oxygen concentrations, oxidation-reduction potential, and temperature. The results of the measurements are included in Table 4 and fluid levels measured prior to purging are also presented in Table 4.

Section 7
Conclusions and Recommendations

This section summarizes and provides an evaluation of the potential impacts as shown in field screening data and analytical data. This is followed by recommendations for any future actions.

7.1 Conclusions

A cumulative risk evaluation for soils is presented in Table 9. The evaluation was conducted by taking the maximum reported soil concentration of each detected constituent and dividing by the residential screening level and non-residential screening levels as shown in the equations below. These calculations are separated for carcinogenic and non-carcinogenic constituents. The cumulative carcinogenic risk is 2.86 x 10^{-5} assuming residential land use and 6.5 x 10^{-6} for non-residential land use. The hazard index for residential land use is 5.56 and for non-residential land use is 2.78.

$$Site\ Risk = \left(\frac{conc_x}{SSL_x} + \frac{conc_y}{SSL_y} + \frac{conc_z}{SSL_z} + \cdots + \frac{conc_i}{SSL_i}\right) \times 10^{-5}$$

$$Site\ Hazard\ Index\ (HI) = \left(\frac{conc_x}{SSL_x} + \frac{conc_y}{SSL_y} + \frac{conc_z}{SSL_z} + \cdots + \frac{conc_i}{SSL_i}\right) \times 1$$

A cumulative risk evaluation for groundwater is presented in Table 10. The evaluation was conducted by taking the maximum reported concentration of each constituent detected in groundwater and dividing by the residential screening levels, as shown in the equation above in the discussion for soil. The dissolved analyses are used for metals where available. The cumulative carcinogenic risk level is calculated to be 5.33 x 10^{-3} and the hazard index is 457.

Soils

There are no reported concentrations in soil for individual constituents that exceed the residential soil screening levels, with the exception of one sample [SWMU 10-20 (2-2.5')], which exceeded for arsenic. Otherwise, only the results for DRO and MRO exceed the residential screening levels.

Two metals (arsenic and cyanide) were detected at concentrations above the DAF 295 soil-to-groundwater protection screening levels. It is possible that some of these detections are reflective of

naturally occurring concentrations but a site-specific background study will be required to make this determination. Seven organic constituents (1,2,4-trimethylbenzene, 1-methylnaphthalene, 2-methylnaphthalene, benzene, ethylbenzene, naphthalene, and xylenes) were detected at concentrations above their soil-to-groundwater (DAF 295) screening levels. The soil borings with the greatest number of individual constituents exceeding the soil-to-groundwater (DAF 295) screening levels are generally located within the central portion of the area investigated, at borings SWMU 10-5, SWMU 10-8, SWMU 10-9, SWMU 10-10, SWMU 10-17, and SWMU 10-20.

DRO and/or MRO were detected at concentrations above the screening levels in the same soil samples that had detections of individual organics constituents above screening levels with the single exception of SWMU 10-14 (6-8'). The detection of DRO at a concentration of 1,200 mg/kg in comparison to the screening level 1,000 mg/kg in sample SWMU 10-14 (6-8') was defined to the southwest at boring SWMU 10-16.

The lateral extent of impacts to soil were defined to the east and southeast in borings SWMU 10-1, SWMU 10-2, and SWMU 10-7. The lateral extent was defined to the west at borings SWMU 10-12 and SWMU 10-16. The lateral extent was defined on the northeast at borings SWMU 10-15 and SWMU 10-21. The impacted area is not fully defined to the north based on exceedances of cyanide, 1-methylnaphthalene, and naphthalene at borings SWMU 10-24 and SWMU 10-25. The vertical extent of impacts at concentrations above the soil-to-groundwater soil screening levels was defined at every boring location with the single exception of SWMU 10-17. Boring SWMU 10-17 was completed with a hand auger due to access limitations to a depth of 8 feet within an impacted interval. This same impacted interval (e.g., 6 feet– 8 feet) was also identified in nearby boring SWMU 10-13. Soil boring SWMU 10-13 was accessible to the drilling rig and this boring was extended to bedrock and the vertical extent of impacts was defined for this area.

Groundwater

Of the 25 borings completed, 11 encountered saturation. Three of the borings that did not encounter saturation were completed with a hand auger and possibly saturation may be present at a deeper interval. The four temporary wells to the east (SWMU 10-1, SWMU 10-3, SWMU 10-5, and SWMU 21) had particularly low yields while the temporary wells to the west (SWMU 10-11, SWMU 10-12 and SWMU 10-14), where a thicker sand interval was present, indicated higher yields.

There are a seemingly large number of metals detected at concentrations above residential/tap water screening levels in groundwater samples collected from the soil borings. The metals analytical

results may have been affected as the result of collecting groundwater samples at low producing temporary wells completions, which tend to produce more turbid water samples than permanent well completions in more productive aquifers. The metal screening levels were exceeded in every soil boring from which a groundwater sample was collected for metals analyses.

Thirteen organic constituents (1-methylnaphthalene, 2-methylnaphthalene, 1,2,4-trimethlybenzene, 1,3,5-trimethylbenzene, benzene, bromodichloromethane, MTBE, naphthalene, toluene, xylenes, 2,4-dimethylphenol, 3+4-methylphenol, and phenol) were detected in groundwater samples collected from soil borings at concentrations above screening levels. Many of the reported concentrations are only slightly above the screening levels (i.e., generally less than one order of magnitude above the screening level). Most of the detections above screening levels occur at borings SWMU 10-11, SWMU 10-20, and SWMU 10-25. MTBE was detected above the screening level at a single location (SWMU 10-15) at a concentration of 150 ug/l vs. the screening level of 143 ug/l. Boring SWMU 10-15 is located cross- to up-gradient of most of the area of SWMU 10 (Figure 12). Based on the distribution of the MTBE concentrations and the hydraulic gradient, it appears that the elevated concentration of MTBE in boring SWMU 10-15 is more likely associated with the Aeration Basin than the former Sludge Pits.

Groundwater impacts for organic constituents were defined to the east in borings SWMU 10-1 and SWMU 10-21, to the southeast at boring SWMU 10-7 (dry), to the south/southwest at borings SWMU 10-14 and 10-16, and to the west at boring SWMU 10-12. The groundwater impacts from the former Sludge Pits are defined to the northeast at boring SWMU 10-4, which was drilled to a depth of 20 feet but did not encounter saturation. An additional boring (SWMU 10-15) was drilled further to the northeast based on impacted soil at SWMU 10-4 at a depth of 2 feet - 4 feet. The soil impact was not present at SWMU 10-15 and as discussed above, the groundwater impact (MTBE detection) at SWMU 10-15 does not appear to be associated with the former Sludge Pits. The impacts to groundwater are not defined to the north, as eight organic constituents were found to be present above screening levels in boring SWMU 10-25.

7.2 Recommendations

Two additional soil borings/temporary wells are recommended to complete the lateral delineation of impacts to soil and groundwater to the north of borings SWMU 10-24 and SWMU 10-25 (Figure 35). These additional borings will be installed and sample collection and analysis will be completed

pursuant to the previously approved Investigation Work Plan for SWMU No. 10 (Western Refining Southwest, Inc. 2014).

To determine if site concentrations of inorganic constituents in soil are reflective of naturally occurring concentrations unaffected by site activities, Western proposes to conduct a background study. Western will prepare a Background Concentrations Investigation Work Plan and submit it for review by NMED.

Section 8
References

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Tables

TABLE 1
1990 RCRA Facility Investigation Soil Analytical Data
Western Refining Southwest, Inc. - Gallup Refinery

Analyte	Sample ID	RFI1001 V0.0	RFI1001 V3.0	RFI1001 D3.0	RFI1003 V12.5	RFI1003 V9.0	RFI1003 V6.0	RFI1003 V3.0	RFI1003 V0.0	RFI1004 V0.0	RFI1004 V3.0	RFI1004 V6.0	RFI1004 V9.0	RFI1004 V12.5	RFI1005 V0.0	RFI1005 V3.0	RFI1005 V6.0	RFI1005 V9.0	RFI1005 V12.5	RFI1005 D3.0	RFI1002 V0.0	RFI1002 V3.0	RFI1002 V6.0	RFI1002 V9.0	RFI1002 V12.5	RFI1005 D12.5	NMED Soil Screening Levels				EPA Regional Soil Screening Levels			
	Sample Depth (ft)	0	3	3	12.5	9	6	3	0	0	3	6	9	12.5	0	3	6	9	12.5	3	0	3	6	9	12.5	12.5	Residential Soil (mg/kg)	Industrial/ Occupational Soil (mg/kg)	Construction Worker Soil (mg/kg)	Risk-based SSL for a DAF of 1 (mg/kg)	Resident Soil (mg/kg)	Industrial Soil (mg/kg)	Groundwater Protection Risk-based (mg/kg)	Groundwater Protection MCL-based (mg/kg)
	Sample Date	6/28/1990	6/28/1990	6/28/1990	6/28/1990	6/28/1990	6/28/1990	6/28/1990	6/28/1990	6/28/1990	6/28/1990	6/28/1990	6/28/1990	6/28/1990	6/28/1990	6/28/1990	6/28/1990	6/28/1990	6/28/1990	6/28/1990	6/28/1990	6/28/1990	6/28/1990	6/28/1990	6/28/1990	6/28/1990								
Metals																																		
Antimony	mg/kg	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	NA	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	3.13E+01	4.54E+02	1.24E+02	6.61E-01	3.10E+01	4.10E+02	6.60E-01	2.70E-01
Arsenic	mg/kg	**0.97**	<1.0	<0.50	<1.0	**0.52**	**0.58**	**0.90**	**0.65**	**0.60**	**0.64**	**2.4**	**0.6**	<1.0	<1.0	**0.52**	**27.9**	**0.58**	<1.0	NA	**0.52**	**0.79**	**0.58**	<1.0	<0.50	<0.50	3.90E+00	1.77E+01	5.30E+01	1.31E-02	3.90E-01	1.60E+00	1.30E-03	2.90E-01
Barium	mg/kg	**372**	107	105	**392**	152	178	292	**317**	280	195	**422**	213	164	**315**	**321**	**700**	48.7	187	NA	188	231	**332**	201	171	124	1.56E+04	2.23E+05	4.35E+03	3.01E+02	1.50E+04	1.90E+05	3.00E+02	8.20E+01
Beryllium	mg/kg	0.7	1.0	1.1	1.1	1.0	1.0	0.65	0.96	0.93	0.79	0.80	1.00	1.1	0.88	0.85	0.76	1.4	1.2	NA	1.0	0.90	0.90	1.4	0.87	1.1	1.56E+02	2.26E+03	1.44E+02	5.77E+01	1.60E+02	2.00E+03	5.80E+01	3.20E+00
Cadmium	mg/kg	<0.50	0.70	<0.50	0.73	<0.50	<0.50	<0.50	<0.50	<0.50	0.56	<0.50	<0.50	<0.50	<0.50	<0.50	**1.5**	<0.50	<0.50	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	7.03E+01	8.97E+02	2.77E+02	1.37E+00	7.00E+01	8.00E+02	1.40E+00	3.80E-01
Chromium total results - CR III SL	mg/kg	60.1	6.1	7.8	7.5	5.9	6.5	6.1	9.5	5.6	11.6	398	21.7	7.2	6.8	6.3	4020	11.6	8.9	NA	7.0	117	6.7	8.0	6.4	6.1	1.17E+05	1.70E+06	4.65E+05	9.86E+07	1.20E+05	1.50E+06	9.90E+07	NA
Chromium total resutls - CR VI SL	mg/kg	**60.1**	**6.1**	**7.8**	**7.5**	**5.9**	**6.5**	**6.1**	**9.5**	**5.6**	**11.6**	**398**	**21.7**	**7.2**	**6.8**	**6.3**	**4020**	**11.6**	**8.9**	NA	**7.0**	**117**	**6.7**	**8.0**	**6.4**	**6.1**	2.97E+00	6.31E+01	6.56E+01	8.31E-03	2.30E+02	1.40E+03	2.10E+00	NA
Cobalt	mg/kg	**2.0**	**3.6**	**4.6**	**3.2**	**3.4**	**2.8**	**2.0**	**2.6**	**2.8**	**2.2**	**4.8**	**3.8**	**4.4**	**4.0**	**4.4**	**8.4**	**5.7**	**5.1**	NA	**4.3**	**4.4**	**3.9**	**6.0**	**5.4**	**3.9**	NA	NA	NA	NA	2.30E+01	3.00E+02	4.90E-01	NA
Copper	mg/kg	10.3	5.9	7.4	7.0	5.6	6.1	4.3	7.4	5.7	4.1	**29.0**	6.2	6.9	9.2	4.6	**215**	11.8	7.2	NA	6.4	16.5	5.2	7.7	7.7	7.8	3.10E+03	4.54E+04	1.24E+04	2.14E+01	NA	NA	NA	NA
Lead	mg/kg	11.1	5.5	6.3	7.8	8.1	6.5	5.5	8.4	8.2	7.0	50.0	12.5	13.3	13.2	11.8	337	16.1	14.2	NA	13.8	19.3	13.5	14.9	11.9	16.0	4.00E+02	8.00E+02	8.00E+02	NA	4.00E+02	8.00E+02	NA	NA
Mercury	mg/kg	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	**1.3**	<0.10	<0.10	<0.10	<0.10	**2.9**	<0.10	<0.10	NA	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	1.56E+01	7.36E+01	1.36E+01	3.27E-02	4.30E+00	2.40E+01	3.00E-02	1.00E-01
Nickel	mg/kg	7.0	6.7	9.1	8.5	6.8	6.5	5.4	6.5	6.1	5.3	9.0	7.9	8.0	5.8	6.8	19.2	11.3	9.3	NA	6.4	9.2	6.5	9.5	8.5	6.9	1.56E+03	2.25E+04	6.19E+03	4.77E+01	1.40E+04	6.90E+04	4.80E+01	NA
Potassium	mg/kg	972	1310	1660	1410	1340	1070	856	1020	853	783	2320	1200	1210	850	834	3920	1450	1250	NA	806	1310	841	1380	1410	1010	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	mg/kg	<1.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	3.91E+02	5.68E+03	1.55E+03	9.65E-01	3.90E+02	5.10E+03	9.50E-01	2.60E-01
Vanadium	mg/kg	16.3	14.0	16.3	17.5	14.3	12.9	15.2	15.7	15.5	14.4	18.6	13.9	13.7	14.5	14.1	24.2	18.7	16.2	NA	15.4	18.2	18.8	16.5	18.0	14.0	3.91E+02	5.68E+03	1.55E+03	1.83E+02	5.50E+02	7.20E+03	2.60E+02	NA
Zinc	mg/kg	81.3	14.7	17.7	16.1	13.9	13.0	12.9	16.4	14.0	15.2	81.2	12.5	12.5	11.8	13.1	538	17.9	14.3	NA	13.4	228	11.2	15.2	15.0	12.4	2.35E+04	3.41E+05	9.29E+04	6.82E+02	2.30E+04	3.10E+05	6.80E+02	NA
Method 8240																																		
1,1,1- Trichloroethane	ug/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<50.0	<12.0	<2.0	<0.5	<0.5	<34.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.56E+04	7.89E+04	1.48E+04	2.91E+00	9.00E+03	3.90E+04	3.30E+00	7.20E-02
1,1,2,2-Tetrachloroethane	ug/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<50.0	<12.0	<2.0	<0.5	<0.5	<34.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	8.02E+00	4.35E+01	2.21E+02	2.13E-04	5.90E-01	2.90E+00	2.80E-05	NA
1,1,2- Trichloroethane	ug/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<50.0	<12.0	<2.0	<0.5	<0.5	<34.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	2.81E+00	1.33E+01	4.72E+02	1.12E-04	1.10E+00	5.50E+00	8.20E-05	1.70E-03
1,1- Dichloroethane	ug/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<50.0	<12.0	<2.0	<0.5	<0.5	<34.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	6.45E+01	3.59E+02	1.70E+03	5.98E-03	3.40E+00	1.70E+01	7.00E-04	NA
1,1-Dichloroethene	ug/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<50.0	<12.0	<2.0	<0.5	<0.5	<34.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	4.49E+02	2.29E+03	4.32E+02	1.16E-01	2.50E+02	1.10E+03	1.20E-01	2.60E-03
1,2,3-Trichloropropane	ug/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<50.0	<12.0	<2.0	<0.5	<0.5	<34.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	4.97E-02	3.76E+01	7.23E+00	2.50E-06	9.10E-02	4.10E-01	4.40E-06	NA
1,2-Dichloroethane	ug/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<50.0	<12.0	<2.0	<0.5	<0.5	<34.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	7.89E+00	4.35E+01	5.87E+01	3.56E-04	4.50E-01	2.20E+00	4.40E-05	1.50E-03
1,2-Dichloropropane	ug/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<50.0	<12.0	<2.0	<0.5	<0.5	<34.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.52E+01	8.44E+01	2.50E+01	1.07E-03	9.30E-01	4.70E+00	1.30E-04	1.70E-03
2-Butanone (MEK)	ug/kg	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<500	<120	<20	<5	<5	<340	<10	<5	<5	<5	<5	<5	<5	<5	<5	3.71E+04	3.75E+05	8.43E+04	1.27E+00	2.80E+04	1.90E+05	1.50E+00	NA
2-Hexanone	ug/kg	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<100	<25	<4	<1	<1	<67	<2	<1	<1	<1	<1	<1	<1	<1	<1	NA	NA	NA	NA	2.0E+02	1.3E+03	8.8E-03	NA
4-Methyl-2-pentanone (MIBK)	ug/kg	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<100	<25	<4	<1	<1	<67	<2	<1	<1	<1	<1	<1	<1	<1	<1	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	ug/kg	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<500	<120	<20	<5	<5	<340	<10	<5	<5	<5	<5	<5	<5	<5	<5	6.66E+04	8.68E+05	2.21E+05	3.86E+00	6.10E+04	6.10E+05	4.40E+00	NA
Benzene	ug/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**1.7**	<50.0	<12.0	<2.0	<0.5	<0.5	**37**	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.54E+01	8.47E+01	1.38E+02	1.73E-03	1.10E+00	5.60E+00	2.30E-04	2.80E-03
Bromodichloromethane	ug/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<50.0	<12.0	<2.0	<0.5	<0.5	<34.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	5.41E+00	3.01E+01	1.43E+02	2.71E-04	2.80E-01	1.40E+00	3.30E-05	NA
Bromoform	ug/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<50.0	<12.0	<2.0	<0.5	<0.5	<34.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	6.16E+02	2.42E+03	4.76E+03	6.04E-01	6.10E+01	2.20E+02	2.30E-03	NA
Bromomethane	ug/kg	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<100	<25	<4	<1	<1	<67	<2	<1	<1	<1	<1	<1	<1	<1	<1	1.65E+01	8.65E+01	1.64E+01	1.92E-03	7.90E+00	3.50E+01	2.20E-03	NA
Carbon disulfide	ug/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<50.0	<12.0	<2.0	<0.5	<0.5	<34.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.53E+03	8.33E+03	1.58E+03	2.83E-01	6.70E+02	3.00E+03	2.70E-01	NA
Carbon tetrachloride	ug/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<50.0	<12.0	<2.0	<0.5	<0.5	<34.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.08E+01	5.98E+01	2.26E+02	1.60E-03	2.50E-01	1.30E+00	7.90E-05	2.00E-03
Chlorobenzene	ug/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<50.0	<12.0	<2.0	<0.5	<0.5	<34.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	3.76E+02	2.12E+03	4.06E+02	4.92E-02	3.10E+02	1.50E+03	6.80E-02	7.50E-02
Chloroethane	ug/kg	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<100	<25	<4	<1	<1	<67	<2	<1	<1	<1	<1	<1	<1	<1	<1	NA	NA	NA	NA	NA	NA	NA	NA
Chloroform	ug/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<50.0	<12.0	<2.0	<0.5	<0.5	<34	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	5.86E+00	3.27E+01	1.54E+02	4.59E-04	3.00E-01	1.50E+00	5.50E-05	NA
Chloromethane	ug/kg	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<100	<25	<4	<1	<1	<67	<2	<1	<1	<1	<1	<1	<1	<1	<1	2.75E+02	1.29E+03	2.41E+02	4.40E-02	1.20E+02	5.10E+02	4.90E-02	NA
1,2- Dichloroethene (cis/trans)	ug/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<50.0	<12.0	<2.0	<0.5	<0.5	<34.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.56E+02	2.27E+03	6.19E+02	1.84E-02	7.80E+02	1.00E+04	1.10E-01	2.10E-02
cis-1,3-Dichloropropene	ug/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<50.0	<12.0	<2.0	<0.5	<0.5	<34.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	3.37E+01	1.77E+02	2.09E+02	1.24E-03	1.70E+00	8.40E+00	1.60E-04	NA
Di bromochloromethane	ug/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<50.0	<12.0	<2.0	<0.5	<0.5	<34.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.21E+01	6.24E+01	3.32E+02	3.31E-04	7.00E-01	3.40E+00	4.00E-05	NA
Dibromomethane	ug/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<50.0	<12.0	<2.0	<0.5	<0.5	<34.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	7.80E+02	1.00E+04	9.10E-02	NA
Dichlorodifluoromethane	ug/kg	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<200	<50	<8	<2.0	<2.0	<130	<4	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	1.68E+02	7.98E+02	1.49E+02	3.72E-01	1.90E+02	7.80E+02	6.10E-01	NA
Ethylbenzene	ug/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**5.6**	**81**	**43**	<2.0	<0.5	<0.5	**76**	**1.2**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	6.84E+01	3.78E+02	1.83E+03	1.30E-02	5.70E+00	2.90E+01	1.90E-03	8.90E-01
Methylene chloride	ug/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<50.0	<12.0	<2.0	<0.5	<0.5	<34.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	4.09E+02	4.70E+03	1.12E+03	4.12E-02	1.10E+01	5.40E+01	1.20E-03	1.30E-03
Styrene	ug/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<50.0	<12.0	<2.0	<0.5	<0.5	<34.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	7.28E+03	5.00E+04	9.99E+03	1.39E+00	6.50E+03	3.80E+04	2.00E+00	1.20E-01
Tetrachloroethene	ug/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<50.0	<12.0	<2.0	<0.5	<0.5	<34.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	7.02E+00	3.66E+01	2.12E+02	4.30E-04	5.70E-01	2.70E+00	5.20E-05	2.40E-03
Toluene	ug/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**14**	**220**	**120**	<2.0	<0.5	<0.5	**290**	**2.6**	0.98	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.68	5.27E+03	5.77E+04	1.34E+04	1.27E+00	5.00E+03	4.60E+04	1.70E+00	7.60E-01
trans-1,2-Dichloroethene	ug/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<50.0	<12.0	<2.0	<0.5	<0.5	<34.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	2.70E+02	1.44E+03	2.73E+02	2.69E-02	1.10E+02	5.00E+02	3.40E-02	3.20E-02
trans-1,3-Dichl oropropene	ug/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<50.0	<12.0	<2.0	<0.5	<0.5	<34.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	3.37E+01	1.77E+02	2.09E+02	1.24E-03	1.70E+00	8.40E+00	1.60E-04	NA
Trichloroethene	ug/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<50.0	<12.0	<2.0	<0.5	<0.5	<34.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	8.77E+00	4.13E+01	7.68E+00	1.05E-03	2.80E+00	1.40E+01	6.10E-04	1.90E-03
Trichlorofluoromethane	ug/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<50.0	<12.0	<2.0	<0.5	<0.5	<34.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.41E+03	6.94E+03	1.30E+03	8.89E-01	8.00E+02	3.40E+03	8.40E-01	NA
Vinyl chloride	ug/kg	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<100	<2.5	<4	<1	<1	<67	<2	<1	<1	<1	<1	<1	<1	<1	<1	7.28E-01	2.61E+01	1.49E+02	5.42E-05	6.00E-02	1.70E+00	5.60E-06	7.00E-04
Xylenes (total)	ug/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**54**	**470**	**310**	<2.0	<0.5	<0.5	**540**	**9.7**	**1.7**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.98**	8.14E+02	3.98E+03	7.43E+02	1.56E-01	6.00E+02	2.60E+03	2.30E-01	1.10E+01
Vinyl acetate	ug/kg	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<100	<25	<4	<1	<1	<67	<2	<1	<1	<1	<1	<1	<1	<1	<1	2.56E+03	1.23E+04	2.30E+03	7.59E-02	NA	NA	NA	NA
2-Chloroethyl vinyl ether	ug/kg	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<100	<25	<4	<1	<1	<67	<2	<1	<1	<1	<1	<1	<1	<1	<1	NA	NA	NA	NA	NA	NA	NA	NA
Acrolein	ug/kg	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<100	<250	<40	<10	<10	<670	<20	<10	<10	<10	<10	<10	<10	<10	<10	4.04E-01	1.92E+00	3.56E-01	7.28E-06	NA	NA	NA	NA
Acrylonitrile	ug/kg	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<100	<250	<40	<10	<10	<670	<20	<10	<10	<10	<10	<10	<10	<10	<10	4.55E+00	2.43E+01	3.76E+01	8.46E-05	NA	NA	NA	NA
Ethanol	ug/kg	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<100	<250	<40	<10	<10	<670	<20	<10	<10	<10	<10	<10	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA
Ethyl methacrylate	ug/kg	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<100	<25	<4	<1	<1	<67	<2	<1	<1	<1	<1	<1	<1	<1	<1	4.55E+03	3.80E+04	2.79E+04	1.14E-01	NA	NA	NA	NA
Iodomethane	ug/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<50.0	<12.0	<2.0	<0.5	<0.5	<34.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA
trans-1,4-Dichloro-2-butene	ug/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<50.0	<12.0	<2.0	<0.5	<0.5	<34.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	7.4E-03	3.2E-02	6.2E-07	NA
Method 8270																																		
1,2,4,5-Tetrachlorobenzene	ug/kg	<5	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<100	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	7.30E+01	3.67E+02	6.87E+01	9.13E-03	8.70E+01	4.00E+02	1.30E-02	1.10E-01
1,2- Dichlorobenzene	ug/kg	<5	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<100	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	2.31E+03	1.40E+04	2.71E+03	2.80E-01	2.00E+03	1.00E+04	4.00E-01	6.60E-01
1,3- Dichlorobenzene	ug/kg	<5	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<100	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	NA	NA	NA	NA	NA	NA	NA	NA
1,4- Dichlorobenzene	ug/kg	<5	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<100	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	3.17E+01	1.77E+02	8.31E+02	3.19E-03	2.60E+00	1.30E+01	4.60E-04	8.10E-02
2,4,5-Trichlorophenol	ug/kg	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<50	<25	<25	<25	<25	<500	<25	<25	<25	<25	<50	<25	<25	<25	<25	6.11E+03	6.84E+04	2.38E+04	1.04E+01	6.10E+03	6.20E+04	9.40E+00	NA
2,4,6-Trichlorophenol	ug/kg	<5	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<100	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	6.11E+01	6.84E+02	2.38E+02	1.04E-01	4.40E+01	1.60E+02	1.60E-02	NA
2,4-Dichlorophenol	ug/kg	<5	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<100	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	1.83E+02	2.05E+03	7.15E+02	9.98E-02	1.80E+02	1.80E+03	1.80E-01	NA
2,4-Dimethylphenol	ug/kg	<5	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**27**	<5.0	<5.0	<5.0	<5.0	<100	**12**	**79**	<5.0	<5.0	<10	<5.0	<5.0	<5.0	**5.3**	1.22E+03	1.37E+04	4.76E+03	6.65E-01	1.20E+03	1.20E+04	1.20E+00	NA
2,4-Dinitrophenol	ug/kg	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<50	<25	<25	<25	<25	<500	<25	<25	<25	<25	<50	<25	<25	<25	<25	1.22E+02	1.37E+03	4.76E+02	6.31E-02	1.20E+02	1.20E+03	6.80E-02	NA
2,4-Dinitrotoluene	ug/kg	<5	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<100	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	1.57E+01	6.18E+01	4.76E+02	2.25E-03	1.60E+00	5.50E+00	2.00E-04	NA
2,6-Dichlorophenol	ug/kg	<5	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<100	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	6.11E+01	6.84E+02	2.38E+02	3.85E-02	6.10E+01	6.20E+02	3.40E-02	NA

TABLE 1
1990 RCRA Facility Investigation Soil Analytical Data
Western Refining Southwest, Inc. - Gallup Refinery

Analyte	Sample ID	RFI1001 V0.0	RFI1001 V3.0	RFI1001 D3.0	RFI1003 V12.5	RFI1003 V9.0	RFI1003 V6.0	RFI1003 V3.0	RFI1003 V0.0	RFI1004 V0.0	RFI1004 V3.0	RFI1004 V6.0	RFI1004 V9.0	RFI1004 V12.5	RFI1005 V0.0	RFI1005 V3.0	RFI1005 V6.0	RFI1005 V9.0	RFI1005 V12.5	RFI1005 D3.0	RFI1002 V0.0	RFI1002 V3.0	RFI1002 V6.0	RFI1002 V9.0	RFI1002 V12.5	RFI1005 D12.5	NMED Soil Screening Levels				EPA Regional Soil Screening Levels			
	Sample Depth (ft)	0	3	3	12.5	9	6	3	0	0	3	6	9	12.5	0	3	6	9	12.5	3	0	3	6	9	12.5	12.5	Residential Soil (mg/kg)	Industrial/ Occupational Soil (mg/kg)	Construction Worker Soil (mg/kg)	Risk-based SSL for a DAF of 1 (mg/kg)	Resident Soil (mg/kg)	Industrial Soil (mg/kg)	Groundwater Protection Risk-based (mg/kg)	Groundwater Protection MCL-based (mg/kg)
	Sample Date	6/28/1990	6/28/1990	6/28/1990	6/28/1990	6/28/1990	6/28/1990	6/28/1990	6/28/1990	6/28/1990	6/28/1990	6/28/1990	6/28/1990	6/28/1990	6/28/1990	6/28/1990	6/28/1990	6/28/1990	6/28/1990	6/28/1990	6/28/1990	6/28/1990	6/28/1990	6/28/1990	6/28/1990	6/28/1990								
2-Chloronaphthalene	ug/kg	<5	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<100	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	6.26E+03	9.08E+04	2.48E+04	1.14E+01	6.30E+03	8.20E+04	1.80E+01	NA
2-Chlorophenol	ug/kg	<5	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<100	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	3.91E+02	5.68E+03	1.55E+03	1.16E-01	3.90E+02	5.10E+03	2.00E-01	NA
2-Methylnaphthalene	ug/kg	<5	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**290**	<5.0	**5**	<5.0	<5.0	**1400**	<5.0	<5.0	<5.0	<5.0	**56**	<5.0	<5.0	<5.0	<5.0	NA	NA	NA	NA	3.10E+02	4.10E+03	9.00E-01	NA
o-Cresol	ug/kg	<5	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**16**	<5.0	<5.0	<5.0	<5.0	<100	**34**	**19**	<5.0	<5.0	<10	<5.0	<5.0	<5.0	**16**	NA	NA	NA	NA	3.10E+03	3.10E+04	2.00E+00	NA
2- Nitroaniline	ug/kg	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<50	<25	<25	<25	<25	<500	<25	<25	<25	<25	<50	<25	<25	<25	<25	NA	NA	NA	NA	1.80E+02	1.80E+03	3.30E-02	NA
2-Nitrophenol	ug/kg	<5	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<100	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	NA	NA	NA	NA	NA	NA	NA	NA
3,3' -Dichlorobenzidine	ug/kg	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<200	<10	<10	<10	<10	<20	<10	<10	<10	<10	1.08E+01	4.26E+01	3.64E+02	7.40E-03	1.10E+00	3.80E+00	2.30E-03	NA
m & p-Cresol(s)	ug/kg	<5	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**26**	<5.0	<5.0	<5.0	<5.0	**120**	**68**	**34**	<5.0	<5.0	<10	<5.0	<5.0	<5.0	**28**	NA	NA	NA	NA	3.10E+02	3.10E+03	1.90E-01	NA
3- Nitroaniline	ug/kg	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<50	<25	<25	<25	<25	<500	<25	<25	<25	<25	<50	<25	<25	<25	<25	NA	NA	NA	NA	NA	NA	NA	NA
4,6-Dinitro-o-cresol	ug/kg	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<50	<25	<25	<25	<25	<500	<25	<25	<25	<25	<50	<25	<25	<25	<25	NA	NA	NA	NA	NA	NA	NA	NA
4-Bromophenyl Phenyl ether	ug/kg	<5	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<100	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloro-3-methvlphenol	ug/kg	<5	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<100	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloroaniline	ug/kg	<5	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<100	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	NA	NA	NA	NA	2.40E+00	8.60E+00	1.20E-04	NA
4-Chlorophenyl	ug/kg	<5	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<100	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	NA	NA	NA	NA	NA	NA	NA	NA
4- Nitroaniline	ug/kg	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<50	<25	<25	<25	<25	<500	<25	<25	<25	<25	<50	<25	<25	<25	<25	NA	NA	NA	NA	2.40E+01	8.60E+01	1.00E-03	NA
4-Nitrophenol	ug/kg	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<50	<25	<25	<25	<25	<500	<25	<25	<25	<25	<50	<25	<25	<25	<25	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	ug/kg	<5	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<100	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	3.44E+03	3.67E+04	1.86E+04	1.69E+01	3.40E+03	3.30E+04	2.70E+01	NA
Acenaphthylene	ug/kg	<5	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<100	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	NA	NA	NA	NA	NA	NA	NA	NA
Aniline	ug/kg	<5	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<100	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	NA	NA	NA	NA	8.50E+01	3.00E+02	3.40E-03	NA
Anthracene	ug/kg	<5	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<100	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	1.72E+04	1.83E+05	6.68E+04	2.71E+02	1.70E+04	1.70E+05	4.50E+02	NA
Benzo(a)anthracene	ug/kg	<5	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<100	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	1.48E+00	2.34E+01	2.13E+02	7.83E-02	1.50E-01	2.10E+00	1.40E-02	NA
Benzo(a)pyrene	ug/kg	<5	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<100	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	1.48E-01	2.34E+00	2.13E+01	2.60E-02	1.50E-02	2.10E-01	4.60E-03	3.10E-01
Benzo(b)fluoranthene	ug/kg	<5	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<100	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	1.48E+00	2.34E+01	2.13E+02	2.65E-01	1.50E-01	2.10E+00	4.70E-02	NA
Benzo(g,h,i)perylene	ug/kg	<5	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<100	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	ug/kg	<5	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<100	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	1.48E+01	2.34E+02	2.06E+03	2.60E+00	1.50E+00	2.10E+01	4.60E-01	NA
Benzoic acid	ug/kg	<5	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<100	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	NA	NA	NA	NA	2.40E+05	2.50E+06	3.30E+01	NA
Benzyl alcohol	ug/kg	<5	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<100	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	NA	NA	NA	NA	3.10E+04	3.10E+05	4.20E+00	NA
bis(2-Chloroethoxy)-methane	ug/kg	<5	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<100	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	NA	NA	NA	NA	1.80E+02	1.80E+03	2.30E-02	NA
bis(2-Chloroethy1) ether	ug/kg	<5	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<100	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	2.68E+00	1.42E+01	7.78E+01	2.63E-05	1.90E-01	9.00E-01	2.70E-06	NA
bis(2-Chloroisopropyl)-ether	ug/kg	<5	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<100	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	9.15E+01	4.54E+02	3.10E+03	2.33E-03	NA	NA	NA	NA
bis(2-Ethylhexyl)phthalate	ug/kg	<5	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<100	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	3.47E+02	1.37E+03	4.76E+03	8.62E+00	3.50E+01	1.20E+02	1.60E+00	2.00E+00
Butyl benzyl phthalate	ug/kg	<5	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<100	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	NA	NA	NA	NA	2.60E+02	9.10E+02	6.70E-01	NA
Chrysene	ug/kg	<5	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<100	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	1.48E+02	2.34E+03	2.06E+04	7.99E+00	1.50E+01	2.10E+02	1.40E+00	NA
Dibenz(a,h)anthracene	ug/kg	<5	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<100	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	1.48E-01	2.34E+00	2.13E+01	8.46E-02	1.50E-02	2.10E+02	1.50E-02	NA
Diethyl phthalate	ug/kg	<5	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<100	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	4.89E+04	5.47E+05	1.91E+05	9.66E+00	4.90E+04	4.90E+05	1.30E+01	NA
Dimethyl phthalate	ug/kg	<5	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<100	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	6.11E+05	6.84E+06	2.38E+06	8.06E+01	NA	NA	NA	NA
Di-n-butyl phthalate	ug/kg	<5	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<100	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	6.11E+03	6.84E+04	2.38E+04	6.97E+00	NA	NA	NA	NA
Di-n-octyl phthalate	ug/kg	<5	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<100	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	ug/kg	<5	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<100	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	2.29E+03	2.44E+04	8.91E+03	1.22E+02	2.30E+03	2.20E+04	2.10E+02	NA
Fluorene	ug/kg	<5	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	13	<5.0	<5.0	<5.0	<5.0	**100**	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	2.29E+03	2.44E+04	8.91E+03	2.03E+01	2.30E+03	2.20E+04	3.30E+01	NA
Hexachlorobenzene	ug/kg	<5	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<100	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	3.04E+00	1.20E+01	1.03E+02	3.98E-03	3.00E-01	1.10E+00	2.90E-04	7.00E-03
Hexachlorobutadiene	ug/kg	<5	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<100	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	NA	NA	NA	NA	6.20E+00	2.20E+01	1.90E-03	NA
Hexachlorocyclopentadiene	ug/kg	<5	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<100	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	3.67E+02	4.10E+03	8.11E+02	5.27E-01	3.70E+02	3.70E+03	8.00E-01	1.80E-01
Hexachloroethane	ug/kg	<5	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<100	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	4.28E+01	4.79E+02	1.67E+02	8.18E-03	3.50E+01	1.20E+02	3.20E-03	NA
Indeno(l,2,3-cd)pyrene	ug/kg	<5	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<100	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	1.48E+00	2.34E+01	2.13E+02	8.63E-01	1.50E-01	2.10E+00	1.60E-01	NA
Isophorone	ug/kg	<5	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<100	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	5.12E+03	1.37E+05	4.75E+04	1.92E-01	5.10E+02	1.80E+03	2.20E-02	NA
Naphthalene	ug/kg	<5	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**54**	<5.0	<5.0	<5.0	<5.0	**340**	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	4.30E+01	2.41E+02	1.58E+02	3.57E-03	3.90E+00	2.00E+01	5.50E-04	NA
Nitrobenzene	ug/kg	<5	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<100	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	5.35E+01	3.00E+02	3.32E+02	6.24E-04	4.40E+00	2.20E+01	7.10E-05	NA
N-Nitroso-di-n-propylamine	ug/kg	<5	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<100	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	NA	NA	NA	NA	6.90E-02	2.50E-01	1.10E-05	NA
N-Nitrosodimethylamine	ug/kg	<5	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<100	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	9.93E+02	3.91E+03	3.36E+04	5.65E-01	9.90E+01	3.50E+02	1.70E-01	NA
Pentachlorophenol	ug/kg	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<50	<25	<25	<25	<25	<500	<25	<25	<25	<25	<50	<25	<25	<25	<25	8.94E+00	3.00E+01	3.10E+02	1.28E-02	3.00E+00	9.00E+00	3.90E-03	7.00E-03
Phenanthrene	ug/kg	<5	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<100	<5.0	<5.0	<5.0	<5.0	28	<5.0	<5.0	<5.0	<5.0	1.83E+03	2.05E+04	7.15E+03	2.86E+01	NA	NA	NA	NA
Phenol	ug/kg	<5	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<100	**71**	**32**	<5.0	<5.0	<10	<5.0	<5.0	<5.0	**28**	1.83E+04	2.05E+05	6.88E+04	4.97E+00	1.80E+04	1.80E+05	8.10E+00	NA
Pyrene	ug/kg	<5	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<100	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	1.72E+03	1.83E+04	6.68E+03	8.94E+01	1.70E+03	1.70E+04	1.50E+02	NA
1- Naphthylamine	ug/kg	<5	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<100	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	ug/kg	<5	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<100	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	7.30E+01	3.67E+02	6.87E+01	9.13E-03	NA	NA	NA	NA
1,2-Diphenylhydrazine	ug/kg	<5	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<100	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	NA	NA	NA	NA	6.7E-01	2.9E+00	2.5E-04	NA
1,3- Dinitrobenzene	ug/kg	<5	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<100	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	NA	NA	NA	NA	6.2E+00	8.2E+01	1.8E-03	NA
1-Chloronaphthalene	ug/kg	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	6.26E+03	9.08E+04	2.48E+04	1.14E+01	NA	NA	NA	NA
2- Naphthylamine	ug/kg	<5	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<100	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	NA	NA	NA	NA	3.0E-01	1.3E+00	2.0E-04	NA
2,3,4,6-Tetrachlorophenol	ug/kg	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<50	<25	<25	<25	<25	<500	<25	<25	<25	<25	<50	<25	<25	<25	<25	NA	NA	NA	NA	1.8E+03	2.5E+04	1.5E+00	NA
2,6-Dinitrotoluene	ug/kg	<5	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<100	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	6.11E+01	6.84E+02	2.38E+02	3.85E-02	NA	NA	NA	NA
2-Picoline	ug/kg	<5	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<100	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	NA	NA	NA	NA	NA	NA	NA	NA
3-Methylcholanthrene	ug/kg	<5	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<100	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	NA	NA	NA	NA	5.4E-03	1.0E-01	2.2E-03	NA
7,12-Dimethylbenz(a)-anthracene	ug/kg	<5	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<100	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	NA	NA	NA	NA	4.5E-04	8.5E-03	9.9E-05	NA
a, a-Dimethylphenethylamine	ug/kg	<5	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<100	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	NA	NA	NA	NA	NA	NA	NA	NA
Acetophenone	ug/kg	<5	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<100	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	7.82E+03	1.14E+05	3.10E+04	9.17E-01	NA	NA	NA	NA
Diphenylamine	ug/kg	<5	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<100	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	NA	NA	NA	NA	1.5E+03	2.1E+04	5.8E-01	NA
Ethyl methanesulfonate	ug/kg	<5	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<100	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	NA	NA	NA	NA	NA	NA	NA	NA
Methyl methanesulfonate	ug/kg	<5	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<100	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	NA	NA	NA	NA	5.4E+00	2.3E+01	1.6E-04	NA
N-Nitroso-di-n-butylamine	ug/kg	<5	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<100	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	6.89E-01	2.92E+00	2.19E+01	3.78E-05	NA	NA	NA	NA
N-Nitrosodiphenyl amine	ug/kg	<5	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<100	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	9.93E+02	3.91E+03	3.36E+04	5.65E-01	NA	NA	NA	NA
N-Nitrosopiperidine	ug/kg	<5	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<100	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	NA	NA	NA	NA	2.5E-01	1.1E+00	1.4E-05	NA
p-Dimethylaminoazobenzene	ug/kg	<5	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<100	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	NA	NA	NA	NA	1.2E-01	5.0E-01	2.1E-05	NA
Pentachlorobenzene	ug/kg	<5	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<100	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	4.89E+01	5.47E+02	1.91E+02	1.68E-01	NA	NA	NA	NA
Pentachloronitrobenzene	ug/kg	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<50	<25	<25	<25	<25	<500	<25	<25	<25	<25	<50	<25	<25	<25	<25	NA	NA	NA	NA	2.0E+00	8.9E+00	1.4E-03	NA

TABLE 1
1990 RCRA Facility Investigation Soil Analytical Data
Western Refining Southwest, Inc. - Gallup Refinery

Analyte	Sample ID	RFI1001 V0.0	RFI1001 V3.0	RFI1001 D3.0	RFI1003 V12.5	RFI1003 V9.0	RFI1003 V6.0	RFI1003 V3.0	RFI1003 V0.0	RFI1004 V0.0	RFI1004 V3.0	RFI1004 V6.0	RFI1004 V9.0	RFI1004 V12.5	RFI1005 V0.0	RFI1005 V3.0	RFI1005 V6.0	RFI1005 V9.0	RFI1005 V12.5	RFI1005 D3.0	RFI1002 V0.0	RFI1002 V3.0	RFI1002 V6.0	RFI1002 V9.0	RFI1002 V12.5	RFI1005 D12.5	NMED Soil Screening Levels				EPA Regional Soil Screening Levels			
	Sample Depth (ft)	0	3	3	12.5	9	6	3	0	0	3	6	9	12.5	0	3	6	9	12.5	3	0	3	6	9	12.5	12.5	Residential Soil (mg/kg)	Industrial/ Occupational Soil (mg/kg)	Construction Worker Soil (mg/kg)	Risk-based SSL for a DAF of 1 (mg/kg)	Resident Soil (mg/kg)	Industrial Soil (mg/kg)	Groundwater Protection Risk-based (mg/kg)	Groundwater Protection MCL-based (mg/kg)
	Sample Date	6/28/1990	6/28/1990	6/28/1990	6/28/1990	6/28/1990	6/28/1990	6/28/1990	6/28/1990	6/28/1990	6/28/1990	6/28/1990	6/28/1990	6/28/1990	6/28/1990	6/28/1990	6/28/1990	6/28/1990	6/28/1990	6/28/1990	6/28/1990	6/28/1990	6/28/1990	6/28/1990	6/28/1990	6/28/1990	6/28/1990								
Phenacetin	ug/kg	<5	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<100	<50	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	NA	NA	NA	NA	2.4E+02	1.0E+03	9.7E-03	NA
phenyl ether	ug/kg	<5	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<100	<50	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	NA	NA	NA	NA	NA	NA	NA	NA
Pronamide (kerb)	ug/kg	<5	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<100	<50	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	NA	NA	NA	NA	4.6E+03	6.2E+04	1.2E+00	NA

Bolded Value - concentration exceeds screening level
NA - Screening level not available or not analyzed
DAF - Dilution attentuation factor
NMED Screening levels (June 2012)
EPA Regional Screening Levels (Nov. 2012)

TABLE 2
1994 RCRA Facility Investigation Soil Analytical Data
Western Refining Southwest, Inc. - Gallup Refinery

Analyte	Sample ID	RFI1014 V19.0	RFI1014 V25.0	RFI1015 V19.0	RFI1015 V25.0	RFI1016 V19.0	RFI1016 V25.0	RFI1017 V19.0	RFI1017 V25.0	RFI1018 V19.0	RFI1018 V25.0	RFI1019 V19.0	RFI1019 V19.0D	RFI1019 V25.0	RFI1020 V19.0	RFI1020 V25.0	RFI1021 V19.0	RFI1021 V25.0	NMED Soil Screening Levels				EPA Regional Soil Screening Levels			
	Sample Depth (ft)	19	25	19	25	19	25	19	25	19	25	19	29	25	19	25	19	25	Residential Soil (mg/kg)	Industrial/ Occupational Soil (mg/kg)	Construction Worker Soil (mg/kg)	Risk-based SSL for a DAF of 1 (mg/kg)	Resident Soil (mg/kg)	Industrial Soil (mg/kg)	Groundwater Protection Risk-based (mg/kg)	Groundwater Protection MCL-based (mg/kg)
	Sample Date	7/26/1994	7/26/1994	7/26/1994	7/26/1994	7/26/1994	7/26/1994	7/26/1994	7/26/1994	7/27/1994	7/27/1994	7/27/1994	7/27/1994	7/27/1994	7/27/1994	7/27/1994	7/27/1994	7/27/1994	7/27/1994								
Metals																										
Arsenic	mg/kg	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	3.9E+00	1.8E+01	5.3E+01	1.3E-02	6.1E-01	2.4E+00	1.3E-03	2.90E-01
Barium	mg/kg	**370**	**1100**	**360**	190	**310**	**340**	**420**	**610**	**410**	**690**	**400**	**370**	**630**	**400**	**360**	**520**	**680**	1.6E+04	2.2E+05	4.4E+03	3.0E+02	1.5E+04	1.9E+05	1.2E+02	8.20E+01
Beryllium	mg/kg	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	1.6E+02	2.3E+03	1.4E+02	5.8E+01	1.6E+02	2.0E+03	1.3E+01	3.20E+00
Cadmium	mg/kg	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	7.0E+01	9.0E+02	2.8E+02	1.4E+00	NA	NA	5.2E-01	3.80E-01
Chromium	mg/kg	8.2	9.1	14	8	10	14	8.2	12	7.6	8.4	12	8.5	8.9	11	14	13	9.4	1.2E+05	1.7E+06	4.6E+05	9.9E+07	1.2E+05	1.5E+06	2.8E+07	NA
Lead	mg/kg	15	11	17	14	19	16	17	15	14	17	19	17	20	16	20	19	20	4.0E+02	8.0E+02	8.0E+02	NA	4.0E+02	8.0E+02		1.40E+01
Mercury	mg/kg	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	1.6E+01	7.4E+01	1.4E+01	3.3E-02	1.0E+01	4.3E+01	3.3E-02	1.00E-01
Nickel	mg/kg	17	18	18	18	19	20	19	18	17	15	16	13	17	16	19	16	17	1.6E+03	2.3E+04	6.2E+03	4.8E+01	1.5E+03	2.0E+04	2.0E+01	NA
Vanadium	mg/kg	4.1	5.3	5.2	4.8	<2.5	4.6	3.4	9.5	4.4	4.0	5.5	<2.5	3.3	4.3	5.0	6.8	4.7	3.9E+02	5.7E+03	1.5E+03	1.8E+02	3.9E+02	5.1E+03	6.3E+01	NA
8240/8260 Skinner List																										
1,2-Dibromoethane	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	5.9E-01	3.2E+00	1.6E+01	1.5E-05	3.4E-02	1.7E-01	1.8E-06	1.40E-05
1,4-Dichloroethane	mg/kg	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	7.9E+00	4.4E+01	5.9E+01	3.6E-04	4.3E-01	2.2E+00	4.2E-05	1.40E-03
1,4-Dioxane	mg/kg	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	4.9E+01	1.9E+02	1.7E+03	1.2E-03	4.9E+00	1.7E+01	1.4E-04	NA
2-butanone (MEK)	mg/kg	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	3.7E+04	3.7E+05	8.4E+04	1.3E+00	2.8E+04	2.0E+05	1.0E+00	NA
2-Chloroethylvinyl ether	mg/kg	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.5E+01	8.5E+01	1.4E+02	1.7E-03	1.1E+00	5.4E+00	2.0E-04	2.60E-03
Carbon Disulfide	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.5E+03	8.3E+03	1.6E+03	2.8E-01	8.2E+02	3.7E+03	2.1E-01	
Chlorobenzene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	3.8E+02	2.1E+03	4.1E+02	4.9E-02	2.9E+02	1.4E+03	4.9E-02	6.80E-02
Ethylbenzene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	6.8E+01	3.8E+02	1.8E+03	1.3E-02	5.4E+00	2.7E+01	1.5E-03	7.80E-01
Styrene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	7.3E+03	5.0E+04	1.0E+04	1.4E+00	6.3E+03	3.6E+04	1.2E+00	1.10E-01
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	5.3E+03	5.8E+04	1.3E+04	1.3E+00	5.0E+03	4.5E+04	5.9E-01	6.90E-01
Xylenes	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	8.1E+02	4.0E+03	7.4E+02	1.6E-01	6.3E+02	2.7E+03	1.9E-01	9.80E+00
8270 Skinner List																										
1,2-Dichlorobenzene	mg/kg	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	2.3E+03	1.4E+04	2.7E+03	2.8E-01	1.9E+03	9.8E+03	2.7E-01	5.80E-01
1,3-Dichlorobenzene	mg/kg	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	mg/kg	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	3.2E+01	1.8E+02	8.3E+02	3.2E-03	2.4E+00	1.2E+01	4.0E-04	7.20E-02
2,4-Dimethylphenol	mg/kg	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	1.2E+03	1.4E+04	4.8E+03	6.7E-01	1.2E+03	1.2E+04	3.2E-01	NA
2,4-Dinitrophenol	mg/kg	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	1.2E+02	1.4E+03	4.8E+02	6.3E-02	1.2E+02	1.2E+03	3.4E-02	NA
7,12-Dimethylbenz(a)anthracene	mg/kg	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	NA	NA	NA	NA	4.3E-04	6.2E-03	8.5E-05	NA
1 -Methylnaphthalene	mg/kg	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	NA	NA	NA	NA	1.6E+01	5.3E+01	5.1E-03	NA
3-Methylphenol	mg/kg	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	NA	NA	NA	NA	6.1E+03	6.2E+04	1.1E+00	NA
4-Methylphenol	mg/kg	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	NA	NA	NA	NA	6.1E+03	6.2E+04	NA	1.1E+00
4-Nitrophenol	mg/kg	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	mg/kg	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	1.7E+04	1.8E+05	6.7E+04	2.7E+02	1.7E+04	1.7E+05	4.2E+01	NA
Benzo(a)anthracene	mg/kg	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	1.5E+00	2.3E+01	2.1E+02	7.8E-02	1.5E-01	2.1E+00	1.0E-02	NA
Benzo(a)pyrene	mg/kg	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	1.5E-01	2.3E+00	2.1E+01	2.6E-02	1.5E-02	2.1E-01	3.5E-03	2.40E-01
Benzo(b)flouranthene	mg/kg	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	1.5E+00	2.3E+01	2.1E+02	2.7E-01	1.5E-01	2.1E+00	3.5E-02	NA
Benzo(k)flouranthene	mg/kg	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	1.5E+01	2.3E+02	2.1E+03	2.6E+00	1.5E+00	2.1E+01	3.5E-01	NA
Bis(2-ethylhexyl)phthalate	mg/kg	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	3.5E+02	1.4E+03	4.8E+03	8.6E+00	3.5E+01	1.2E+02	1.1E+00	1.40E+00
Butyl benzyl phthalate	mg/kg	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	NA	NA	NA	NA	2.6E+02	9.1E+02	2.0E-01	NA
Chrysene	mg/kg	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	1.5E+02	2.3E+03	2.1E+04	8.0E+00	1.5E+01	2.1E+02	1.1E+00	NA
Dibenz(a,j)acridine	mg/kg	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzo(a,h)anthracene	mg/kg	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	1.5E-01	2.3E+00	2.1E+01	8.5E-02	1.5E-02	2.1E-01	1.1E-02	NA
Diethyl phthalate	mg/kg	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	4.9E+04	5.5E+05	1.9E+05	9.7E+00	4.9E+04	4.9E+05	4.7E+00	NA
Dimethyl phthalate	mg/kg	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	6.1E+05	6.8E+06	2.4E+06	8.1E+01	NA	NA	NA	NA
Di-n-butyl phthalate	mg/kg	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**13**	<5.0	<5.0	<5.0	**11**	<5.0	<5.0	**11**	**11**	6.1E+03	6.8E+04	2.4E+04	7.0E+00	6.1E+03	6.2E+04	1.7E+00	NA
Di-n-octyl phalate	mg/kg	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	NA	NA	NA	NA	6.1E+02	6.2E+03	4.4E+01	NA
Flouranthene	mg/kg	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	2.3E+03	2.4E+04	8.9E+03	1.2E+02	2.3E+03	2.2E+04	7.0E+01	NA
Indene	mg/kg	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	NA	NA	NA	NA	NA	NA	NA	NA
Methylchrysene	mg/kg	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	mg/kg	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	4.3E+01	2.4E+02	1.6E+02	3.6E-03	3.6E+00	1.8E+01	4.7E-04	NA
Phenanthrene	mg/kg	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	1.8E+03	2.1E+04	7.1E+03	2.9E+01	NA	NA	NA	NA
Phenol	mg/kg	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	1.8E+04	2.1E+05	6.9E+04	5.0E+00	1.8E+04	1.8E+05	2.6	NA
Pyrene	mg/kg	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	1.7E+03	1.8E+04	6.7E+03	8.9E+01	1.7E+03	1.7E+04	9.5E+00	NA
Pyridine	mg/kg	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	NA	NA	NA	NA	7.8E+01	1.0E+03	5.3E-03	NA
Quinoline	mg/kg	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	NA	N	NA	NA	1.6E-01	5.7E-01	6.8E-05	NA
Benzenethiol	mg/kg	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	NA	N	NA	NA	7.8E+01	1.0E+03	8.6E-03	NA

Bolded Value - concentration exceeds screening level
NA - Screening level not available or not analyzed
DAF - Dilution attentuation factor
NMED Screening levels (June 2012)
EPA Regional Screening Levels (Nov. 2012)

TABLE 3
SWMU 10 SOIL BORING SAMPLES - VAPOR SCREENING RESULTS
WESTERN REFINING COMPANY SOUTHWEST INC. - GALLUP REFINERY
GALLUP, NEW MEXICO

Sample Interval Depth (ftbgl)	SWMU 10-1	SWMU 10-2	SWMU 10-3	SWMU 10-4	SWMU 10-5	SWMU 10-6	SWMU 10-7	SWMU 10-8	SWMU 10-9
0 - 2	14.8	10.5	12.9	40.5	108	2.7	6.2	12.9	18
2 - 4	25.7	8.0	24.2	335	61	4.3	9.5	1489	19.1
4 - 6	30.9		16.7	36.8	445	4.7	10.6	400	380
6 - 8	26.6		18.9	42.7	330	2.9	9.7	22.9	27
8 - 10	20.7		17.6	37.8	30.6	3.2	9.1	22.8	28.9
10 - 12	17.4		13.7	25.6	26.3	4.1	4.2	24.6	10.7
12 - 14	9.2		11.2	31.1	3.5		8.1	12.1	4
14 - 16	11.3		7.6	32.9	75.2		8.9	10.2	8.9
16 - 18	5.3		7.2	14.1	9.4		8.2	5.7	6.4
18 - 20	3.6		2.5	3.8	26.8		2.7		6.2
20 - 22					16.5				
22 - 24					10.7				

Sample Interval Depth (ftbgl)	SWMU 10-10	SWMU 10-11	SWMU 10-12	SWMU 10-13	SWMU 10-14	SWMU 10-15	SWMU 10-16	SWMU 10-17	SWMU 10-18
0 - 2	11.9	13.1	3.0	4.4	3.2	11.4	10.4	3.8	6.6
2 - 4	18.4	4.0	5.4	5.6	No recovery	11.1	4.9	4.1	6.2
4 - 6	1685	524	6.0	775	10.1	13.9	4.4	292	8.9
6 - 8	1514	133	4.5	1055	900	12.4	8.4	1667	18.4
8 - 10	686	570	6.1	721	23.7	12.3	0.5		20.6
10 - 12	655	8.5	6.9/6.1	11	15.9	10.7	6.8		14.1
12 - 14	75	69.2	4.9	10.3	22.4	8.9			12.9
14 - 16	18	20.6	2.9	10.4	16.9	8.4			9.3
16 - 18	16.8	7.2	1.8	12.4	7.9	8.3			10.1
18 - 20	8.5	13.4	1.2	14.1	5.2	7.1			8.7
20 - 22			1.5		6.1 (1)				
22 - 24					1.8 (2)				

Sample Interval Depth (ftbgl)	SWMU 10-19	SWMU 10-20	SWMU 10-21	SWMU 10-22	SWMU 10-23	SWMU 10-24	SWMU 10-25	
0 - 2	3.5	1.3	1.5	5.6	0	2.4	1.9	
2 - 4	1.5	0.7	17.0	2	0.2	2.5	1319	
4 - 6	2.4	1	16.7	4.1	0.2	1.1	187	
6 - 8	8.2	1436	7.2	6.9	2	3000	108	
8 - 10	12.6	1603	9.6	7.2	3.3	2021	201	
10 - 12	12.8	1715	5.3		3.7	307	367	
12 - 14	900	376	12.1		3.5	443	350	
14 - 16	291	77	Sat		2.5	123		
16 - 18	233	1022	Sat		1.4	80		
18 - 20	30.1	72	6.1					
20 - 22			2.7					
22 - 24								

(1) 20 - 21 feet
(2) 21 - 23 feet
ftbgl - feet below ground level

TABLE 4
Groundwater Field Mesurements
Western Refining Southwest, Inc. - Gallup Refinery
Gallup, New Mexico

WELL	DATE	DEPTH TO GROUNDWATER (ft) [2]	TEMPERATURE °C	SPECIFIC CONDUCTIVITY (uS/cm)	DISSOLVED OXYGEN (mg/L)	pH	OXYGEN REDUCTION POTENTIAL
SWMU 10-1	04/29/15	7.12	14.4	12186	6.74	7.1	333.8
SWMU 10-3	04/29/15	11.05	13.7	NM [1]	7.9	7.15	358
SWMU 10-5	05/04/15	11.91	12.4	10462	5.88	7.01	434
SWMU 10-11	05/14/15	3.35	12.1	7288	7.21	6.95	251.6
SWMU 10-12	05/14/15	3.38	12.2	2950	3.48	7.23	288.1
SWMU 10-14	05/14/15	12.50	11.2	2994	8.27	7.14	358.9
SWMU 10-15	05/14/15	4.31	12.7	8119	8.85	6.86	352.3
SWMU 10-16	05/14/15	6.20	NM [3]	NM [3]	NM [3]	NM [3]	NM [3]
SWMU 10-20	05/19/16	10.90	13	4985	7.58	7.46	148.6
SWMU 10-21	05/19/16	19.35	NM [3]	NM [3]	NM [3]	NM [3]	NM [3]
SWMU 10-25	09/21/16	8.74	15.9	6665	5.32	7.04	127.2

(1) Recorded data was 78.6 and is considered to be an error.
(2) Depth to groundwater estimated from land surface
(3) Not Measured - very low yielding well, used all available water for sample collection

TABLE 5
Soil Screening Levels
Western Refining Southwest, Inc. - Gallup Refinery
Gallup, New Mexico

	NMED Residential (0-10')	endpoint	EPA Residential (0-2')	endpoint	NMED IndOccSoil (0-1')	NMED IndOccSoil_Endpoint	NMED ConsWork Soil (0-10')	NMED ConsWork Soil_Endpoint	EPA Industrial Soil (0-2')	EPA IndSoil_keX	NMED DAF1 SoilGW	EPA GW_Risk-based SSL_SoilGW	EPA GW_MCL-based SSL_SoilGW
Metals (mg/kg)													
Antimony	3.13E+01	n	3.10E+01	n	5.19E+02	n	1.42E+02	n	4.70E+02	n	3.28E-01	3.50E-01	2.70E-01
Arsenic	4.25E+00	c	6.80E-01	c*	2.15E+01	c	5.74E+01	n	3.00E+00	c	1.50E-02	1.50E-03	2.90E-01
Barium	1.56E+04	n	1.50E+04	n	2.55E+05	nl	4.35E+03	n	2.20E+05	nm	1.35E+02	1.60E+02	8.20E+01
Beryllium	1.56E+02	n	1.60E+02	n	2.58E+03	n	1.48E+02	n	2.30E+03	n	9.79E+00	1.90E+01	3.20E+00
Cadmium	7.05E+01	n	7.10E+01	n	1.11E+03	n	7.21E+01	n	9.80E+02	n	4.69E-01	6.90E-01	3.80E-01
Chromium	9.66E+01	c	-	-	5.05E+02	c	1.34E+02	n	-	-	1.01E+04	-	1.80E+05
Hexavalent Chromium	3.05E+00	c	3.00E-01	n	7.21E+01	n	6.69E+01	c	6.30E+00	nm	4.84E-03	6.70E-04	-
Cobalt	-	-	2.30E+01	n	-	-	-	-	3.50E+02	n	-	2.70E-01	-
Cyanide	1.12E+01	n	2.70E+00	n	6.33E+01	n	1.21E+01	n	1.20E+01	n	2.61E-04	1.50E-02	2.00E+00
Iron	-	-	5.50E+04	n	-	-	-	-	8.20E+05	n	-	3.50E+02	
Lead	4.00E+02	IEUBK	4.00E+02	nL	8.00E+02	IEUBK	8.00E+02	IEUBK	8.00E+02	nL	-	-	1.40E+01
Manganese	-	-	1.80E+03	n	-	-	-	-	2.60E+04	n	-	2.80E+01	
Mercury	2.38E+01	ns	9.40E+00	ns	1.12E+02	ns	2.07E+01	ns	4.00E+01	ns	3.27E-02	3.30E-02	1.00E-01
Nickel	1.56E+03	n	8.40E+02	c	2.57E+04	n	6.19E+03	n	1.20E+04	c	2.42E+01	-	-
Selenium	3.91E+02	n	3.90E+02	n	6.49E+03	n	1.75E+03	n	5.80E+03	n	5.11E-01	5.20E-01	2.60E-01
Silver	3.91E+02	n	3.90E+02	n	6.49E+03	n	1.77E+03	n	5.80E+03	n	6.88E-01	8.00E-01	-
Vanadium	3.94E+02	n	3.90E+02	n	6.53E+03	n	6.14E+02	n	5.80E+03	n	6.31E+01	8.60E+01	-
Zinc	2.35E+04	n	2.30E+04	n	3.89E+05	nl	1.06E+05	n	3.50E+05	nm	3.71E+02	3.70E+02	-
Volatiles (mg/kg)													
1,1,1,2-Tetrachloroethane	2.81E+01	c	2.00E+00	c	1.37E+02	c	7.79E+02	cs	8.80E+00	cs	1.80E-03	2.20E-04	-
1,1,1-Trichloroethane	1.44E+04	ns	8.10E+03	ns	7.25E+04	ns	1.36E+04	ns	3.60E+04	ns	2.55E+00	2.80E+00	7.00E-02
1,1,2,2-Tetrachloroethane	7.98E+00	c	6.00E-01	c	3.94E+01	c	1.97E+02	c	2.70E+00	c	2.40E-04	2.80E-05	-
1,1,2-Trichloroethane	2.61E+00	n	1.10E+00	c	1.24E+01	c	2.30E+00	ns	5.00E+00	c	1.11E-04	8.90E-05	1.60E-03
1,1-Dichloroethane	7.86E+01	c	3.60E+00	c	3.83E+02	c	1.82E+03	cs	1.60E+01	c	6.79E-03	7.80E-04	-
1,1-Dichloroethene	4.40E+02	n	2.30E+02	n	2.26E+03	ns	4.24E+02	ns	1.00E+03	n	9.74E-02	1.00E-01	2.50E-03
1,1-Dichloropropene	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2,3-Trichlorobenzene	-	-	6.30E+01	n	-	-	-	-	9.30E+02	n	-	2.10E-02	-
1,2,3-Trichloropropane	5.10E-02	c	5.10E-03	c	1.21E+00	c	6.31E+00	c	1.10E-01	c	2.60E-06	3.20E-07	-
1,2,4-Trichlorobenzene	8.29E+01	n	2.40E+01	n	4.23E+02	ns	7.91E+01	ns	1.10E+02	ns	8.82E-03	3.30E-03	2.00E-01
1,2,4-Trimethylbenzene	-	-	5.80E+01	n	-	-	-	-	2.40E+02	ns	-	2.10E-02	-
1,2-Dibromo-3-chloropropane	8.58E-02	c	5.30E-03	c	1.18E+00	c	5.53E+00	c	6.40E-02	c	1.17E-06	1.44E-07	8.60E-05
1,2-Dibromoethane (EDB)	6.72E-01	c	3.60E-02	c	3.31E+00	c	1.63E+01	c	1.60E-01	c	1.76E-05	2.10E-06	1.40E-05
1,2-Dichlorobenzene	2.15E+03	ns	1.80E+03	ns	1.30E+04	ns	2.50E+03	ns	9.30E+03	ns	2.29E-01	3.00E-01	5.80E-01
1,2-Dichloroethane (EDC)	8.32E+00	c	4.60E-01	c	4.07E+01	c	5.38E+01	n	2.00E+00	c	4.07E-04	4.80E-05	1.40E-03
1,2-Dichloropropane	1.78E+01	c	1.00E+00	c*	8.68E+01	c	2.54E+01	n	4.70E+00	c*	1.21E-03	1.50E-04	1.70E-03
1,3,5-Trimethylbenzene	-	-	7.80E+02	n	-	-	-	-	1.20E+04	n	-	1.70E-01	-
1,3-Dichlorobenzene	-	-	-	-	-	-	-	-	-	-	-	-	-

TABLE 5
Soil Screening Levels
Western Refining Southwest, Inc. - Gallup Refinery
Gallup, New Mexico

	NMED Residential (0-10')	endpoint	EPA Residential (0-2')	endpoint	NMED IndOccSoil (0-1')	NMED IndOccSoil_Endpoint	NMED ConsWork Soil (0-10')	NMED ConsWork Soil_Endpoint	EPA Industrial Soil (0-2')	EPA IndSoil_keX	NMED DAF1 SoilGW	EPA GW_Risk-based SSL_SoilGW	EPA GW_MCL-based SSL_SoilGW
1,3-Dichloropropane	-	-	1.60E+03	n	-	-	-	-	2.30E+04	ns	-	1.30E-01	-
1,4-Dichlorobenzene	3.28E+01	c	2.60E+00	c	1.59E+02	c	7.46E+02	cs	1.10E+01	c	3.60E-03	4.60E-04	7.20E-02
1-Methylnaphthalene	-	-	1.80E+01	c	-	-	-	-	7.30E+01	c	-	5.80E-03	-
2,2-Dichloropropane	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Butanone	3.74E+04	n	2.70E+04	ns	4.11E+05	nls	9.17E+04	nls	1.90E+05	nms	1.00E+00	1.20E+00	-
2-Chlorotoluene	1.56E+03	ns	1.60E+03	ns	2.60E+04	ns	7.08E+03	ns	2.30E+04	ns	1.78E-01	2.30E-01	-
2-Hexanone	-	-	2.00E+02	-	-	-	-	-	1.30E+03	-	-	8.80E-03	-
2-Methylnaphthalene	-	-	2.40E+02	n	-	-	-	-	3.00E+03	ns	-	1.90E-01	-
4-Chlorotoluene	-	-	1.60E+03	ns	-	-	-	-	2.30E+04	ns	-	2.40E-01	-
4-Isopropyltoluene	-	-	-	-	-	-	-	-	-	-	-	-	-
4-Methyl-2-pentanone	5.81E+03	ns	-	-	8.16E+04	ns	2.02E+04	ns	-	-	2.40E-01	-	-
Acetone	6.63E+04	n	6.10E+04	n	9.60E+05	nls	2.42E+05	nls	6.70E+05	nms	2.49E+00	2.90E+00	-
Benzene	1.78E+01	c	1.20E+00	c*	8.72E+01	c	1.42E+02	n	5.10E+00	c*	1.90E-03	2.30E-04	2.60E-03
Bromobenzene	-	-	2.90E+02	n	-	-	-	-	1.80E+03	n	-	4.20E-02	-
Bromodichloromethane	6.19E+00	c	2.90E-01	c	3.02E+01	c	1.43E+02	c	1.30E+00	c	3.10E-04	3.60E-05	-
Bromoform	6.74E+02	c	1.90E+01	c*	3.25E+03	c	5.38E+03	n	8.60E+01	c*	2.05E-02	8.70E-04	-
Bromomethane	1.77E+01	n	6.80E+00	n	9.45E+01	n	1.79E+01	n	3.00E+01	n	1.71E-03	1.90E-03	-
Carbon disulfide	1.55E+03	ns	7.70E+02	ns	8.54E+03	ns	1.62E+03	ns	3.50E+03	ns	2.21E-01	2.40E-01	-
Carbon tetrachloride	1.07E+01	c	6.50E-01	c	5.25E+01	c	2.02E+02	ns	2.90E+00	c	1.66E-03	1.80E-04	1.90E-03
Chlorobenzene	3.78E+02	ns	2.80E+02	n	2.16E+03	ns	4.12E+02	ns	1.30E+03	ns	4.18E-02	5.30E-02	6.80E-02
Chloroethane	1.90E+04	ns	1.40E+04	ns	8.95E+04	nls	1.66E+04	nls	5.70E+04	ns	5.37E+00	5.90E+00	-
Chloroform	5.90E+00	c	3.20E-01	c	2.87E+01	c	1.34E+02	c	1.40E+00	c	5.46E-04	6.10E-05	-
Chloromethane	4.11E+01	n	1.10E+02	n	2.01E+02	cs	2.35E+02	n	4.60E+02	n	4.76E-03	4.90E-02	-
cis-1,2-DCE	1.56E+02	n	1.60E+02	n	2.60E+03	ns	7.08E+02	c	2.30E+03	ns	9.18E-03	1.10E-02	2.10E-02
cis-1,3-Dichloropropene	2.93E+01	c	1.80E+00	c*	1.46E+02	c	1.30E+02	ns	8.20E+00	c*	1.40E-03	1.70E-04	-
Dibromochloromethane	1.39E+01	c	7.50E-01	c	6.74E+01	c	3.40E+02	cs	3.30E+00	c	3.77E-04	4.50E-05	2.10E-02
Dibromomethane	-	-	2.30E+01	n	-	-	-	-	9.80E+01	ns	-	2.00E-03	-
Dichlorodifluoromethane	1.82E+02	n	8.70E+01	n	8.65E+02	ns	1.61E+02	ns	3.70E+02	n	3.61E-01	3.00E-01	-
Ethylbenzene	7.51E+01	c	5.80E+00	c	3.68E+02	cs	1.77E+03	cs	2.50E+01	c	1.31E-02	1.70E-03	7.80E-01
Hexachlorobutadiene	6.16E+01	n	1.20E+00	c**	3.29E+02	c	2.69E+02	n	5.30E+00	c*	4.39E-03	2.60E-04	-
Isopropylbenzene	2.36E+03	ns	1.90E+03	ns	1.42E+04	ns	2.74E+03	ns	9.90E+03	ns	5.69E-01	7.40E-01	-
Methyl tert-butyl ether (MTBE)	9.75E+02	c	4.70E+01	c	4.82E+03	c	2.42E+04	cs	2.10E+02	c	2.77E-02	3.20E-03	-
Methylene chloride	4.09E+02	n	5.70E+01	c	5.13E+03	c	1.21E+03	ns	1.00E+03	c	2.35E-02	2.91E-03	1.30E-03
Naphthalene	4.97E+01	c	3.80E+00	c*	2.41E+02	c	1.59E+02	n	1.70E+01	c*	4.11E-03	5.40E-04	-
n-Butylbenzene	-	-	3.90E+03	ns	-	-	-	-	5.80E+04	ns	-	3.20E+00	-
n-Propylbenzene	-	-	3.80E+03	ns	-	-	-	-	2.40E+04	ns	-	1.20E+00	-
sec-Butylbenzene	-	-	7.80E+03	ns	-	-	-	-	1.20E+05	nms	-	5.90E+00	-
Styrene	7.26E+03	ns	6.00E+03	ns	5.13E+04	ns	1.02E+04	ns	3.50E+04	ns	1.03E+00	1.30E+00	1.10E-01

TABLE 5
Soil Screening Levels
Western Refining Southwest, Inc. - Gallup Refinery
Gallup, New Mexico

	NMED Residential (0-10')	endpoint	EPA Residential (0-2')	endpoint	NMED IndOccSoil (0-1')	NMED IndOccSoil_Endpoint	NMED ConsWork Soil (0-10')	NMED ConsWork Soil_Endpoint	EPA Industrial Soil (0-2')	EPA IndSoil_keX	NMED DAF1 SoilGW	EPA GW_Risk-based SSL_SoilGW	EPA GW_MCL-based SSL_SoilGW
tert-Butylbenzene	-	-	7.80E+03	ns	-	-	-	-	1.20E+05	nms	-	1.60E+00	-
Tetrachloroethene (PCE)	1.11E+02	c	2.40E+01	c**	6.29E+02	c	1.20E+02	cs	1.00E+02	c**	1.60E-02	5.10E-03	2.30E-03
Toluene	5.23E+03	ns	4.90E+03	ns	6.13E+04	ns	1.40E+04	ns	4.70E+04	ns	6.07E-01	7.60E-01	6.90E-01
trans-1,2-DCE	2.95E+02	n	1.60E+03	n	1.61E+03	ns	3.05E+02	ns	2.30E+04	ns	2.35E-02	1.10E-01	3.10E-02
trans-1,3-Dichloropropene	2.93E+01	c	1.80E+00	c*	1.46E+02	c	1.30E+02	ns	8.20E+00	c*	1.40E-03	1.70E-04	-
Trichloroethene (TCE)	6.77E+00	n	9.40E-01	c**	3.65E+01	c	6.90E+00	cs	6.00E+00	c**	8.75E-04	1.80E-04	1.80E-03
Trichlorofluoromethane	1.23E+03	ns	7.30E+02	n	6.03E+03	ns	1.13E+03	ns	3.10E+03	ns	7.84E-01	7.30E-01	-
Vinyl chloride	7.42E-01	c	5.90E-02	c	2.84E+01	c	1.61E+02	c	1.70E+00	c	6.75E-05	6.50E-06	6.90E-04
Xylenes, Total	8.71E+02	ns	5.50E+02	ns	4.28E+03	ns	7.98E+02	ns	2.40E+03	ns	1.49E-01	1.90E-01	
Semi-volatiles (mg/kg)													
1,2,4-Trichlorobenzene	8.29E+01	n	2.40E+01	c**	4.23E+02	ns	7.91E+01	ns	1.10E+02	c**	8.82E-03	3.30E-03	2.00E-01
1,2-Dichlorobenzene	2.15E+03	ns	1.80E+03	ns	1.30E+04	ns	2.50E+03	ns	9.30E+03	ns	2.29E-01	3.00E-01	5.80E-01
1,3-Dichlorobenzene	-	-	-	-	-	-	-	-	-	-	-	-	-
1,4-Dichlorobenzene	3.28E+01	c	2.60E+00	c	1.59E+02	c	7.46E+02	cs	1.10E+01	c	3.60E-03	4.60E-04	7.20E-02
1-Methylnaphthalene	-	-	1.80E+01	c	-	-	-	-	7.30E+01	c	-	5.80E-03	-
2,4,5-Trichlorophenol	6.16E+03	n	6.30E+03	n	9.16E+04	n	2.69E+04	n	8.20E+04	n	3.31E+00	4.40E+00	-
2,4,6-Trichlorophenol	6.16E+01	n	4.90E+01	c**	9.16E+02	n	2.69E+02	n	2.10E+02	c**	3.37E-02	1.50E-02	-
2,4-Dichlorophenol	1.85E+02	n	1.90E+02	n	2.75E+03	n	8.07E+02	n	2.50E+03	n	4.13E-02	5.40E-02	-
2,4-Dimethylphenol	1.23E+03	n	1.30E+03	n	1.83E+04	n	5.38E+03	n	1.60E+04	n	3.22E-01	4.20E-01	-
2,4-Dinitrophenol	1.23E+02	n	1.30E+02	n	1.83E+03	n	5.38E+02	n	1.60E+03	n	3.35E-02	4.40E-02	-
2,4-Dinitrotoluene	1.71E+01	c	1.70E+00	c*	8.23E+01	c	5.36E+02	n	7.40E+00	c	2.46E-03	3.20E-04	-
2,6-Dinitrotoluene	3.56E+00	n	3.60E-01	c*	1.72E+01	n	8.09E+01	n	1.50E+00	c	5.10E-04	6.70E-05	-
2-Chloronaphthalene	6.26E+03	ns	4.80E+03	n	1.04E+05	ns	2.83E+04	ns	6.00E+04	n	2.85E+00	3.80E+00	-
2-Chlorophenol	3.91E+02	n	3.90E+02	n	6.49E+03	n	1.77E+03	n	5.80E+03	n	5.76E-02	7.40E-02	-
2-Methylnaphthalene	-	-	2.40E+02	n	-	-	-	-	3.00E+03	n	-	1.90E-01	-
'2-Methylphenol (cresol,o-)	-	-	3.20E+03	n	-	-	-	-	4.10E+04	n	-	7.50E-01	-
2-Nitroaniline	-	-	6.30E+02	n	-	-	-	-	8.00E+03	n	-	8.00E-02	-
2-Nitrophenol	-	-	-	-	-	-	-	-	-	-	-	-	-
3,3´-Dichlorobenzidine	1.18E+01	c	1.20E+00	c	5.70E+01	c	4.10E+02	c	5.10E+00	c	6.14E-03	8.10E-04	-
3+4-Methylphenol	-	-	-	-	-	-	-	-	-	-	-	-	-
3-Nitroaniline	-	-	-	-	-	-	-	-	-	-	-	-	-
4,6-Dinitro-2-methylphenol	4.93E+00	n	-	-	7.33E+01	n	2.15E+01	n	-	-	1.97E-03	-	-
4-Bromophenyl phenyl ether	-	-	-	-	-	-	-	-	-	-	-	-	-
4-Chloro-3-methylphenol	-	-	-	-	-	-	-	-	-	-	-	-	-
4-Chloroaniline	-	-	2.70E+00	c*	-	-	-	-	1.10E+01	c	-	1.60E-04	-
4-Chlorophenyl phenyl ether	-	-	-	-	-	-	-	-	-	-	-	-	-
4-Nitroaniline	-	-	2.70E+01	c**	-	-	-	-	1.10E+02	c*	-	1.60E-03	-
4-Nitrophenol	-	-	-	-	-	-	-	-	-	-	-	-	-

TABLE 5
Soil Screening Levels
Western Refining Southwest, Inc. - Gallup Refinery
Gallup, New Mexico

	NMED Residential (0-10')	endpoint	EPA Residential (0-2')	endpoint	NMED IndOccSoil (0-1')	NMED IndOccSoil_Endpoint	NMED ConsWork Soil (0-10')	NMED ConsWork Soil_Endpoint	EPA Industrial Soil (0-2')	EPA IndSoil_keX	NMED DAF1 SoilGW	EPA GW_Risk-based SSL_SoilGW	EPA GW_MCL-based SSL_SoilGW
Acenaphthene	3.48E+03	n	3.60E+03	n	5.05E+04	n	1.51E+04	n	4.50E+04	n	4.12E+00	5.50E+00	-
Acenaphthylene	-	-	-	-	-	-	-	-	-	-	-	-	-
Aniline	-	-	9.50E+01	c**	-	-	-	-	4.00E+02	c*	-	4.60E-03	-
Anthracene	1.74E+04	n	1.80E+04	n	2.53E+05	nl	7.53E+04	n	2.30E+05	nm	4.25E+01	5.80E+01	-
Azobenzene	-	-	5.60E+00	c	-	-	-	-	2.60E+01	c	-	9.20E+04	-
Benz(a)anthracene	1.53E+00	c	1.60E-01	c	3.23E+01	c	2.40E+02	c	2.90E+00	c	9.11E-02	4.30E-03	-
Benzo(a)pyrene	1.53E-01	c	1.60E-02	c	3.23E+00	c	2.40E+01	c	2.90E-01	c	3.02E-02	4.00E-03	2.40E-01
Benzo(b)fluoranthene	1.53E+00	c	1.60E-01	c	3.23E+01	c	2.40E+02	c	2.90E+00	c	3.09E-01	4.10E-02	-
Benzo(g,h,i)perylene	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(k)fluoranthene	1.53E+01	c	1.60E+00	c	3.23E+02	c	2.31E+03	c	2.90E+01	c	3.02E+00	4.00E-01	-
Benzoic acid	-	-	2.50E+05	nm	-	-	-	-	3.30E+06	nm	-	1.80E+01	-
Benzyl alcohol	-	-	6.30E+03	n	-	-	-	-	8.20E+04	nm	-	4.80E-01	-
Bis(2-chloroethoxy)methane	-	-	1.90E+02	n	-	-	-	-	2.50E+03	n	-	1.30E-02	-
Bis(2-chloroethyl)ether	3.11E+00	c	2.30E-01	c	1.57E+01	c	1.95E+00	c	1.00E+00	c	3.03E-05	3.60E-06	-
Bis(2-chloroisopropyl)ether	9.93E+01	c	-	-	5.19E+02	cs	3.54E+03	cs	-	-	2.37E-03	-	-
Bis(2-ethylhexyl)phthalate	3.80E+02	cs	3.90E+01	c*	1.83E+03	cs	5.38E+03	n	1.60E+02	c	9.99E+00	1.30E+00	1.40E+00
Butyl benzyl phthalate	-	-	2.90E+02	c*	-	-	-	-	1.20E+03	c	-	2.30E-01	-
Carbazole	-	-	-	-	-	-	-	-	-	-	-	-	-
Chrysene	1.53E+02	c	1.60E+01	c	3.23E+03	c	2.31E+04	c	2.90E+02	c	9.30E+00	1.20E+00	-
Dibenz(a,h)anthracene	1.53E-01	c	1.60E-02	c	3.23E+00	c	2.40E+01	c	2.90E-01	c	3.05E-01	1.30E-02	-
Dibenzofuran	-	-	-	-	-	-	-	-	-	-	-	-	-
Diethyl phthalate	4.93E+04	n	5.10E+04	n	7.33E+05	nl	2.15E+05	nl	6.60E+05	nm	4.89E+00	6.10E+00	-
Dimethyl phthalate	6.11E+05	nl	-	-	6.84E+06	nl	2.38E+06	nl	-	-	8.06E+01	-	-
Di-n-butyl phthalate	6.16E+03	n	-	-	9.16E+04	n	2.69E+04	n	-	-	1.69E+00	-	-
Di-n-octyl phthalate	-	-	-	-	-	-	-	-	-	-	-	-	-
Fluoranthene	2.32E+03	n	2.40E+03	n	3.37E+04	n	1.00E+04	n	3.00E+04	n	6.69E+01	8.90E+01	-
Fluorene	2.32E+03	n	2.40E+03	n	3.37E+04	ns	1.00E+04	ns	3.00E+04	n	4.00E+00	5.40E+00	-
Hexachlorobenzene	3.33E+00	c	2.10E-01	c	1.60E+01	c	1.17E+02	c	9.60E-01	c	4.61E-03	1.20E-04	1.30E-02
Hexachlorobutadiene	6.16E+01	n	1.20E+00	c*	3.29E+02	c	2.69E+02	n	5.30E+00	c	4.39E-03	2.60E-04	-
Hexachlorocyclopentadiene	3.70E+02	n	1.80E+00	n	5.49E+03	n	8.67E+02	n	7.50E+00	n	6.68E-02	1.30E-03	1.60E-01
Hexachloroethane	4.31E+01	n	1.80E+00	c*	6.41E+02	n	1.88E+02	n	8.00E+00	c*	3.31E-03	2.00E-04	-
Indeno(1,2,3-cd)pyrene	1.53E+00	c	1.60E-01	c	3.23E+01	c	2.40E+02	c	2.90E+00	c	1.00E+00	1.30E-01	-
Isophorone	5.61E+03	c	5.70E+02	c*	2.70E+04	cs	5.37E+04	n	2.40E+03	c*	2.11E-01	2.60E-02	-
Naphthalene	4.97E+01	c	3.80E+00	c*	2.41E+02	c	1.59E+02	n	1.70E+01	c*	4.11E-03	5.40E-04	-
Nitrobenzene	6.04E+01	c	5.10E+00	c*	2.93E+02	c	3.53E+02	n	2.20E+01	c*	7.20E-04	9.20E-05	-
N-Nitrosodi-n-propylamine	-	-	7.80E-02	c	-	-	-	-	3.30E-01	c	-	8.10E-06	-
N-Nitrosodiphenylamine	7.94E-03	c	1.10E+02	c	1.71E-01	c	1.25E+00	c	4.70E+02	c	4.92E-07	6.60E-02	-
Pentachlorophenol	9.85E+00	c	1.00E+00	c	4.45E+01	c	3.46E+02	c	4.00E+00	c	3.04E-03	4.00E-04	1.00E-02

TABLE 5
Soil Screening Levels
Western Refining Southwest, Inc. - Gallup Refinery
Gallup, New Mexico

	NMED Residential (0-10')	endpoint	EPA Residential (0-2')	endpoint	NMED IndOccSoil (0-1')	NMED IndOccSoil_Endpoint	NMED ConsWork Soil (0-10')	NMED ConsWork Soil_Endpoint	EPA Industrial Soil (0-2')	EPA IndSoil_keX	NMED DAF1 SoilGW	EPA GW_Risk-based SSL_SoilGW	EPA GW_MCL-based SSL_SoilGW
Phenanthrene	1.74E+03	ns	-	-	2.53E+04	n	7.53E+03	n	-	-	4.30E+00	-	-
Phenol	1.83E+04	n	1.90E+04	n	2.75E+05	nl	7.74E+04	n	2.50E+05	nm	2.62E+00	3.30E+00	-
Pyrene	1.74E+03	n	1.80E+03	n	2.53E+04	n	7.53E+03	n	2.30E+04	n	9.59E+00	1.30E+01	-
Pyridine	-	-	7.80E+01	n	-	-	-	-	1.20E+03	n	-	6.80E-03	-
Total Petroleum Hydrocarbons (mg/kg)													
Gasoline Range Organics (GRO)	-	-	-	-	-	-	-	-	-	-	-	-	-
Diesel Range Organics (DRO)	1.00E+03	-	-	-	3.80E+03	-	-	-	-	-	-	-	-
Motor Oil Range Organics (MRO)	1.00E+03	-	-	-	3.80E+03	-	-	-	-	-	-	-	-

- No screening level or analytical result available
NMED - New Mexico Environment Department Risk Assessment Guidance for Site Investigations and Remediation (Dec. 2014)
EPA - Environmental Protection Agency Regional Screening Levels (Nov 2015)
NMED TPH Soil Screening Levels "uknown oil"
c -carcinogen
cs - carcinogenic, SSL may exceed saturation
c* - where: n SL < 100X c SL
c** - where n SL < 10X c SL
n - noncarcinogenic
ns - noncarcinogenic, SSL may exceed saturation
nl - noncarcinogenic, SSL may exceed ceiling limit
nm - concentration may exceed ceiling limit

TABLE 6
Groundwater Screening Levels
Western Refining Southwest, Inc. - Gallup Refinery
Gallup, New Mexico

	New Mexico WQCC Standards	NMED Tap Water	NMED TapW_key	EPA Screening Levels.Tap Water	EPA TapW_key	MCL
Metals (ug/l) TOTAL						
Antimony	-	7.26	n	7.80	n	**6.00**
Arsenic	100	0.51	c	0.05	c	**10**
Barium	-	3277	n	3800	n	**2000**
Beryllium	-	12.39	n	25	n	**4**
Cadmium	-	6.24	n	9.20	n	**5**
Chromium	**50**	5.59	c	22000	n	100
Hexavalent Chromium	-	**0.25**	c	0.04	c	
Cobalt	-	-	-	**6**	n	-
Cyanide	**200**	1.46	n	1.50	n	200
Iron		**13822**	n	14000	n	-
Lead	50	-	-	15	L	**15**
Manganese		**2017.40**	n	430	n	-
Mercury	**2**	0.63	n	0.63	n	2
Nickel	-	**371.96**	n	200	n	-
Selenium	**50**	98.73	n	100	n	50
Silver	**50**	81.19	n	94	n	-
Vanadium	-	**63.07**	n	86	n	-
Zinc	**10000**	5960.45	n	6000	n	-
Chloride	**250000**	-	-	-	-	-
Fluoride	**1600**	1184.73	n	800	n	-
Sulfate	**600000**	-	-	-	-	-
Metals (ug/l) DISSOLVED						
Antimony (D)	-	7.26	n	7.80	n	**6**
Arsenic (D)	100	0.51	c	0.05	c	**10**
Barium (D)	**1000**	3277.35	n	3800	n	2000
Beryllium (D)	-	12.39	n	25	n	**4**
Cadmium (D)	10	6.24	n	9.20	n	**5**
Chromium (D)	**50**	5.59	c	22000	n	100
Cobalt (D)	**50**	-	-	6	n	-
Iron (D)	**1000**	13821.88	n	14000	n	-
Lead (D)	50	-	-	15	L	**15**
Manganese (D)	**200**	2017.40	n	430	n	-
Nickel (D)	-	**371.96**	n	200	n	-
Selenium (D)	**50**	98.73	n	100	n	50
Silver (D)	**50**	81.19	n	94	n	-
Vanadium (D)	-	**63.07**	n	86	n	-
Zinc (D)	**10000**	5960.45	n	6000	n	-
Volatiles (ug/l)						

TABLE 6
Groundwater Screening Levels
Western Refining Southwest, Inc. - Gallup Refinery
Gallup, New Mexico

	New Mexico WQCC Standards	NMED Tap Water	NMED TapW_key	EPA Screening Levels.Tap Water	EPA TapW_key	MCL
1,1,1,2-Tetrachloroethane	-	**5.72**	c	0.57	c	-
1,1,1-Trichloroethane	**60**	8002.78	n	8000	n	200
1,1,2,2-Tetrachloroethane	**10**	0.76	c	0.08	c	-
1,1,2-Trichloroethane	10	0.41	c	0.28	c**	**5**
1,1-Dichloroethane	**25**	24.18	c	2.80	c	-
1,1-Dichloroethene	**5**	339.53	n	280	n	7
1,1-Dichloropropene	-	-	-	**0.47**	c*	-
1,2,3-Trichlorobenzene	-	-	-	**7**	n	-
1,2,3-Trichloropropane	-	**0.01**	c	0.0008	c	-
1,2,4-Trichlorobenzene (V)	-	4.12	n	1.20	c**	**70**
1,2,4-Trimethylbenzene	-	-	-	**15**	n	-
1,2-Dibromo-3-chloropropane	-	0.0032	c	0.0003	c	**0.20**
1,2-Dibromoethane (EDB)	0.1	0.07	c	0.01	c	**0.05**
1,2-Dichlorobenzene (V)	-	370.14	n	300	n	**600**
1,2-Dichloroethane (EDC)	10	1.49	c	0.17	c*	**5**
1,2-Dichloropropane	-	3.86	c	0.44	c*	**5**
1,3,5-Trimethylbenzene	-	-	-	**12**	n	-
1,3-Dichlorobenzene (V)	-	-	-	-	-	-
1,3-Dichloropropane	-	-	-	**370**	n	-
1,4-Dichlorobenzene (V)	-	4.27	c	0.48	c	**75**
1-Methylnaphthalene (V)	-	-	-	**1.10**	c	-
2,2-Dichloropropane	-	-	-	-	-	-
2-Butanone	-	**5564.70**	n	5600	n	-
2-Chlorotoluene	-	-	-	**240**	n	-
2-Hexanone	-	-	-	-	-	-
2-Methylnaphthalene (V)	-	-	-	**36**	n	-
4-Chlorotoluene	-	-	-	**250**	n	-
4-Isopropyltoluene	-	-	-	-	-	-
4-Methyl-2-pentanone	-	-	-	-	-	-
Acetone	-	**14063.57**	n	14000	n	-
Benzene	10	4.13	c	0.46	c*	**5**
Bromobenzene	-	-	-	**62**	n	-
Bromodichloromethane	-	**1.34**	c	0.13	c	-
Bromoform	-	-	-	**3.30**	c*	-
Bromomethane	-	**7.54**	n	7.50	n	-
Carbon disulfide	-	**809.54**	n	810	n	-
Carbon Tetrachloride	10	4.40	c	0.46	c	**5**
Chlorobenzene	-	91.25	n	78.00	n	**100**
Chloroethane	-	**20857.14**	-	-	-	-

TABLE 6
Groundwater Screening Levels
Western Refining Southwest, Inc. - Gallup Refinery
Gallup, New Mexico

	New Mexico WQCC Standards	NMED Tap Water	NMED TapW_key	EPA Screening Levels.Tap Water	EPA TapW_key	MCL
Chloroform	**100**	1.93	c	0.22	c	-
Chloromethane	-	**20.31**	c	190.00	n	-
cis-1,2-DCE	-	73	n	36	n	**70**
cis-1,3-Dichloropropene	-	**4.70**	c	-	-	-
Dibromochloromethane	-	**1.68**	c	0.87	c	-
Dibromomethane	-	-	-	**8.30**	n	-
Dichlorodifluoromethane	-	**197.20**	n	200	n	-
Ethylbenzene	750	14.76	c	1.50	c	**700**
Hexachlorobutadiene (V)	-	**2.95**	c	0.14	c*	-
Isopropylbenzene	-	**446.85**	n	450	n	-
Methyl tert-butyl ether (MTBE)	-	**142.99**	c	14	c	-
Methylene Chloride	100	186.38	c	11	c**	**5**
Naphthalene (V)	-	**1.65**	c	0.17	c*	-
n-Butylbenzene	-	-	-	-	-	-
n-Propylbenzene	-	-	-	-	-	-
sec-Butylbenzene	-	-	-	-	-	-
Styrene	-	1622.22	n	1200	n	**100**
tert-Butylbenzene	-	-	-	-	-	-
Tetrachloroethene (PCE)	20	1.08	c	11	c**	**5**
Toluene	**750**	2281.25	n	1100	n	1000
trans-1,2-DCE	-	106.83	n	360	n	**100**
trans-1,3-Dichloropropene	-	**4.70**	c	0.47	c*	-
Trichloroethene (TCE)	100	3.40	n	0.49	c**	**5**
Trichlorofluoromethane	-	**1136.82**	n	5200	n	-
Vinyl chloride	**1**	0.16	c	0.02	c	2
Xylenes, Total	**620**	202.78	n	190	n	10000
Semivolatiles (ug/l)						
1,2,4-Trichlorobenzene	-	4.12	n	45	n	**70**
1,2-Dichlorobenzene	-	370.14	n	300	n	**600**
1,3-Dichlorobenzene	-	-	-	-	-	-
1,4-Dichlorobenzene	-	4.27	c	0.48	c	**75**
1-Methylnaphthalene	-	-	-	**1.10**	c	-
2,4,5-Trichlorophenol	-	**1165.98**	n	1200	n	-
2,4,6-Trichlorophenol	-	**11.88**	n	4.10	c**	-
2,4-Dichlorophenol	-	**45.30**	n	46	n	-
2,4-Dimethylphenol	-	**353.88**	n	360	n	-
2,4-Dinitrophenol	-	**38.79**	n	39	n	-
2,4-Dinitrotoluene	-	**2.37**	c	0.24	c	-
2,6-Dinitrotoluene	-	**0.48**	n	0.05	c	-

TABLE 6
Groundwater Screening Levels
Western Refining Southwest, Inc. - Gallup Refinery
Gallup, New Mexico

	New Mexico WQCC Standards	NMED Tap Water	NMED TapW_key	EPA Screening Levels.Tap Water	EPA TapW_key	MCL
2-Chloronaphthalene	-	**732.56**	n	750	n	-
2-Chlorophenol	-	**91**	n	91	n	-
2-Methylnaphthalene	-	-	-	**36**	n	-
2-Methylphenol	-	-	-	**930**	n	-
2-Nitroaniline	-	-	-	**190**	n	-
2-Nitrophenol	-	-	-	-	-	-
3,3´-Dichlorobenzidine	-	**1.24**	c	0.13	c	-
3+4-Methylphenol	-	-	-	**930**	n	-
3-Nitroaniline	-	-	-	-	-	-
4,6-Dinitro-2-methylphenol	-	**1.51**	n	-	-	-
4-Bromophenyl phenyl ether	-	-	-	-	-	-
4-Chloro-3-methylphenol	-	-	-	-	-	-
4-Chloroaniline	-	-	-	**0.37**	c	-
4-Chlorophenyl phenyl ether	-	-	-	-	-	-
4-Nitroaniline	-	-	-	**3.80**	c*	-
4-Nitrophenol	-	-	-	-	-	-
Acenaphthene	-	**534.60**	n	530	n	-
Acenaphthylene	-	-	-	-	-	-
Aniline	-	-	-	**13**	c*	-
Anthracene	-	**1721.28**	n		n	-
Azobenzene	-	-	-	**0.12**	c	-
Benz(a)anthracene	-	**0.34**	c	0.01	c	-
Benzo(a)pyrene	0.7	0.03	c	0.00	c	**0.20**
Benzo(b)fluoranthene	-	**0.34**	c	0.03	c	-
Benzo(g,h,i)perylene	-	-	-	-	-	-
Benzo(k)fluoranthene	-	**3.43**	c	0.34	c	-
Benzoic acid	-	-	-	**75000**	n	-
Benzyl alcohol	-	-	-	**2000**	n	-
Bis(2-chloroethoxy)methane	-	-	-	**59**	n	-
Bis(2-chloroethyl)ether	-	**9.76**	c	0.01	c	-
Bis(2-chloroisopropyl)ether	-	**9.76**	c	-	-	-
Bis(2-ethylhexyl)phthalate	-	48	c	5.60	c*	**6**
Butyl benzyl phthalate	-	-	-	**16**	c	-
Carbazole	-	-	-	-	-	-
Chrysene	-	**34.32**	c	3.40	c	-
Dibenz(a,h)anthracene	-	**0.11**	c	0.0034	c	-
Dibenzofuran	-	-	-	-	-	-
Diethyl phthalate	-	**14800.52**	n	15000	n	-
Dimethyl phthalate	-	-	-	-	-	-

TABLE 6
Groundwater Screening Levels
Western Refining Southwest, Inc. - Gallup Refinery
Gallup, New Mexico

	New Mexico WQCC Standards	NMED Tap Water	NMED TapW_key	EPA Screening Levels.Tap Water	EPA TapW_key	MCL
Di-n-butyl phthalate	-	**884.80**	n	-	-	-
Di-n-octyl phthalate	-	-	-	-	-	-
Fluoranthene	-	**802.20**	n	800	n	-
Fluorene	-	**287.64**	n	290	n	-
Hexachlorobenzene	-	0.42	c		c	**1**
Hexachlorobutadiene	-	**2.95**	c		c*	-
Hexachlorocyclopentadiene	-	219	n		n	**50**
Hexachloroethane	-	**6.80**	c		c**	-
Indeno(1,2,3-cd)pyrene	-	**0.34**	c		c	-
Isophorone	-	**779.04**	c		c	-
Naphthalene	-	**1.65**	c		c*	-
Nitrobenzene	-	**1.40**	n		c	-
N-Nitrosodimethylamine	-	**0.0017**	c		c	-
N-Nitrosodi-n-propylamine	-	-	-	**0.01**	c	-
N-Nitrosodiphenylamine	-	**0.0049**	c		c	-
Phenanthrene	-	**170.41**	n	-	-	-
Pentachlorophenol	-	1.68	c		c	**1**
Phenol	-	**5761.05**	n		n	-
Pyrene	-	**117.42**	n		n	-
Pyridine	-	-	-	**20**	n	-
TPH (mg/l)						
Gasoline Range Organics (GRO)	-	-	-	-	-	-
Diesel Range Organics (DRO)	-	-	-	-	-	-
Motor Oil Range Organics (MRO	-	-	-	-	-	-

- No screening level available

Bolded value represents applicable screeening level for comparion to site concentrations

EPA - Regional Screening Levels (Nov. 2015) -Tap Water

EPA - Regional Screening Levels (Nov. 2015) - MCL

NMED WQCC standards - Title 20 Chapter 6, Part 2, - 20.6.2.3101 Standards for Ground Water of 10,000 mg/l TDS Concentration or less

NMED Tap Water Screening Level - Risk Assessment Guidance for Site Investigations and Remediation (Dec. 2014)

Table 7
SWMU 10 Soil Analytical Results Summary
Western Refining Southwest, Inc. - Gallup Refinery
Gallup, New Mexico

	Residential Soil Screening Level	Source	Non-Residential Soil Screening Level	Source	Leachate DAF (295) (mg/kg) SoilGW	Source	SWMU 10-1 (2-4')		SWMU 10-1 (4-6')		SWMU 10-1 (18-20')		SWMU 10-2 (0-2')		SWMU 10-2 (2-4')		SWMU 10-3 (2-4')		SWMU 10-3 (6-8')		SWMU 10-3 (18-20')	
							1504C87-001		1504C87-002		1504C87-003		1505223-003*		1505223-004*		1504C87-004		1504C87-005		1504C87-006	
							4/28/2015		4/28/2015		4/28/2015		5/4/2015		5/4/2015		4/28/2015		4/28/2015		4/28/2015	
Metals (mg/kg)																						
Antimony	3.13E+01	(1)	1.42E+02	(5)	9.68E+01	(8)	< 1.5756	u	1.9	J	1.5	J	< 1.5365	u	1.7	J	< 1.5281	u	< 3.1112	u	< 1.5824	u
Arsenic	4.25E+00	(1)	2.15E+01	(4)	4.41E+00	(8)	9.70E-01	J	1.7	J	1.7	J	1.8	J	1.7	J	2.3	J	2.6	J	2.1	J
Barium	1.56E+04	(1)	4.35E+03	(5)	3.98E+04	(8)	2.00E+02	v	130	v	170	v	390	v	810	v	280	v	2900	v	750	v
Beryllium	1.56E+02	(1)	1.48E+02	(5)	2.89E+03	(8)	1.10E+00	v	1.1	v	1.1	v	0.91	v	0.98	v	0.88	v	0.92	v	1.1	v
Cadmium	7.05E+01	(1)	7.21E+01	(5)	1.38E+02	(8)	< 0.0333	u	< 0.0353	u	< 0.0324	u	< 0.0324	u	< 0.0318	u	< 0.0323	u	< 0.0657	u	< 0.0334	u
Chromium	9.66E+01	(1)	1.34E+02	(5)	2.97E+06	(8)	10	v	10	v	16	v	11	v	11	v	17	v	29	v	14	v
Hexavalent Chromium	3.05E+00	(1)	6.69E+01	(5)	1.43E+00	(8)	< 2.4772	u	< 2.5306	u	< 2.3553	u	<1	u	<1	u	< 2.3677	u	< 2.4762	u	< 2.4156	u
Cobalt	2.30E+01	(2)	3.50E+02	(6)	7.97E+01	(9)	5.2	v	5.4	v	7	v	4.6	v	5.1	v	5	v	6.4	v	8.8	v
Cyanide	1.12E+01	(1)	1.21E+01	(5)	7.70E-02	(8)	< 0.3097	u	< 0.3163	u	< 0.2944	u	< 0.2974	u	< 0.2865	u	< 0.296	u	< 0.3095	u	< 0.3019	u
Iron	5.50E+04	(2)	8.20E+05	(6)	1.03E+05	(9)	16000	v	17000	v	23000	v	15000	v	17000	v	15000	v	13000	v	22000	v
Lead	4.00E+02	(1)	8.00E+02	(4)	4.13E+03	(10)	3.2	v	3.2	v	2	v	3.1	v	2.3	v	3.6	v	5.6	v	1.9	v
Manganese	1.80E+03	(2)	2.60E+04	(6)	8.26E+03	(9)	300	v	290	v	480	v	700	v	360	v	820	v	1000	v	1200	v
Mercury	2.38E+01	(1)	2.07E+01	(5)	9.64E+00	(8)	0.0066	J	0.0063	J	0.0036	J	0.014	J	0.0062	J	0.1	v	0.087	v	0.0049	J
Nickel	1.56E+03	(1)	6.19E+03	(5)	7.15E+03	(8)	9.1	v	9.6	v	16	v	9.2	v	8.9	v	8.9	v	10	v	16	v
Selenium	3.91E+02	(1)	1.75E+03	(5)	1.51E+02	(8)	< 1.8348	u	< 1.9497	u	< 1.7891	u	< 1.7892	u	< 1.7549	u	< 1.7794	u	< 3.6229	u	< 1.8427	u
Silver	3.91E+02	(1)	1.77E+03	(5)	2.03E+02	(8)	< 0.0357	u	< 0.0379	u	< 0.0348	u	< 0.0348	u	< 0.0341	u	< 0.0346	u	< 0.0704	u	< 0.0358	u
Vanadium	3.94E+02	(1)	6.14E+02	(5)	1.86E+04	(8)	20	v	18	v	17	v	21	v	22	v	22	v	23	v	16	v
Zinc	2.35E+04	(1)	1.06E+05	(5)	1.09E+05	(8)	17	v	16	v	22	v	18	v	17	v	25	v	35	v	27	v
Volatiles (mg/kg)																						
1,1,1,2-Tetrachloroethane	2.81E+01	(1)	1.37E+02	(4)	5.30E-01	(8)	< 0.0028	u	< 0.0003	u	< 0.0003	u	< 0.0003	u	< 0.0003	u	< 0.0002	u	< 0.0003	u	< 0.0004	u
1,1,1-Trichloroethane	1.44E+04	(1)	1.36E+04	(5)	7.53E+02	(8)	< 0.0052	u	< 0.0002	u	< 0.0003	u	< 0.0003	u	< 0.0002	u	< 0.0002	u	< 0.0002	u	< 0.0003	u
1,1,2,2-Tetrachloroethane	7.98E+00	(1)	3.94E+01	(4)	7.09E-02	(8)	< 0.0042	u	< 0.0004	u	< 0.0004	u	< 0.0004	u	< 0.0004	u	< 0.0003	u	< 0.0004	u	< 0.0005	u
1,1,2-Trichloroethane	2.61E+00	(1)	2.30E+00	(5)	3.28E-02	(8)	< 0.0041	u	< 0.0017	u	< 0.002	u	< 0.002	u	< 0.0017	u	< 0.0015	u	< 0.0016	u	< 0.0022	u
1,1-Dichloroethane	7.86E+01	(1)	3.83E+02	(4)	2.00E+00	(8)	< 0.0138	u	< 0.0004	u	< 0.0005	u	< 0.0005	u	< 0.0004	u	< 0.0003	u	< 0.0004	u	< 0.0005	u
1,1-Dichloroethene	4.40E+02	(1)	4.24E+02	(5)	2.87E+01	(8)	< 0.0024	u	< 0.0003	u	< 0.0003	u	< 0.0003	u	< 0.0003	u	< 0.0002	u	< 0.0003	u	< 0.0004	u
1,1-Dichloropropene	-	-	-	-	-	-	< 0.0051	u	< 0.0003	u	< 0.0004	u	< 0.0004	u	< 0.0003	u	< 0.0003	u	< 0.0003	u	< 0.0004	u
1,2,3-Trichlorobenzene	6.30E+01	(2)	9.30E+02	(6)	6.20E+00	(9)	< 0.0074	u	< 0.0006	u	< 0.0007	u	< 0.0007	u	< 0.0006	u	< 0.0005	u	< 0.0006	u	< 0.0008	u
1,2,3-Trichloropropane	5.10E-02	(1)	1.21E+00	(4)	7.68E-04	(8)	< 0.0058	u	< 0.0006	u	< 0.0007	u	< 0.0007	u	< 0.0006	u	< 0.0005	u	< 0.0006	u	< 0.0008	u
1,2,4-Trichlorobenzene	8.29E+01	(1)	7.91E+01	(5)	2.60E+00	(8)	< 0.00636	u	< 0.00064	u	< 0.00074	u	< 0.00074	u	< 0.00063	u	< 0.00055	u	< 0.00061	u	< 0.00081	u
1,2,4-Trimethylbenzene	5.80E+01	(2)	2.40E+02	(6)	6.20E+00	(9)	0.0061	J	0.00062	J	0.00162	J	0.000938	J	0.000663	J	< 0.0004	u	0.00056	J	0.00184	J
1,2-Dibromo-3-chloropropane	8.58E-02	(1)	1.18E+00	(4)	3.45E-04	(8)	< 0.0059	u	< 0.0005	u	< 0.0006	u	< 0.0006	u	< 0.0005	u	< 0.0004	u	< 0.0005	u	< 0.0006	u
1,2-Dibromoethane (EDB)	6.72E-01	(1)	3.31E+00	(4)	5.19E-03	(8)	< 0.0027	u	< 0.0002	u	< 0.0002	u	< 0.0002	u	< 0.0002	u	< 0.0002	u	< 0.0002	u	< 0.0003	u
1,2-Dichlorobenzene	2.15E+03	(1)	2.50E+03	(5)	6.75E+01	(8)	< 0.00208	u	< 0.00038	u	< 0.00044	u	< 0.00044	u	< 0.00037	u	< 0.00033	u	< 0.00036	u	< 0.00048	u
1,2-Dichloroethane (EDC)	8.32E+00	(1)	4.07E+01	(4)	1.20E-01	(8)	< 0.0138	u	< 0.0005	u	< 0.0005	u	< 0.0005	u	< 0.0005	u	< 0.0004	u	< 0.0004	u	< 0.0006	u
1,2-Dichloropropane	1.78E+01	(1)	2.54E+01	(5)	3.58E-01	(8)	< 0.0019	u	< 0.0004	u	< 0.0004	u	< 0.0004	u	< 0.0004	u	< 0.0003	u	< 0.0003	u	< 0.0005	u
1,3,5-Trimethylbenzene	7.80E+02	(2)	1.20E+04	(6)	5.02E+01	(9)	< 0.0023	u	0.00032	J	0.000993	J	< 0.0003	u	< 0.0003	u	< 0.0003	u	0.00035	J	0.00123	J
1,3-Dichlorobenzene	-	-	-	-	-	-	< 0.00406	u	< 0.00029	u	< 0.00033	u	< 0.00033	u	< 0.00028	u	< 0.00025	u	< 0.00027	u	< 0.00036	u
1,3-Dichloropropane	1.60E+03	(2)	2.30E+04	(6)	3.84E+01	(9)	< 0.0048	u	< 0.0003	u	< 0.0003	u	< 0.0003	u	< 0.0003	u	< 0.0002	u	< 0.0003	u	< 0.0003	u
1,4-Dichlorobenzene	3.28E+01	(1)	1.59E+02	(4)	1.06E+00	(8)	< 0.00429	u	< 0.00026	u	< 0.00031	u	< 0.00031	u	< 0.00026	u	< 0.00023	u	< 0.00025	u	< 0.00034	u
1-Methylnaphthalene	1.80E+02	(3)	7.30E+02	(7)	1.71E+00	(9)	< 0.02069	u	< 0.00067	u	< 0.00077	u	< 0.00078	u	< 0.00066	u	< 0.00058	u	< 0.00064	u	< 0.00085	u
2,2-Dichloropropane	-	-	-	-	-	-	< 0.005	u	< 0.0003	u	< 0.0003	u	< 0.0003	u	< 0.0003	u	< 0.0003	u	< 0.0003	u	< 0.0004	u
2-Butanone	3.74E+04	(1)	9.17E+04	(5)	2.96E+02	(8)	< 0.0222	u	0.00257	J	0.00156	J	0.0038	J	0.00283	J	0.00273	J	0.00136	J	0.00151	J
2-Chlorotoluene	1.56E+03	(1)	7.08E+03	(5)	5.26E+01	(8)	< 0.0039	u	< 0.0003	u	< 0.0004	u	< 0.0004	u	< 0.0003	u	< 0.0003	u	< 0.0003	u	< 0.0004	u
2-Hexanone	2.00E+02	(2)	1.30E+03	(6)	2.60E+00	(9)	< 0.0085	u	< 0.0004	u	< 0.0004	u	0.000788	J	0.000672	J	0.00066	J	0.00059	J	0.00075	J
2-Methylnaphthalene	2.40E+02	(2)	3.00E+03	(6)	5.61E+01	(9)	< 0.02268	u	< 0.00067	u	< 0.00077	u	< 0.00077	u	< 0.00066	u	< 0.00058	u	< 0.00063	u	< 0.00084	u
4-Chlorotoluene	1.60E+03	(2)	2.30E+04	(6)	7.08E+01	(9)	< 0.0026	u	< 0.0003	u	< 0.0004	u	< 0.0004	u	< 0.0003	u	< 0.0003	u	< 0.0003	u	< 0.0004	u
4-Isopropyltoluene	-	-	-	-	-	-	< 0.0025	u	< 0.0007	u	< 0.0008	u	< 0.0008	u	< 0.0007	u	< 0.0006	u	< 0.0006	u	< 0.0008	u
4-Methyl-2-pentanone	5.81E+03	(1)	2.02E+04	(5)	7.07E+01	(8)	< 0.006	u	< 0.0007	u	< 0.0008	u	< 0.0008	u	< 0.0007	u	< 0.0006	u	< 0.0007	u	< 0.0009	u
Acetone	6.63E+04	(1)	2.42E+05	(5)	7.35E+02	(8)	0.043	J	0.00926	v	0.00324	J	0.0222	v	0.0199	v	0.0201	v	0.00534	J	0.00158	J
Benzene	1.78E+01	(1)	8.72E+01	(4)	5.60E-01	(8)	< 0.0051	u	0.00211	v	0.0146	v	0.00171	J	0.00203	v	0.00087	J	0.00319	v	0.0141	v
Bromobenzene	2.90E+02	(2)	1.80E+03	(6)	1.24E+01	(9)	< 0.0026	u	< 0.0005	u	< 0.0006	u	< 0.0006	u	< 0.0005	u	< 0.0004	u	< 0.0005	u	< 0.0006	u
Bromodichloromethane	6.19E+00	(1)	3.02E+01	(4)	9.15E-02	(8)	< 0.0028	u	< 0.0002	u	< 0.0003	u	< 0.0003	u	< 0.0002	u	< 0.0002	u	< 0.0002	u	< 0.0003	u
Bromoform	6.74E+02	(1)	3.25E+03	(4)	6.06E+00	(8)	< 0.0028	u	< 0.0004	u	< 0.0005	u	< 0.0005	u	< 0.0004	u	< 0.0004	u	< 0.0004	u	< 0.0006	u
Bromomethane	1.77E+01	(1)	1.79E+01	(5)	5.06E-01	(8)	< 0.0067	u	< 0.001	u	< 0.0012	u	< 0.0012	u	< 0.001	u	< 0.0009	u	< 0.001	u	< 0.0013	u
Carbon disulfide	1.55E+03	(1)	1.62E+03	(5)	6.52E+01	(8)	< 0.0248	u	< 0.0008	u	< 0.0009	u	< 0.0009	u	< 0.0008	u	< 0.0007	u	< 0.0007	u	< 0.001	u
Carbon tetrachloride	1.07E+01	(1)	5.25E+01	(4)	4.91E-01	(8)	< 0.0034	u	< 0.0003	u	< 0.0004	u	< 0.0004	u	< 0.0003	u	< 0.0003	u	< 0.0003	u	< 0.0004	u
Chlorobenzene	3.78E+02	(1)	4.12E+02	(5)	1.23E+01	(8)	< 0.0027	u	< 0.0002	u	< 0.0002	u	< 0.0002	u	< 0.0002	u	< 0.0002	u	< 0.0002	u	< 0.0002	u
Chloroethane	1.90E+04	(1)	1.66E+04	(5)	1.58E+03	(8)	< 0.0267	u	< 0.0017	u	< 0.002	u	< 0.002	u	< 0.0017	u	< 0.0015	u	< 0.0016	u	< 0.0022	u
Chloroform	5.90E+00	(1)	2.87E+01	(4)	1.61E-01	(8)	< 0.0036	u	< 0.0004	u	< 0.0004	u	< 0.0004	u	< 0.0004	u	< 0.0003	u	< 0.0003	u	< 0.0004	u
Chloromethane	4.11E+01	(1)	2.01E+02	(4)	1.40E+00	(8)	< 0.004	u	< 0.0002	u	< 0.0002	u	< 0.0002	u	< 0.0002	u	< 0.0002	u	< 0.0002	u	< 0.0003	u
cis-1,2-DCE	1.56E+02	(1)	7.08E+02	(5)	2.71E+00	(8)	< 0.0044	u	< 0.0005	u	< 0.0005	u	< 0.0005	u	< 0.0004	u	< 0.0004	u	< 0.0004	u	< 0.0006	u
cis-1,3-Dichloropropene	2.93E+01	(1)	1.30E+02	(5)	4.13E-01	(8)	< 0.0024	u	< 0.0017	u	< 0.002	u	< 0.002	u	< 0.0017	u	< 0.0015	u	< 0.0016	u	< 0.0022	u
Dibromochloromethane	1.39E+01	(1)	6.74E+01	(4)	1.11E-01	(8)	< 0.0026	u	< 0.0002	u	< 0.0002	u	< 0.0002	u	< 0.0002	u	< 0.0002	u	< 0.0002	u	< 0.0002	u
Dibromomethane	2.30E+01	(2)	9.80E+01	(6)	5.90E-01	(9)	< 0.0036	u	< 0.001	u	< 0.0011	u	< 0.0011	u	< 0.001	u	< 0.0008	u	< 0.0009	u	< 0.0012	u
Dichlorodifluoromethane	1.82E+02	(1)	1.61E+02	(5)	1.07E+02	(8)	< 0.0087	u	< 0.0007	u	< 0.0008	u	< 0.0008	u	< 0.0007	u	< 0.0006	u	< 0.0007	u	< 0.0009	u

	SWMU 10-4 (0-2')		SWMU 10-4 (2-4')		SWMU 10-4 (6-8')		SWMU 10-4 (18-20')		SWMU 10-5 (0-2')		SWMU 10-5 (2-4')		SWMU 10-5 (4-6')		SWMU 10-5 (14-16')		SWMU 10-5 (22-24')		SWMU 10-6 (2-4')		SWMU 10-6 (10-12')		SWMU 10-7 (2-4')	
	1505004-001		1505004-002		1505004-003		1505004-004		1505003-001**		1505003-002		1505003-003		1505003-004		1505003-005		1505223-001		1505223-002		1505059-001	
	4/29/2015		4/29/2015		4/29/2015		4/29/2015		4/29/2015		4/29/2015		4/29/2015		4/29/2015		4/29/2015		5/4/2015		5/4/2015		5/1/2015	
Metals (mg/kg)																								
Antimony	< 1.5131	u	< 1.6799	u	< 1.5535	u	< 1.5096	u	< 1.5344	u	< 1.8521	u	< 2.5689	u	< 2.4884	u	< 1.4919	u	< 1.4559	u	1.9	J	< 1.5741	u
Arsenic	1.4	J	1.9	J	1.2	J	1.9	J	2.6	J	1.9	J	1.5	J	1.5	J	1.6	J	1.8	J	2.1	J	2.1	J
Barium	460	v	390	v	140	v	230	v	500	v	190	v	110	v	120	v	200	v	1000	v	550	v	220	v
Beryllium	0.71	v	0.98	v	0.84	v	1	v	0.99	v	1.4	v	1.8	v	1.8	v	0.99	v	1.1	v	1	v	0.85	v
Cadmium	< 0.0319	u	< 0.0355	u	< 0.0328	u	< 0.0319	u	< 0.0324	u	< 0.0391	u	0.062	J	< 0.0525	u	< 0.0315	u	< 0.0307	u	< 0.033	u	< 0.0332	u
Chromium	14	v	9.9	v	7.2	v	15	v	54	v	5	v	< 0.1174	u	2.5	v	15	v	9.3	v	14	v	11	v
Hexavalent Chromium	< 2.2587	u	< 2.5279	u	< 2.3823	u	< 2.2991	u	<1.0	u	< 2.9184	u	< 4.0338	u	< 3.8844	u	< 2.281	u	< 2.2114	u	< 2.3684	u	< 2.3708	u
Cobalt	3.8	v	4.8	v	4	v	7.4	v	6.7	v	2.9	v	1	v	2.3	v	7.4	v	4.8	v	8	v	4.8	v
Cyanide	< 0.2823	u	< 0.316	u	< 0.2978	u	< 0.2874	u	< 0.2973	u	< 0.3648	u	< 0.5042	u	< 0.4855	u	< 0.2851	u	< 0.2764	u	< 0.2961	u	< 0.2963	u
Iron	10000	v	14000	v	12000	v	21000	v	18000	v	12000	v	7200	v	10000	v	18000	v	15000	v	20000	v	15000	v
Lead	3.8	v	3.5	v	2.2	v	1.7	v	4.9	v	9.2	v	17	v	16	v	< 0.1235	u	2.5	v	1.6	v	2.7	v
Manganese	440	v	310	v	270	v	770	v	870	v	410	v	200	v	280	v	820	v	410	v	760	v	860	v
Mercury	0.034	J	0.0082	J	0.017	J	0.004	J	0.53	v	0.0087	J	0.0085	J	0.011	J	0.0039	J	0.0055	J	< 0.0035	u	0.033	J
Nickel	6.5	v	8.3	v	6.8	v	16	v	14	v	4.4	v	0.69	J	3.1	v	15	v	8.2	v	16	v	8.4	v
Selenium	< 1.762	u	< 1.9562	u	< 1.809	u	< 1.7578	u	< 1.7868	u	< 2.1567	u	< 2.9914	u	< 2.8977	u	< 1.7373	u	< 1.6954	u	< 1.8212	u	< 1.8329	u
Silver	< 0.0342	u	< 0.038	u	< 0.0352	u	< 0.0342	u	< 0.0347	u	< 0.0419	u	< 0.0581	u	< 0.0563	u	< 0.0338	u	< 0.0329	u	< 0.0354	u	< 0.0356	u
Vanadium	17	v	20	v	15	v	22	v	26	v	11	v	2.3	J	7.2	v	18	v	21	v	14	v	23	v
Zinc	29	v	16	v	13	v	22	v	150	v	22	v	24	v	27	v	23	v	14	v	23	v	20	v
Volatiles (mg/kg)																								
1,1,1,2-Tetrachloroethane	< 0.0003	u	< 0.0027	u	< 0.0002	u	< 0.0003	u	< 0.0025	u	< 0.0033	u	< 0.0651	u	< 0.0058	u	< 0.0003	u	< 0.0003	u	< 0.0004	u	< 0.0003	u
1,1,1-Trichloroethane	< 0.0003	u	< 0.005	u	< 0.0002	u	< 0.0003	u	< 0.0047	u	< 0.0061	u	< 0.1206	u	< 0.0107	u	< 0.0003	u	< 0.0003	u	< 0.0004	u	< 0.0003	u
1,1,2,2-Tetrachloroethane	< 0.0004	u	< 0.004	u	< 0.0003	u	< 0.0004	u	< 0.0038	u	< 0.0049	u	< 0.0962	u	< 0.0086	u	< 0.0004	u	< 0.0005	u	< 0.0005	u	< 0.0004	u
1,1,2-Trichloroethane	< 0.0019	u	< 0.0039	u	< 0.0015	u	< 0.0019	u	< 0.0037	u	< 0.0048	u	< 0.0954	u	< 0.0085	u	< 0.0019	u	< 0.0021	u	< 0.0025	u	< 0.0019	u
1,1-Dichloroethane	< 0.0004	u	< 0.0131	u	< 0.0004	u	< 0.0004	u	< 0.0124	u	< 0.0161	u	< 0.3176	u	< 0.0282	u	< 0.0004	u	< 0.0005	u	< 0.0006	u	0.00047	J
1,1-Dichloroethene	< 0.0003	u	< 0.0023	u	< 0.0003	u	< 0.0003	u	< 0.0021	u	< 0.0028	u	< 0.0547	u	< 0.0049	u	< 0.0003	u	< 0.0003	u	< 0.0004	u	< 0.0003	u
1,1-Dichloropropene	< 0.0004	u	< 0.0049	u	< 0.0003	u	< 0.0003	u	< 0.0046	u	< 0.006	u	< 0.1182	u	< 0.0105	u	< 0.0004	u	< 0.0004	u	< 0.0005	u	< 0.0004	u
1,2,3-Trichlorobenzene	< 0.0007	u	< 0.007	u	< 0.0006	u	< 0.0007	u	< 0.0066	u	< 0.0086	u	< 0.1695	u	< 0.0151	u	< 0.0007	u	< 0.0008	u	< 0.0009	u	< 0.0007	u
1,2,3-Trichloropropane	< 0.0007	u	< 0.0055	u	< 0.0005	u	< 0.0007	u	< 0.0052	u	< 0.0067	u	< 0.1332	u	< 0.0118	u	< 0.0007	u	< 0.0007	u	< 0.0009	u	< 0.0007	u
1,2,4-Trichlorobenzene	< 0.00072	u	< 0.00603	u	< 0.00057	u	< 0.00069	u	< 0.00573	u	< 0.00741	u	< 0.14652	u	< 0.01302	u	< 0.00071	u	< 0.00077	u	< 0.00093	u	< 0.00072	u
1,2,4-Trimethylbenzene	0.00077	J	< 0.0016	u	0.000406	J	0.00277	v	0.063	v	0.11	v	25	v	0.17	v	0.00263	v	0.00106	J	0.00363	v	< 0.0005	u
1,2-Dibromo-3-chloropropane	< 0.0006	u	< 0.0056	u	< 0.0005	u	< 0.0005	u	< 0.0053	u	< 0.0069	u	< 0.1364	u	< 0.0121	u	< 0.0006	u	< 0.0006	u	< 0.0007	u	< 0.0006	u
1,2-Dibromoethane (EDB)	< 0.0002	u	< 0.0026	u	< 0.0002	u	< 0.0002	u	< 0.0025	u	< 0.0032	u	< 0.0632	u	< 0.0056	u	< 0.0002	u	< 0.0002	u	< 0.0003	u	< 0.0002	u
1,2-Dichlorobenzene	< 0.00042	u	< 0.00197	u	< 0.00034	u	< 0.00041	u	< 0.00187	u	< 0.00242	u	< 0.04789	u	< 0.00425	u	< 0.00042	u	< 0.00046	u	< 0.00055	u	< 0.00042	u
1,2-Dichloroethane (EDC)	< 0.0005	u	< 0.0131	u	< 0.0004	u	< 0.0005	u	< 0.0124	u	< 0.0161	u	< 0.3176	u	< 0.0282	u	< 0.0005	u	< 0.0006	u	< 0.0007	u	< 0.0005	u
1,2-Dichloropropane	< 0.0004	u	< 0.0018	u	< 0.0003	u	< 0.0004	u	< 0.0017	u	< 0.0022	u	< 0.0444	u	< 0.0039	u	< 0.0004	u	< 0.0004	u	< 0.0005	u	< 0.0004	u
1,3,5-Trimethylbenzene	0.00035	J	0.11	v	< 0.0003	u	0.00184	J	0.041	v	0.054	v	8.4	v	0.056	J	0.00179	J	0.00048	J	0.0022	J	< 0.0003	u
1,3-Dichlorobenzene	< 0.00032	u	< 0.00385	u	< 0.00025	u	< 0.00031	u	< 0.00365	u	< 0.00473	u	< 0.09349	u	< 0.0083	u	< 0.00032	u	< 0.00035	u	< 0.00042	u	< 0.00032	u
1,3-Dichloropropane	< 0.0003	u	< 0.0045	u	< 0.0002	u	< 0.0003	u	< 0.0043	u	< 0.0055	u	< 0.1094	u	< 0.0097	u	< 0.0003	u	< 0.0003	u	< 0.0004	u	< 0.0003	u
1,4-Dichlorobenzene	< 0.0003	u	< 0.00407	u	< 0.00024	u	< 0.00029	u	< 0.00386	u	< 0.005	u	< 0.0989	u	< 0.00879	u	< 0.0003	u	< 0.00032	u	< 0.00039	u	< 0.0003	u
1-Methylnaphthalene	< 0.00075	u	2.9	v	< 0.0006	u	< 0.00072	u	0.51	v	0.63	v	46	v	0.38	v	0.00084	J	< 0.00081	u	< 0.00098	u	< 0.00075	u
2,2-Dichloropropane	< 0.0003	u	< 0.0048	u	< 0.0003	u	< 0.0003	u	< 0.0045	u	< 0.0059	u	< 0.1156	u	< 0.0103	u	< 0.0003	u	< 0.0004	u	< 0.0004	u	< 0.0003	u
2-Butanone	0.00407	J	< 0.021	u	0.00153	J	< 0.0006	u	< 0.02	u	< 0.0258	u	< 0.5105	u	< 0.0454	u	< 0.0006	u	0.00176	J	< 0.0008	u	0.00273	J
2-Chlorotoluene	< 0.0004	u	< 0.0037	u	< 0.0003	u	< 0.0004	u	< 0.0035	u	< 0.0045	u	< 0.0897	u	< 0.008	u	< 0.0004	u	< 0.0004	u	< 0.0005	u	< 0.0004	u
2-Hexanone	0.00089	J	< 0.008	u	0.000559	J	< 0.0004	u	< 0.0076	u	< 0.0099	u	< 0.1953	u	< 0.0174	u	< 0.0004	u	0.00073	J	< 0.0005	u	0.00072	J
2-Methylnaphthalene	< 0.00075	u	0.69	v	< 0.00059	u	< 0.00072	u	0.53	v	0.74	v	80	v	0.69	v	0.00085	J	< 0.00081	u	< 0.00097	u	< 0.00075	u
4-Chlorotoluene	< 0.0004	u	< 0.0025	u	< 0.0003	u	< 0.0004	u	< 0.0023	u	< 0.003	u	< 0.06	u	< 0.0053	u	< 0.0004	u	< 0.0004	u	< 0.0005	u	< 0.0004	u
4-Isopropyltoluene	< 0.0007	u	< 0.0023	u	< 0.0006	u	< 0.0007	u	0.0061	J	0.0092	J	1.2	v	0.02	J	< 0.0007	u	< 0.0008	u	< 0.001	u	< 0.0007	u
4-Methyl-2-pentanone	< 0.0008	u	< 0.0057	u	< 0.0006	u	< 0.0008	u	< 0.0054	u	< 0.007	u	< 0.1378	u	< 0.0122	u	< 0.0008	u	< 0.0009	u	< 0.0011	u	< 0.0008	u
Acetone	0.0237	v	< 0.0244	u	0.00619	J	0.0018	J	< 0.0232	u	< 0.03	u	< 0.5921	u	< 0.0526	u	0.00186	J	0.00854	J	0.00589	J	0.0111	v
Benzene	0.00118	J	< 0.0049	u	0.0019	v	0.0204	v	0.014	J	0.04	J	8	v	0.049	J	0.0179	v	0.00387	v	0.0226	v	0.00239	v
Bromobenzene	< 0.0005	u	< 0.0024	u	< 0.0004	u	< 0.0005	u	< 0.0023	u	< 0.003	u	< 0.0589	u	< 0.0052	u	< 0.0005	u	< 0.0006	u	< 0.0007	u	< 0.0005	u
Bromodichloromethane	< 0.0003	u	< 0.0027	u	< 0.0002	u	< 0.0003	u	< 0.0025	u	< 0.0033	u	< 0.0649	u	< 0.0058	u	< 0.0003	u	< 0.0003	u	< 0.0003	u	< 0.0003	u
Bromoform	< 0.0005	u	< 0.0026	u	< 0.0004	u	< 0.0005	u	< 0.0025	u	< 0.0032	u	< 0.0638	u	< 0.0057	u	< 0.0005	u	< 0.0005	u	< 0.0006	u	< 0.0005	u
Bromomethane	< 0.0011	u	< 0.0063	u	< 0.0009	u	< 0.0011	u	< 0.006	u	< 0.0078	u	< 0.1533	u	< 0.0136	u	< 0.0011	u	< 0.0012	u	< 0.0015	u	< 0.0011	u
Carbon disulfide	< 0.0009	u	< 0.0236	u	< 0.0007	u	< 0.0008	u	< 0.0224	u	< 0.0289	u	< 0.5714	u	< 0.0508	u	< 0.0009	u	< 0.0009	u	< 0.0011	u	< 0.0009	u
Carbon tetrachloride	< 0.0003	u	< 0.0032	u	< 0.0003	u	< 0.0003	u	< 0.003	u	< 0.0039	u	< 0.0773	u	< 0.0069	u	< 0.0003	u	< 0.0004	u	< 0.0005	u	< 0.0003	u
Chlorobenzene	< 0.0002	u	< 0.0025	u	< 0.0002	u	< 0.0002	u	< 0.0024	u	< 0.0031	u	< 0.0611	u	< 0.0054	u	< 0.0002	u	< 0.0002	u	< 0.0003	u	< 0.0002	u
Chloroethane	< 0.0019	u	< 0.0253	u	< 0.0015	u	< 0.0019	u	< 0.024	u	< 0.0311	u	< 0.6146	u	< 0.0546	u	< 0.0019	u	< 0.0021	u	< 0.0025	u	< 0.0019	u
Chloroform	< 0.0004	u	< 0.0034	u	< 0.0003	u	< 0.0004	u	< 0.0032	u	< 0.0042	u	< 0.0828	u	< 0.0074	u	< 0.0004	u	< 0.0004	u	< 0.0005	u	< 0.0004	u
Chloromethane	< 0.0002	u	< 0.0038	u	< 0.0002	u	< 0.0002	u	< 0.0036	u	< 0.0047	u	< 0.0919	u	< 0.0082	u	< 0.0002	u	< 0.0002	u	< 0.0003	u	< 0.0002	u
cis-1,2-DCE	< 0.0005	u	< 0.0041	u	< 0.0004	u	< 0.0005	u	< 0.0039	u	< 0.0051	u	< 0.1005	u	< 0.0089	u	< 0.0005	u	< 0.0005	u	< 0.0007	u	< 0.0005	u
cis-1,3-Dichloropropene	< 0.0019	u	< 0.0023	u	< 0.0015	u	< 0.0019	u	< 0.0022	u	< 0.0028	u	< 0.0551	u	< 0.0049	u	< 0.0019	u	< 0.0021	u	< 0.0025	u	< 0.0019	u
Dibromochloromethane	< 0.0002	u	< 0.0025	u	< 0.0002	u	< 0.0002	u	< 0.0023	u	< 0.003	u	< 0.0595	u	< 0.0053	u	< 0.0002	u	< 0.0002	u	< 0.0003	u	< 0.0002	u
Dibromomethane	< 0.0011	u	< 0.0034	u	< 0.0009	u	< 0.0011	u	< 0.0033	u	< 0.0042	u	< 0.0836	u	< 0.0074	u	< 0.0011	u	< 0.0012	u	< 0.0014	u	< 0.0011	u
Dichlorodifluoromethane	< 0.0008	u	< 0.0082	u	< 0.0006	u	< 0.0008	u	< 0.0078	u	< 0.0101	u	< 0.1997	u	< 0.0177	u	< 0.0008	u	< 0.0008	u	< 0.001	u	< 0.0008	u

Table 7
SWMU 10 Soil Analytical Results Summary
Western Refining Southwest, Inc. - Gallup Refinery
Gallup, New Mexico

	Residential Soil Screening Level	Source	Non-Residential Soil Screening Level	Source	Leachate DAF (295) (mg/kg) SoilGW	Source	SWMU 10-1 (2-4')		SWMU 10-1 (4-6')		SWMU 10-1 (18-20')		SWMU 10-2 (0-2')		SWMU 10-2 (2-4')		SWMU 10-3 (2-4')		SWMU 10-3 (6-8')		SWMU 10-3 (18-20')		SWMU 10-4 (0-2')		SWMU 10-4 (2-4')		SWMU 10-4 (6-8')		SWMU 10-4 (18-20')		SWMU 10-5 (0-2')		SWMU 10-5 (2-4')		SWMU 10-5 (4-6')		SWMU 10-5 (14-16')		SWMU 10-5 (22-24')		SWMU 10-6 (2-4')		SWMU 10-6 (10-12')		SWMU 10-7 (2-4')	
							1504C87-001		1504C87-002		1504C87-003		1505223-003*		1505223-004*		1504C87-004		1504C87-005		1504C87-006		1505004-001		1505004-002		1505004-003		1505004-004		1505003-001**		1505003-002		1505003-003		1505003-004		1505003-005		1505223-001		1505223-002		1505059-001	
							4/28/2015		4/28/2015		4/28/2015		5/4/2015		5/4/2015		4/28/2015		4/28/2015		4/28/2015		4/29/2015		4/29/2015		4/29/2015		4/29/2015		4/29/2015		4/29/2015		4/29/2015		4/29/2015		4/29/2015		5/4/2015		5/4/2015		5/1/2015	
Ethylbenzene	7.51E+01	(1)	3.68E+02	(4)	3.87E+00	(8)	< 0.0032	u	0.0318	v	0.00192	J	0.000618	J	0.000468	J	0.00031	J	0.0008	J	0.00231	v	0.0007	J	0.0041	J	0.000421	J	0.00291	v	0.016	J	0.03	J	14	v	0.026	J	0.00258	v	0.00077	J	0.0035	v	0.0005	J
Hexachlorobutadiene	6.16E+01	(1)	2.69E+02	(5)	1.30E+00	(8)	< 0.00479	u	< 0.00034	u	< 0.0004	u	< 0.0004	u	< 0.00034	u	< 0.0003	u	< 0.00032	u	< 0.00043	u	< 0.00038	u	< 0.00454	u	< 0.0003	u	< 0.00037	u	< 0.00431	u	< 0.00558	u	< 0.11026	u	< 0.00979	u	< 0.00038	u	< 0.00041	u	< 0.0005	u	< 0.00038	u
Isopropylbenzene	2.36E+03	(1)	2.74E+03	(5)	1.68E+02	(8)	< 0.0029	u	< 0.0004	u	< 0.0005	u	< 0.0005	u	< 0.0004	u	< 0.0003	u	< 0.0004	u	< 0.0005	u	< 0.0004	u	< 0.0028	u	< 0.0004	u	0.000482	J	< 0.0026	u	0.0046	J	2.6	v	0.013	J	< 0.0004	u	< 0.0005	u	< 0.0006	u	< 0.0004	u
Methyl tert-butyl ether (MTBE)	9.75E+02	(1)	4.82E+03	(4)	8.16E+00	(8)	< 0.0049	u	0.00669	v	< 0.0008	u	< 0.0008	u	0.00283	v	< 0.0006	u	< 0.0007	u	< 0.0009	u	< 0.0008	u	< 0.0046	u	0.00139	J	< 0.0008	u	< 0.0044	u	< 0.0057	u	< 0.1123	u	< 0.01	u	< 0.0008	u	< 0.0009	u	< 0.001	u	0.0014	J
Methylene chloride	4.09E+02	(1)	1.21E+03	(5)	6.94E+00	(8)	< 0.0138	u	0.00062	J	0.000566	J	0.000748	J	< 0.0004	u	0.00039	J	0.00055	J	0.00077	J	0.00061	J	< 0.0131	u	0.000529	J	0.000612	J	< 0.0124	u	< 0.0161	u	< 0.3176	u	< 0.0282	u	0.00057	J	0.0007	J	< 0.0006	u	0.00064	J
Naphthalene	4.97E+01	(1)	1.59E+02	(5)	1.21E+00	(8)	< 0.00821	u	0.00088	J	< 0.00064	u	< 0.00065	u	< 0.00055	u	< 0.00048	u	< 0.00053	u	< 0.0007	u	< 0.00062	u	< 0.00778	u	< 0.0005	u	0.000742	J	0.12	v	0.16	v	26	v	0.11	J	0.00079	J	< 0.00067	u	0.00103	J	< 0.00063	u
n-Butylbenzene	3.90E+03	(2)	5.80E+04	(6)	9.44E+02	(9)	< 0.003	u	< 0.0007	u	< 0.0008	u	< 0.0008	u	< 0.0007	u	< 0.0006	u	< 0.0007	u	< 0.0009	u	< 0.0008	u	< 0.0028	u	< 0.0006	u	< 0.0008	u	0.0094	J	0.016	J	1.9	J	0.038	J	< 0.0008	u	< 0.0009	u	< 0.001	u	< 0.0008	u
n-Propylbenzene	3.80E+03	(2)	2.40E+04	(6)	3.54E+02	(9)	< 0.0026	u	< 0.0003	u	< 0.0004	u	< 0.0004	u	< 0.0003	u	< 0.0003	u	< 0.0003	u	< 0.0004	u	< 0.0004	u	< 0.0024	u	< 0.0003	u	0.00051	J	0.0051	J	0.01	J	3.8	v	0.026	J	0.00047	J	< 0.0004	u	0.000638	J	< 0.0004	u
sec-Butylbenzene	7.80E+03	(2)	1.20E+05	(6)	1.74E+03	(9)	< 0.0049	u	0.00059	J	0.000715	J	0.000658	J	< 0.0004	u	< 0.0004	u	0.00056	J	0.00078	J	0.00065	J	< 0.0047	u	0.000667	J	0.000714	J	< 0.0044	u	< 0.0057	u	1.2	v	< 0.0101	u	0.00077	J	0.0007	J	0.000925	J	< 0.0005	u
Styrene	7.26E+03	(1)	1.02E+04	(5)	3.04E+02	(8)	< 0.0063	u	< 0.0003	u	< 0.0003	u	< 0.0003	u	< 0.0003	u	< 0.0002	u	< 0.0003	u	< 0.0004	u	< 0.0003	u	< 0.006	u	< 0.0003	u	< 0.0003	u	< 0.0057	u	< 0.0074	u	< 0.1457	u	< 0.013	u	< 0.0003	u	< 0.0003	u	< 0.0004	u	< 0.0003	u
tert-Butylbenzene	7.80E+03	(2)	1.20E+05	(6)	4.72E+02	(9)	< 0.004	u	< 0.0003	u	< 0.0003	u	< 0.0003	u	< 0.0003	u	< 0.0002	u	< 0.0003	u	< 0.0003	u	< 0.0003	u	< 0.0037	u	< 0.0002	u	< 0.0003	u	< 0.0036	u	< 0.0046	u	< 0.091	u	< 0.0081	u	< 0.0003	u	< 0.0003	u	< 0.0004	u	< 0.0003	u
Tetrachloroethene (PCE)	1.11E+02	(1)	1.20E+02	(5)	4.73E+00	(8)	< 0.003	u	< 0.0003	u	< 0.0004	u	< 0.0004	u	< 0.0003	u	< 0.0003	u	< 0.0003	u	< 0.0004	u	< 0.0004	u	< 0.0028	u	< 0.0003	u	< 0.0004	u	< 0.0027	u	< 0.0035	u	< 0.0688	u	< 0.0061	u	< 0.0004	u	< 0.0004	u	< 0.0005	u	< 0.0004	u
Toluene	5.23E+03	(1)	1.40E+04	(5)	1.79E+02	(8)	< 0.0041	u	0.00253	v	0.00836	v	0.00191	J	0.00155	J	0.00116	J	0.00301	v	0.01	v	0.00263	v	< 0.0039	u	0.00162	v	0.0127	v	0.01	J	0.024	J	7.1	v	0.013	J	0.0112	v	0.00275	v	0.0146	v	0.00181	J
trans-1,2-DCE	2.95E+02	(1)	3.05E+02	(5)	6.92E+00	(8)	< 0.0022	u	< 0.0003	u	< 0.0003	u	< 0.0003	u	< 0.0003	u	< 0.0002	u	< 0.0003	u	< 0.0004	u	< 0.0003	u	< 0.0021	u	< 0.0002	u	< 0.0003	u	< 0.002	u	< 0.0026	u	< 0.0516	u	< 0.0046	u	< 0.0003	u	< 0.0003	u	< 0.0004	u	< 0.0003	u
trans-1,3-Dichloropropene	2.93E+01	(1)	1.30E+02	(5)	4.13E-01	(8)	< 0.0062	u	< 0.0002	u	< 0.0003	u	< 0.0003	u	< 0.0002	u	< 0.0002	u	< 0.0002	u	< 0.0003	u	< 0.0003	u	< 0.0059	u	< 0.0002	u	< 0.0002	u	< 0.0056	u	< 0.0072	u	< 0.143	u	< 0.0127	u	< 0.0003	u	< 0.0003	u	< 0.0003	u	< 0.0003	u
Trichloroethene (TCE)	6.77E+00	(1)	6.90E+00	(5)	2.58E-01	(8)	< 0.0034	u	< 0.0003	u	< 0.0004	u	< 0.0004	u	< 0.0003	u	< 0.0003	u	< 0.0003	u	< 0.0004	u	< 0.0004	u	< 0.0032	u	< 0.0003	u	< 0.0004	u	< 0.003	u	< 0.0039	u	< 0.0773	u	< 0.0069	u	< 0.0004	u	< 0.0004	u	< 0.0005	u	< 0.0004	u
Trichlorofluoromethane	1.23E+03	(1)	1.13E+03	(5)	2.31E+02	(8)	< 0.0104	u	< 0.0003	u	< 0.0004	u	< 0.0004	u	< 0.0003	u	< 0.0003	u	< 0.0003	u	< 0.0004	u	< 0.0004	u	< 0.0099	u	< 0.0003	u	< 0.0004	u	< 0.0094	u	< 0.0121	u	< 0.2397	u	< 0.0213	u	< 0.0004	u	< 0.0004	u	< 0.0005	u	< 0.0004	u
Vinyl chloride	7.42E-01	(1)	2.84E+01	(4)	1.99E-02	(8)	< 0.0138	u	< 0.0002	u	< 0.0002	u	< 0.0002	u	< 0.0002	u	< 0.0002	u	< 0.0002	u	< 0.0002	u	< 0.0002	u	< 0.0131	u	< 0.0002	u	< 0.0002	u	< 0.0124	u	< 0.0161	u	< 0.3176	u	< 0.0282	u	< 0.0002	u	< 0.0002	u	< 0.0003	u	< 0.0002	u
Xylenes, Total	8.71E+02	(1)	7.98E+02	(5)	4.39E+01	(8)	< 0.0096	u	0.197	v	0.00647	v	0.00206	v	0.00143	J	0.00108	J	0.00181	v	0.00707	v	0.00182	J	< 0.0091	u	0.00118	J	0.00975	v	0.14	v	0.15	v	54	v	0.11	J	0.00849	v	0.0022	v	0.0116	v	0.00146	J
Semi-volatiles (mg/kg)																																														
1,2,4-Trichlorobenzene	8.29E+01	(1)	7.91E+01	(5)	2.60E+00	(8)	< 0.1259	u	< 0.1289	u	< 0.1198	u	< 0.1209	u	< 0.1175	u	< 0.2426	u	< 0.1259	u	< 0.1232	u	< 0.1146	u	< 0.1201	u	< 0.1177	u	< 0.1164	u	< 1.2319	u	< 0.7588	u	< 0.2044	u	< 0.2032	u	< 0.1151	u	< 0.1126	u	< 0.1209	u	< 0.2417	u
1,2-Dichlorobenzene	2.15E+03	(1)	2.50E+03	(5)	6.75E+01	(8)	< 0.1176	u	< 0.1204	u	< 0.1119	u	< 0.113	u	< 0.1098	u	< 0.2266	u	< 0.1176	u	< 0.1151	u	< 0.1071	u	< 0.1122	u	< 0.11	u	< 0.1088	u	< 1.1511	u	< 0.7091	u	< 0.191	u	< 0.1898	u	< 0.1076	u	< 0.1052	u	< 0.1129	u	< 0.2259	u
1,3-Dichlorobenzene	-	-	-	-	-	-	< 0.1092	u	< 0.1118	u	< 0.1039	u	< 0.1049	u	< 0.102	u	< 0.2105	u	< 0.1092	u	< 0.1069	u	< 0.0994	u	< 0.1042	u	< 0.1021	u	< 0.101	u	< 1.0688	u	< 0.6584	u	< 0.1774	u	< 0.1763	u	< 0.0999	u	< 0.0977	u	< 0.1049	u	< 0.2097	u
1,4-Dichlorobenzene	3.28E+01	(1)	1.59E+02	(4)	1.06E+00	(8)	< 0.1286	u	< 0.1317	u	< 0.1224	u	< 0.1236	u	< 0.1201	u	< 0.2478	u	< 0.1287	u	< 0.1258	u	< 0.1171	u	< 0.1227	u	< 0.1203	u	< 0.119	u	< 1.2587	u	< 0.7754	u	< 0.2089	u	< 0.2076	u	< 0.1176	u	< 0.1151	u	< 0.1235	u	< 0.247	u
1-Methylnaphthalene	1.80E+02	(3)	7.30E+02	(7)	1.71E+00	(9)	< 0.114	u	< 0.1167	u	< 0.1085	u	< 0.1095	u	< 0.1064	u	< 0.2196	u	< 0.114	u	< 0.1115	u	< 0.1038	u	3.6	v	< 0.1066	u	< 0.1054	u	< 1.1155	u	< 0.6871	u	16	v	< 0.184	u	< 0.1042	u	< 0.102	u	< 0.1094	u	< 0.2189	u
2,4,5-Trichlorophenol	6.16E+03	(1)	2.69E+04	(5)	9.76E+02	(8)	< 0.1433	u	< 0.1467	u	< 0.1364	u	< 0.1377	u	< 0.1338	u	< 0.2761	u	< 0.1433	u	< 0.1402	u	< 0.1304	u	< 0.1367	u	< 0.134	u	< 0.1326	u	< 1.4024	u	< 0.8639	u	< 0.2327	u	< 0.2313	u	< 0.131	u	< 0.1282	u	< 0.1376	u	< 0.2752	u
2,4,6-Trichlorophenol	6.16E+01	(1)	2.69E+02	(5)	9.95E+00	(8)	< 0.1422	u	< 0.1456	u	< 0.1353	u	< 0.1366	u	< 0.1328	u	< 0.2739	u	< 0.1422	u	< 0.1391	u	< 0.1294	u	< 0.1356	u	< 0.1329	u	< 0.1315	u	< 1.3913	u	< 0.857	u	< 0.2309	u	< 0.2295	u	< 0.13	u	< 0.1272	u	< 0.1365	u	< 0.273	u
2,4-Dichlorophenol	1.85E+02	(1)	8.07E+02	(5)	1.22E+01	(8)	< 0.123	u	< 0.1259	u	< 0.117	u	< 0.1181	u	< 0.1148	u	< 0.237	u	< 0.123	u	< 0.1203	u	< 0.1119	u	< 0.1173	u	< 0.115	u	< 0.1137	u	< 1.2034	u	< 0.7413	u	< 0.1997	u	< 0.1985	u	< 0.1124	u	< 0.11	u	< 0.1181	u	< 0.2361	u
2,4-Dimethylphenol	1.23E+03	(1)	5.38E+03	(5)	9.51E+01	(8)	< 0.0967	u	< 0.099	u	< 0.092	u	< 0.0929	u	< 0.0903	u	< 0.1863	u	< 0.0967	u	< 0.0946	u	< 0.088	u	< 0.0922	u	< 0.0904	u	< 0.0894	u	< 0.9459	u	< 0.5827	u	< 0.157	u	< 0.156	u	< 0.0884	u	< 0.0865	u	< 0.0928	u	< 0.1856	u
2,4-Dinitrophenol	1.23E+02	(1)	5.38E+02	(5)	9.89E+00	(8)	< 0.0511	u	< 0.0523	u	< 0.0486	u	< 0.0491	u	< 0.0477	u	< 0.0985	u	< 0.0511	u	< 0.05	u	< 0.0465	u	< 0.0487	u	< 0.0478	u	< 0.0473	u	< 0.5	u	< 0.308	u	< 0.083	u	< 0.0825	u	< 0.0467	u	< 0.0457	u	< 0.0491	u	< 0.0981	u
2,4-Dinitrotoluene	1.71E+01	(1)	8.23E+01	(4)	7.25E-01	(8)	< 0.11	u	< 0.1126	u	< 0.1047	u	< 0.1057	u	< 0.1027	u	< 0.212	u	< 0.11	u	< 0.1076	u	< 0.1001	u	< 0.1049	u	< 0.1029	u	< 0.1018	u	< 1.0766	u	< 0.6632	u	< 0.1787	u	< 0.1776	u	< 0.1006	u	< 0.0984	u	< 0.1056	u	< 0.2113	u
2,6-Dinitrotoluene	3.56E+00	(1)	1.72E+01	(4)	1.51E-01	(8)	< 0.1367	u	< 0.14	u	< 0.1301	u	< 0.1313	u	< 0.1276	u	< 0.2634	u	< 0.1367	u	< 0.1337	u	< 0.1244	u	< 0.1304	u	< 0.1278	u	< 0.1264	u	< 1.3376	u	< 0.824	u	< 0.222	u	< 0.2206	u	< 0.125	u	< 0.1223	u	< 0.1312	u	< 0.2625	u
2-Chloronaphthalene	6.26E+03	(1)	2.83E+04	(5)	8.41E+02	(8)	< 0.1317	u	< 0.1349	u	< 0.1254	u	< 0.1266	u	< 0.123	u	< 0.2539	u	< 0.1318	u	< 0.1289	u	< 0.1199	u	< 0.1256	u	< 0.1232	u	< 0.1219	u	< 1.2893	u	< 0.7942	u	< 0.214	u	< 0.2126	u	< 0.1205	u	< 0.1179	u	< 0.1265	u	< 0.253	u
2-Chlorophenol	3.91E+02	(1)	1.77E+03	(5)	1.70E+01	(8)	< 0.1148	u	< 0.1175	u	< 0.1092	u	< 0.1102	u	< 0.1072	u	< 0.2211	u	< 0.1148	u	< 0.1123	u	< 0.1045	u	< 0.1094	u	< 0.1073	u	< 0.1062	u	< 1.123	u	< 0.6918	u	< 0.1864	u	< 0.1852	u	< 0.1049	u	< 0.1027	u	< 0.1102	u	< 0.2204	u
2-Methylnaphthalene	2.40E+02	(2)	3.00E+03	(6)	5.61E+01	(9)	< 0.1125	u	< 0.1152	u	< 0.1071	u	< 0.1081	u	< 0.1051	u	< 0.2168	u	< 0.1126	u	< 0.1101	u	< 0.1024	u	0.42	v	< 0.1052	u	< 0.1041	u	< 1.1013	u	< 0.6784	u	26	v	< 0.1816	u	< 0.1029	u	< 0.1007	u	< 0.1081	u	< 0.2161	u
'2-Methylphenol (cresol,o-)	3.20E+03	(2)	4.10E+04	(6)	2.21E+02	(9)	< 0.1233	u	< 0.1262	u	< 0.1173	u	< 0.1184	u	< 0.1151	u	< 0.2375	u	< 0.1233	u	< 0.1206	u	< 0.1122	u	< 0.1176	u	< 0.1153	u	< 0.114	u	< 1.2064	u	< 0.7432	u	< 0.2002	u	< 0.199	u	< 0.1127	u	< 0.1103	u	< 0.1184	u	< 0.2367	u
2-Nitroaniline	6.30E+02	(2)	8.00E+03	(6)	2.36E+01	(9)	< 0.1399	u	< 0.1433	u	< 0.1332	u	< 0.1344	u	< 0.1307	u	< 0.2696	u	< 0.14	u	< 0.1369	u	< 0.1274	u	< 0.1334	u	< 0.1308	u	< 0.1294	u	< 1.3693	u	< 0.8435	u	< 0.2272	u	< 0.2258	u	< 0.128	u	< 0.1252	u	< 0.1344	u	< 0.2687	u
2-Nitrophenol	-	-	-	-	-	-	< 0.1105	u	< 0.1132	u	< 0.1052	u	< 0.1062	u	< 0.1032	u	< 0.213	u	< 0.1106	u	< 0.1081	u	< 0.1006	u	< 0.1054	u	< 0.1033	u	< 0.1022	u	< 1.0816	u	< 0.6663	u	< 0.1795	u	< 0.1784	u	< 0.1011	u	< 0.0989	u	< 0.1061	u	< 0.2123	u
3,3´-Dichlorobenzidine	1.18E+01	(1)	5.70E+01	(4)	1.81E+00	(8)	< 0.0947	u	< 0.097	u	< 0.0901	u	< 0.091	u	< 0.0884	u	< 0.1825	u	< 0.0947	u	< 0.0926	u	< 0.0862	u	< 0.0903	u	< 0.0885	u	< 0.0876	u	< 0.9267	u	< 0.5708	u	< 0.1538	u	< 0.1528	u	< 0.0866	u	< 0.0847	u	< 0.0909	u	< 0.1818	u
3+4-Methylphenol	-	-	-	-	-	-	< 0.1274	u	< 0.1305	u	< 0.1213	u	< 0.1224	u	< 0.119	u	< 0.2456	u	< 0.1275	u	< 0.1247	u	< 0.116	u	< 0.1215	u	< 0.1192	u	< 0.1179	u	< 1.2472	u	< 0.7683	u	< 0.207	u	< 0.2057	u	< 0.1165	u	< 0.114	u	< 0.1224	u	< 0.2448	u
3-Nitroaniline	-	-	-	-	-	-	< 0.1185	u	< 0.1213	u	< 0.1128	u	< 0.1138	u	< 0.1106	u	< 0.2283	u	< 0.1185	u	< 0.1159	u	< 0.1078	u	< 0.113	u	< 0.1108	u	< 0.1096	u	< 1.1595	u	< 0.7142	u	< 0.1924	u	< 0.1912	u	< 0.1083	u	< 0.106	u	< 0.1138	u	< 0.2275	u
4,6-Dinitro-2-methylphenol	4.93E+00	(1)	2.15E+01	(5)	5.81E-01	(8)	< 0.0669	u	< 0.0685	u	< 0.0636	u	< 0.0642	u	< 0.0624	u	< 0.1288	u	< 0.0669	u	< 0.0654	u	< 0.0609	u	< 0.0638	u	< 0.0625	u	< 0.0618	u	< 0.6543	u	< 0.4031	u	< 0.1086	u	< 0.1079	u	< 0.0611	u	< 0.0598	u	< 0.0642	u	< 0.1284	u
4-Bromophenyl phenyl ether	-	-	-	-	-	-	< 0.1305	u	< 0.1336	u	< 0.1242	u	< 0.1253	u	< 0.1218	u	< 0.2514	u	< 0.1305	u	< 0.1276	u	< 0.1188	u	< 0.1244	u	< 0.122	u	< 0.1207	u	< 1.2768	u	< 0.7865	u	< 0.2119	u	< 0.2106	u	< 0.1193	u	< 0.1167	u	< 0.1253	u	< 0.2505	u
4-Chloro-3-methylphenol	-	-	-	-	-	-	< 0.1224	u	< 0.1254	u	< 0.1165	u	< 0.1176	u	< 0.1143	u	< 0.2359	u	< 0.1225	u	< 0.1198	u	< 0.1115	u	< 0.1168	u	< 0.1145	u	< 0.1133	u	< 1.1982	u	< 0.7381	u	< 0.1988	u	< 0.1976	u	< 0.112	u	< 0.1096	u	< 0.1176	u	< 0.2351	u
4-Chloroaniline	2.70E+01	(3)	1.10E+02	(7)	4.72E-02	(9)	< 0.1137	u	< 0.1164	u	< 0.1082	u	< 0.1093	u	< 0.1062	u	< 0.2191	u	< 0.1138	u	< 0.1113	u	< 0.1035	u	< 0.1085	u	< 0.1063	u	< 0.1052	u	< 1.1129	u	< 0.6856	u	< 0.1847	u	< 0.1836	u	< 0.104	u	< 0.1018	u	< 0.1092	u	< 0.2184	u
4-Chlorophenyl phenyl ether	-	-	-	-	-	-	< 0.1831	u	< 0.1875	u	< 0.1743	u	< 0.1759	u	< 0.171	u	< 0.3528	u	< 0.1832	u	< 0.1791	u	< 0.1667	u	< 0.1746	u	< 0.1712	u	< 0.1694	u	< 1.792	u	< 1.1039	u	< 0.2974	u	< 0.2955	u	< 0.1674	u	< 0.1638	u	< 0.1758	u	< 0.3516	u
4-Nitroaniline	2.70E+02	(3)	1.10E+03	(7)	4.72E-01	(9)	< 0.1105	u	< 0.1131	u	< 0.1051	u	< 0.1061	u	< 0.1031	u	< 0.2128	u	< 0.1105	u	< 0.1081	u	< 0.1005	u	< 0.1053	u	< 0.1033	u	< 0.1022	u	< 1.0809	u	< 0.6658	u	< 0.1794	u	< 0.1783	u	< 0.101	u	< 0.0988	u	< 0.1061	u	< 0.2121	u
4-Nitrophenol	-	-	-	-	-	-	< 0.1059	u	< 0.1085	u	< 0.1008	u	< 0.1018	u	< 0.0989	u	< 0.2042	u	< 0.106	u	< 0.1037	u	< 0.0964	u	< 0.101	u	< 0.0991	u	< 0.098	u	< 1.0368	u	< 0.6387	u	< 0.1721	u	< 0.171	u	< 0.0969	u	< 0.0948	u	< 0.1017	u	< 0.2035	u
Acenaphthene	3.48E+03	(1)	1.51E+04	(5)	1.22E+03	(8)	< 0.1498	u	< 0.1534	u	< 0.1426	u	< 0.144	u	< 0.1399	u	< 0.2887	u	< 0.1499	u	< 0.1466	u	< 0.1364	u	< 0.1429	u	< 0.1401	u	< 0.1386	u	< 1.4664	u	< 0.9033	u	< 0.2434	u	< 0.2419	u	< 0.137	u	< 0.1341	u	< 0.1439	u	< 0.2878	u
Acenaphthylene	-	-	-	-	-	-	< 0.1246	u	< 0.1276	u	< 0.1186	u	< 0.1197	u	< 0.1163	u	< 0.24	u	< 0.1246	u	< 0.1219	u	< 0.1134	u	< 0.1188	u	< 0.1165	u	< 0.1152	u	< 1.2191	u	< 0.751	u	< 0.2023	u	< 0.2011	u	< 0.1139	u	< 0.1115	u	< 0.1196	u	< 0.2392	u
Aniline	9.50E+02	(3)	4.00E+03	(7)	1.36E+00	(9)	< 0.107	u	< 0.1096	u	< 0.1019	u	< 0.1028	u	< 0.0999	u	< 0.2062	u	< 0.1071	u	< 0.1047	u	< 0.0974	u	< 0.1021	u	< 0.1001	u	< 0.099	u	< 1.0475	u	< 0.6453	u	< 0.1738	u	< 0.1728	u	< 0.0979	u	< 0.0958	u	< 0.1028	u	< 0.2056	u
Anthracene	1.74E+04	(1)	7.53E+04	(5)	1.25E+04	(8)	< 0.1045	u	< 0.107	u	< 0.0994	u	< 0.1003	u	< 0.0975	u	< 0.2013	u	< 0.1045	u	< 0.1022	u	< 0.0951	u	< 0.0996	u	< 0.0977	u	< 0.0966	u	< 1.0222	u	< 0.6297	u	< 0.1696	u	< 0.1686	u	< 0.0955	u	< 0.0935	u	< 0.1003	u	< 0.2006	u
Azobenzene	5.60E+01	(3)	2.60E+02	(7)	2.71E+07	(9)	< 0.1379	u	< 0.1411	u	< 0.1312	u	< 0.1324	u	< 0.1287	u	< 0.2656	u	< 0.1379	u	< 0.1349	u	< 0.1255	u	< 0.1315	u	< 0.1289	u	< 0.1275	u	< 1.349	u	< 0.831	u	< 0.2239	u	< 0.2225	u	< 0.1261	u	< 0.1233	u	< 0.1324	u	< 0.2647	u
Benz(a)anthracene	1.53E+00	(1)	3.23E+01	(4)	2.69E+01	(8)	< 0.0966	u	< 0.099	u	< 0.092	u	< 0.0928	u	< 0.0902	u	< 0.1862	u	< 0.0967	u	< 0.0946	u	< 0.088	u	< 0.0922	u	< 0.0904	u	< 0.0894	u	< 0.9458	u	< 0.5826	u	< 0.157	u	< 0.156	u	< 0.0884	u	< 0.0865	u	< 0.0928	u	< 0.1856	u
Benzo(a)pyrene	1.53E-01	(1)	3.23E+00	(4)	8.92E+00	(8)	< 0.138	u	< 0.1413	u	< 0.1313	u	< 0.1326	u	< 0.1289	u	< 0.2659	u	< 0.138	u	< 0.135	u	< 0.1256	u	< 0.1316	u	< 0.129	u	< 0.1277	u	< 1.3505	u	< 0.8319	u	< 0.2241	u	< 0.2227	u	< 0.1262	u	< 0.1235	u	< 0.1325	u	< 0.265	u
Benzo(b)fluoranthene	1.53E+00	(1)	3.23E+01	(4)	9.10E+01	(8)	< 0.1168	u	< 0.1196	u	< 0.1111	u	< 0.1122	u	< 0.109	u	< 0.225	u	< 0.1168	u	< 0.1142	u	< 0.1063	u	< 0.1114	u	< 0.1092	u	< 0.108	u	< 1.1427	u	< 0.7039	u	< 0.1896	u	< 0.1885	u	< 0.1068	u	< 0.1045	u	< 0.1121	u	< 0.2242	u
Benzo(g,h,i)perylene	-	-	-	-	-	-	< 0.1399	u	< 0.1433	u	< 0.1332	u	< 0.1344	u	< 0.1307	u	< 0.2696	u	< 0.14	u	< 0.1369	u	< 0.1274	u	< 0.1335	u	< 0.1308	u	< 0.1294	u	< 1.3694	u	< 0.8436	u	< 0.2273	u	< 0.2259	u	< 0.128	u	< 0.1252	u	< 0.1344	u	< 0.2687	u
Benzo(k)fluoranthene	1.53E+01	(1)	3.23E+02	(4)	8.92E+02	(8)	< 0.139	u	< 0.1423	u	< 0.1323	u	< 0.1335	u	< 0.1298	u	< 0.2678	u	< 0.139	u	< 0.136	u	< 0.1265	u	< 0.1325	u	< 0.1299	u	< 0.1285	u	< 1.36	u	< 0.8377	u	< 0.2257	u	< 0.2243	u	< 0.1271	u	< 0.1243	u	< 0.1334	u	< 0.2669	u
Benzoic acid	2.50E+05	(2)	3.30E+06	(6)	5.31E+03	(9)	< 0.0701	u	< 0.0717	u	< 0.0667	u	< 0.0673	u	< 0.0654	u	< 0.135	u	< 0.0701	u	< 0.0685	u	< 0.0638	u	< 0.0668	u	< 0.0655	u	< 0.0648	u	< 0.6857	u	< 0.4224	u	< 0.1138	u	< 0.1131	u	< 0.0641	u	< 0.0627	u	< 0.0673	u	< 0.1346	u
Benzyl alcohol	6.30E+03	(2)	8.20E+04	(6)	1.42E+02	(9)	< 0.1092	u	< 0.1118	u	< 0.104	u	< 0.1049	u	< 0.102	u	< 0.2105	u	< 0.1093	u	< 0.1069	u	< 0.0994	u	< 0.1042	u	< 0.1021	u	< 0.101	u	< 1.0689	u	< 0.6585	u	< 0.1774	u	< 0.1763	u	< 0.0999	u	< 0.0977	u	< 0.1049	u	< 0.2098	u
Bis(2-chloroethoxy)methane	1.90E+02	(2)	2.50E+03	(6)	3.84E+00	(9)	< 0.1174	u	< 0.1202	u	< 0.1117	u	< 0.1127	u	< 0.1096	u	< 0.2262	u	< 0.1174	u	< 0.1148	u	< 0.1068	u	< 0.1119	u	< 0.1097	u	< 0.1086	u	< 1.1486	u	< 0.7075	u	< 0.1906	u	< 0.1894	u	< 0.1073	u	< 0.105	u	< 0.1127	u	< 0.2254	u
Bis(2-chloroethyl)ether	3.11E+00	(1)	1.95E+00	(5)	8.93E-03	(8)	< 0.1215	u	< 0.1244	u	< 0.1156	u	< 0.1167	u	< 0.1135	u	< 0.2341	u	< 0.1215	u	< 0.1189	u	< 0.1106	u	< 0.1159	u	< 0.1136	u	< 0.1124	u	< 1.1891	u	< 0.7325	u	< 0.1973	u	< 0.1961	u	< 0.1111	u	< 0.1087	u	< 0.1167	u	< 0.2333	u
Bis(2-chloroisopropyl)ether	9.93E+01	(1)	5.19E+02	(4)	6.98E-01	(8)	< 0.0939	u	< 0.0962	u	< 0.0894	u	< 0.0902	u	< 0.0877	u	< 0.181	u	< 0.094	u	< 0.0919	u	< 0.0855	u	< 0.0896	u	< 0.0878	u	< 0.0869	u	< 0.9193	u	< 0.5663	u	< 0.1526	u	< 0.1516	u	< 0.0859	u	< 0.0841	u	< 0.0902	u	< 0.1804	u
Bis(2-ethylhexyl)phthalate	3.80E+02	(1)	1.83E+03	(4)	2.95E+03	(8)	< 0.1382	u	< 0.1415	u	< 0.1315	u	< 0.1327	u	< 0.129	u	0.29	J	< 0.1382	u	< 0.1352	u	< 0.1258	u	< 0.1318	u	< 0.1292	u	< 0.1278	u	< 1.352	u	< 0.8328	u	< 0.2244	u	< 0.223	u	< 0.1263	u	< 0.1236	u	< 0.1327	u	< 0.2653	u
Butyl benzyl phthalate	2.90E+03	(3)	1.20E+04	(7)	6.79E+01	(9)	< 0.1501	u	< 0.1537	u	< 0.1429	u	< 0.1442	u	< 0.1402	u	< 0.2893	u	< 0.1502	u	< 0.1469	u	< 0.1367	u	< 0.1432	u	< 0.1404	u	< 0.1389	u	< 1.4691	u	< 0.905	u	< 0.2438	u	< 0.2423	u	< 0.1373	u	< 0.1343	u	< 0.1441	u	< 0.2883	u
Carbazole	-	-	-	-	-	-	< 0.1145	u	< 0.1173	u	< 0.109	u	< 0.11	u	< 0.1069	u	< 0.2207	u	< 0.1146	u	< 0.112	u	< 0.1043	u	< 0.1092	u	< 0.1071	u	< 0.1059	u	< 1.1208	u	< 0.6904	u	< 0.186	u	< 0.1849	u	< 0.1047	u	< 0.1025	u	< 0.11	u	< 0.2199	u

Table 7
SWMU 10 Soil Analytical Results Summary
Western Refining Southwest, Inc. - Gallup Refinery
Gallup, New Mexico

	Residential Soil Screening Level	Source	Non-Residential Soil Screening Level	Source	Leachate DAF (295) (mg/kg) SoilGW	Source	SWMU 10-1 (2-4')		SWMU 10-1 (4-6')		SWMU 10-1 (18-20')		SWMU 10-2 (0-2')		SWMU 10-2 (2-4')		SWMU 10-3 (2-4')		SWMU 10-3 (6-8')		SWMU 10-3 (18-20')		SWMU 10-4 (0-2')		SWMU 10-4 (2-4')		SWMU 10-4 (6-8')		SWMU 10-4 (18-20')		SWMU 10-5 (0-2')		SWMU 10-5 (2-4')		SWMU 10-5 (4-6')		SWMU 10-5 (14-16')		SWMU 10-5 (22-24')		SWMU 10-6 (2-4')		SWMU 10-6 (10-12')		SWMU 10-7 (2-4')	
							1504C87-001		1504C87-002		1504C87-003		1505223-003*		1505223-004*		1504C87-004		1504C87-005		1504C87-006		1505004-001		1505004-002		1505004-003		1505004-004		1505003-001**		1505003-002		1505003-003		1505003-004		1505003-005		1505223-001		1505223-002		1505059-001	
							4/28/2015		4/28/2015		4/28/2015		5/4/2015		5/4/2015		4/28/2015		4/28/2015		4/28/2015		4/29/2015		4/29/2015		4/29/2015		4/29/2015		4/29/2015		4/29/2015		4/29/2015		4/29/2015		4/29/2015		5/4/2015		5/4/2015		5/1/2015	
Chrysene	1.53E+02	(1)	3.23E+03	(4)	2.74E+03	(8)	< 0.1235	u	< 0.1264	u	< 0.1175	u	< 0.1186	u	< 0.1153	u	< 0.2379	u	< 0.1235	u	< 0.1208	u	< 0.1124	u	< 0.1178	u	< 0.1155	u	< 0.1142	u	< 1.2084	u	< 0.7444	u	< 0.2005	u	< 0.1993	u	< 0.1129	u	< 0.1105	u	< 0.1186	u	< 0.2371	u
Dibenz(a,h)anthracene	1.53E-01	(1)	3.23E+00	(4)	9.01E+01	(8)	< 0.1332	u	< 0.1364	u	< 0.1268	u	< 0.128	u	< 0.1244	u	< 0.2567	u	< 0.1333	u	< 0.1303	u	< 0.1213	u	< 0.1271	u	< 0.1246	u	< 0.1232	u	< 1.3037	u	< 0.8031	u	< 0.2164	u	< 0.215	u	< 0.1218	u	< 0.1192	u	< 0.1279	u	< 0.2558	u
Dibenzofuran	-	-	-	-	-	-	< 0.1315	u	< 0.1347	u	< 0.1252	u	< 0.1263	u	< 0.1228	u	< 0.2534	u	< 0.1315	u	< 0.1287	u	< 0.1197	u	< 0.1254	u	< 0.123	u	< 0.1216	u	< 1.287	u	< 0.7928	u	< 0.2136	u	< 0.2123	u	< 0.1203	u	< 0.1177	u	< 0.1263	u	< 0.2526	u
Diethyl phthalate	4.93E+04	(1)	2.15E+05	(5)	1.44E+03	(8)	< 0.1396	u	< 0.1429	u	< 0.1328	u	< 0.1341	u	< 0.1303	u	< 0.2689	u	< 0.1396	u	< 0.1365	u	< 0.127	u	< 0.1331	u	< 0.1305	u	< 0.1291	u	< 1.3657	u	< 0.8413	u	< 0.2266	u	< 0.2252	u	< 0.1276	u	< 0.1249	u	< 0.134	u	< 0.268	u
Dimethyl phthalate	6.11E+05	(1)	2.38E+06	(5)	2.38E+04	(8)	< 0.1132	u	< 0.1159	u	< 0.1077	u	< 0.1087	u	< 0.1057	u	< 0.2181	u	< 0.1132	u	< 0.1107	u	< 0.103	u	< 0.1079	u	< 0.1058	u	< 0.1047	u	< 1.1075	u	< 0.6822	u	< 0.1838	u	< 0.1827	u	< 0.1035	u	< 0.1013	u	< 0.1087	u	< 0.2173	u
Di-n-butyl phthalate	6.16E+03	(1)	2.69E+04	(5)	4.98E+02	(8)	< 0.1391	u	< 0.1424	u	< 0.1324	u	< 0.1336	u	< 0.1299	u	< 0.268	u	< 0.1391	u	< 0.1361	u	< 0.1266	u	< 0.1326	u	< 0.13	u	< 0.1286	u	< 1.361	u	< 0.8384	u	< 0.2259	u	< 0.2245	u	< 0.1272	u	< 0.1244	u	< 0.1335	u	< 0.2671	u
Di-n-octyl phthalate	-	-	-	-	-	-	< 0.1369	u	< 0.1402	u	< 0.1303	u	< 0.1315	u	< 0.1278	u	< 0.2638	u	< 0.1369	u	< 0.1339	u	< 0.1246	u	< 0.1306	u	< 0.128	u	< 0.1266	u	< 1.3397	u	< 0.8252	u	< 0.2223	u	< 0.221	u	< 0.1252	u	< 0.1225	u	< 0.1314	u	< 0.2629	u
Fluoranthene	2.32E+03	(1)	1.00E+04	(5)	1.97E+04	(8)	< 0.1492	u	< 0.1528	u	< 0.142	u	< 0.1434	u	< 0.1393	u	< 0.2875	u	< 0.1493	u	< 0.146	u	< 0.1358	u	< 0.1423	u	< 0.1395	u	< 0.138	u	< 1.4603	u	< 0.8996	u	< 0.2423	u	< 0.2408	u	< 0.1365	u	< 0.1335	u	< 0.1433	u	< 0.2866	u
Fluorene	2.32E+03	(1)	1.00E+04	(5)	1.18E+03	(8)	< 0.1674	u	< 0.1714	u	< 0.1593	u	< 0.1608	u	< 0.1563	u	< 0.3226	u	< 0.1674	u	< 0.1638	u	< 0.1524	u	0.22	J	< 0.1565	u	< 0.1549	u	< 1.6383	u	< 1.0092	u	1.4	v	< 0.2702	u	< 0.1531	u	< 0.1498	u	< 0.1607	u	< 0.3215	u
Hexachlorobenzene	3.33E+00	(1)	1.60E+01	(4)	1.36E+00	(8)	< 0.1161	u	< 0.1188	u	< 0.1105	u	< 0.1115	u	< 0.1084	u	< 0.2236	u	< 0.1161	u	< 0.1135	u	< 0.1056	u	< 0.1107	u	< 0.1085	u	< 0.1074	u	< 1.1358	u	< 0.6997	u	< 0.1885	u	< 0.1873	u	< 0.1061	u	< 0.1038	u	< 0.1114	u	< 0.2229	u
Hexachlorobutadiene	6.16E+01	(1)	2.69E+02	(5)	1.30E+00	(8)	< 0.1217	u	< 0.1246	u	< 0.1158	u	< 0.1169	u	< 0.1136	u	< 0.2344	u	< 0.1217	u	< 0.119	u	< 0.1107	u	< 0.116	u	< 0.1138	u	< 0.1125	u	< 1.1906	u	< 0.7334	u	< 0.1976	u	< 0.1964	u	< 0.1112	u	< 0.1089	u	< 0.1168	u	< 0.2336	u
Hexachlorocyclopentadiene	3.70E+02	(1)	8.67E+02	(5)	1.97E+01	(8)	< 0.0853	u	< 0.0873	u	< 0.0812	u	< 0.0819	u	< 0.0796	u	< 0.1644	u	< 0.0853	u	< 0.0834	u	< 0.0776	u	< 0.0813	u	< 0.0797	u	< 0.0789	u	< 0.8347	u	< 0.5142	u	< 0.1385	u	< 0.1377	u	< 0.078	u	< 0.0763	u	< 0.0819	u	< 0.1638	u
Hexachloroethane	4.31E+01	(1)	1.88E+02	(5)	9.77E-01	(8)	< 0.1095	u	< 0.1121	u	< 0.1042	u	< 0.1052	u	< 0.1022	u	< 0.2109	u	< 0.1095	u	< 0.1071	u	< 0.0996	u	< 0.1044	u	< 0.1023	u	< 0.1012	u	< 1.0712	u	< 0.6599	u	< 0.1778	u	< 0.1767	u	< 0.1001	u	< 0.0979	u	< 0.1051	u	< 0.2102	u
Indeno(1,2,3-cd)pyrene	1.53E+00	(1)	3.23E+01	(4)	2.96E+02	(8)	< 0.1397	u	< 0.1431	u	< 0.133	u	< 0.1342	u	< 0.1305	u	< 0.2693	u	< 0.1398	u	< 0.1367	u	< 0.1272	u	< 0.1333	u	< 0.1307	u	< 0.1293	u	< 1.3676	u	< 0.8424	u	< 0.2269	u	< 0.2256	u	< 0.1278	u	< 0.125	u	< 0.1342	u	< 0.2684	u
Naphthalene	4.97E+01	(1)	1.59E+02	(5)	1.21E+00	(8)	< 0.117	u	< 0.1198	u	< 0.1114	u	< 0.1124	u	< 0.1093	u	< 0.2255	u	< 0.117	u	< 0.1145	u	< 0.1065	u	< 0.1116	u	< 0.1094	u	< 0.1082	u	< 1.145	u	< 0.7053	u	5.8	v	< 0.1889	u	< 0.107	u	< 0.1047	u	< 0.1123	u	< 0.2247	u
Nitrobenzene	6.04E+01	(1)	2.93E+02	(4)	2.12E-01	(8)	< 0.1266	u	< 0.1296	u	< 0.1205	u	< 0.1216	u	< 0.1182	u	< 0.244	u	< 0.1266	u	< 0.1239	u	< 0.1152	u	< 0.1207	u	< 0.1184	u	< 0.1171	u	< 1.239	u	< 0.7632	u	< 0.2056	u	< 0.2043	u	< 0.1158	u	< 0.1133	u	< 0.1216	u	< 0.2431	u
N-Nitrosodi-n-propylamine	7.80E-01	(3)	3.30E+00	(7)	2.39E-03	(9)	< 0.1275	u	< 0.1305	u	< 0.1213	u	< 0.1224	u	< 0.119	u	< 0.2456	u	< 0.1275	u	< 0.1247	u	< 0.116	u	< 0.1216	u	< 0.1192	u	< 0.1179	u	< 1.2474	u	< 0.7684	u	< 0.207	u	< 0.2057	u	< 0.1166	u	< 0.114	u	< 0.1224	u	< 0.2448	u
N-Nitrosodiphenylamine	7.94E-03	(1)	1.71E-01	(4)	1.45E-04	(8)	< 0.1101	u	< 0.1127	u	< 0.1048	u	< 0.1058	u	< 0.1028	u	< 0.2121	u	< 0.1101	u	< 0.1077	u	< 0.1002	u	< 0.105	u	< 0.1029	u	< 0.1018	u	< 1.0774	u	< 0.6637	u	< 0.1788	u	< 0.1777	u	< 0.1007	u	< 0.0985	u	< 0.1057	u	< 0.2114	u
Pentachlorophenol	9.85E+00	(1)	4.45E+01	(4)	8.97E-01	(8)	< 0.0768	u	< 0.0786	u	< 0.0731	u	< 0.0738	u	< 0.0717	u	< 0.1479	u	< 0.0768	u	< 0.0751	u	< 0.0699	u	< 0.0732	u	< 0.0718	u	< 0.071	u	< 0.7513	u	< 0.4628	u	< 0.1247	u	< 0.1239	u	< 0.0702	u	< 0.0687	u	< 0.0737	u	< 0.1474	u
Phenanthrene	1.74E+03	(1)	7.53E+03	(5)	1.27E+03	(8)	< 0.1286	u	< 0.1317	u	< 0.1224	u	< 0.1236	u	< 0.1201	u	< 0.2479	u	< 0.1287	u	< 0.1259	u	< 0.1171	u	0.8	v	< 0.1203	u	< 0.119	u	< 1.2589	u	1.1	J	3	v	< 0.2076	u	< 0.1176	u	< 0.1151	u	< 0.1235	u	< 0.247	u
Phenol	1.83E+04	(1)	7.74E+04	(5)	7.72E+02	(8)	< 0.1102	u	< 0.1128	u	< 0.1049	u	< 0.1059	u	< 0.1029	u	< 0.2124	u	< 0.1102	u	< 0.1078	u	< 0.1003	u	< 0.1051	u	< 0.103	u	< 0.1019	u	< 1.0785	u	< 0.6644	u	< 0.179	u	< 0.1779	u	< 0.1008	u	< 0.0986	u	< 0.1058	u	< 0.2116	u
Pyrene	1.74E+03	(1)	7.53E+03	(5)	2.83E+03	(8)	< 0.1587	u	< 0.1625	u	< 0.151	u	< 0.1525	u	< 0.1482	u	< 0.3058	u	< 0.1587	u	< 0.1553	u	< 0.1445	u	< 0.1514	u	< 0.1484	u	< 0.1468	u	< 1.5531	u	< 0.9567	u	< 0.2577	u	< 0.2562	u	< 0.1451	u	< 0.142	u	< 0.1524	u	< 0.3048	u
Pyridine	7.80E+01	(2)	1.20E+03	(6)	2.01E+00	(9)	< 0.1033	u	< 0.1058	u	< 0.0983	u	< 0.0993	u	< 0.0965	u	< 0.1991	u	< 0.1034	u	< 0.1011	u	< 0.0941	u	< 0.0985	u	< 0.0966	u	< 0.0956	u	< 1.0112	u	< 0.6229	u	< 0.1678	u	< 0.1668	u	< 0.0945	u	< 0.0925	u	< 0.0992	u	< 0.1984	u
Total Petroleum Hydrocarbons (mg/kg)																																												
Gasoline Range Organics (GRO)	-		-		-		< 1	u	< 1	u	< 1	u	< 1	u	< 1	u	< 1	u	< 1	u	< 1	u	< 1	u	25	v	< 1	u	< 1	u	2.5	J	4.7	v	740	v	13	v	< 1	u	< 1	u	< 1	u	< 1	u
Diesel Range Organics (DRO)	1.00E+03	(11)	3.80E+03	(11)	-		93	v	< 5	u	< 6	u	24	v	< 6	u	84	v	42	v	< 5	u	160	v	**4100**	v	< 5	u	< 5	u	**7700**	v	780	v	**3000**	v	< 5	u	< 6	u	< 6	u	< 5	u	39	v
Motor Oil Range Organics (MRO)	1.00E+03	(11)	3.80E+03	(11)	-		53	v	< 49	u	< 50	u	58	v	< 50	u	90	v	69	v	< 49	u	330	v	690	v	< 49	u	< 49	u	**5900**	v	300	v	< 484	u	< 50	u	< 50	u	< 50	u	< 48	u	< 49	u

- No screening level or analytical result available
NMED - Risk Assessment Guidance for Site Investigations and Remediation (July 2015)
EPA - Regional Screening Levels (Nov 2015)
(1) NMED Residential Screening Level
(2) EPA Residential Screening Level
(3) EPA Residential - Screening Levels (June 2015) multiplied by 10 pursuant to Section IV.D.2 of the Oct. 31, 2013 RCRA Post-Closure Permit because the constituent is listed as carcinogenic
(4) NMED Industrial Occupational Screening Level
(5) NMED Construction Worker Screening Level
(6) EPA Industrial - Screening Levels (June 2015)
(7) EPA Industrial - Screening Levels June 2015) multiplied by 10 pursuant to Section IV.D.2 of the Oct. 31, 2013 RCRA Post-Clousre Permit because the constituent is listed as carcinogenic
(8) SoilGW NMED Dilution Attenuation Factor (DAF) = 20
(9) SoilGW Risk-based EPA DAF = 20
(10) SoilGW MCL-based EPA DAF = 20
(11) NMED Table 6-2 TPH Soil Screening Levels "uknown oil" with DAF = 1.0 - see report Section 5 for use of screening levels

Bold represents value above Non-Residential Screening Level
yellow highlight represents value above Leachate (DAF) Screening Level
Bold with yellow highlight value exceeds Non-Residential Screening Level and DAF

* - sample reanalyzed for hexavalent chromium, see amended lab report #1505223
** - sample reanalyzed for hexavalent chromium, see lab report #1505003
v = reportable detection above the Practical quantitation limit (PQL)
u - result is not detected at method detection limit (MDL)
j - estimated result at concentration above MDL but less than PQL

Table 7
SWMU 10 Soil Analytical Results Summary
Western Refining Southwest, Inc. - Gallup Refinery
Gallup, New Mexico

	Residential Soil Screening Level	Source	Non-Residential Soil Screening Level	Source	Leachate DAF (295) (mg/kg) SoilGW	Source	SWMU 10-7 (4-6')		SWMU 10-7 (18-20')		SWMU 10-8 (2-4')		SWMU 10-8 (4-6')		SWMU 10-8 (18-20')		SWMU 10-9 (2-4')		SWMU 10-9 (4-6')		SWMU 10-9 (18-20')		SWMU 10-10 (2-4')		SWMU 10-10 (4-6')	
							1505059-002		1505059-003		1505057-005		1505057-006		1505057-007		1505057-001		1505057-002		1505057-003		1505058-001		1505058-002	
							5/1/2015		5/1/2015		4/30/2015		4/30/2015		4/30/2015		4/30/2015		4/30/2015		4/30/2015		4/30/2015		4/30/2015	
Metals (mg/kg)																										
Antimony	3.13E+01	(1)	1.42E+02	(5)	9.68E+01	(8)	< 7.9126	u	< 7.6176	u	< 1.4477	u	< 1.4892	u	< 1.5077	u	< 1.5359	u	< 1.5635	u	< 1.5233	u	< 1.4463	u	< 1.5493	u
Arsenic	4.25E+00	(1)	2.15E+01	(4)	4.41E+00	(8)	2.2	J	< 1.6999	u	1.5	J	1.9	J	2	J	1.8	J	1.1	J	2.2	J	2.4	J	1.6	J
Barium	1.56E+04	(1)	4.35E+03	(5)	3.98E+04	(8)	200	v	250	v	830	v	130	v	470	v	220	v	250	v	360	v	450	v	360	v
Beryllium	1.56E+02	(1)	1.48E+02	(5)	2.89E+03	(8)	0.92	v	1.1	v	0.65	v	0.83	v	0.99	v	0.77	v	0.94	v	0.99	v	0.28	v	0.93	v
Cadmium	7.05E+01	(1)	7.21E+01	(5)	1.38E+02	(8)	< 0.0334	u	< 0.0322	u	< 0.0306	u	< 0.0314	u	< 0.0318	u	< 0.0324	u	< 0.033	u	< 0.0322	u	< 0.0305	u	< 0.0327	u
Chromium	9.66E+01	(1)	1.34E+02	(5)	2.97E+06	(8)	11	v	16	v	29	v	11	v	20	v	17	v	14	v	14	v	13	v	12	v
Hexavalent Chromium	3.05E+00	(1)	6.69E+01	(5)	1.43E+00	(8)	< 2.3862	u	< 2.3465	u	< 2.2842	u	< 2.3284	u	< 2.3189	u	< 2.3327	u	< 2.4023	u	< 2.3271	u	< 2.2802	u	< 2.4258	u
Cobalt	2.30E+01	(2)	3.50E+02	(6)	7.97E+01	(9)	5.7	v	7.2	v	3.9	v	4.5	v	8.7	v	4.6	v	5.3	v	7.6	v	3.1	v	4.1	v
Cyanide	1.12E+01	(1)	1.21E+01	(5)	7.70E-02	(8)	< 0.2983	u	< 0.2933	u	< 0.2855	u	< 0.291	u	< 0.2899	u	< 0.2916	u	< 0.3003	u	< 0.2909	u	< 0.285	u	< 0.3032	u
Iron	5.50E+04	(2)	8.20E+05	(6)	1.03E+05	(9)	16000	v	24000	v	14000	v	13000	v	17000	v	12000	v	16000	v	20000	v	9200	v	13000	v
Lead	4.00E+02	(1)	8.00E+02	(4)	4.13E+03	(10)	2.5	v	2.2	v	4.5	v	3.4	v	0.27	J	4.8	v	3.2	v	2.3	v	4.1	v	4	v
Manganese	1.80E+03	(2)	2.60E+04	(6)	8.26E+03	(9)	710	v	540	v	380	v	370	v	1200	v	180	v	290	v	860	v	94	v	170	v
Mercury	2.38E+01	(1)	2.07E+01	(5)	9.64E+00	(8)	0.0057	J	0.0035	J	0.015	J	0.041	v	0.0037	J	0.07	J	0.0086	J	0.0059	J	0.044	v	0.012	J
Nickel	1.56E+03	(1)	6.19E+03	(5)	7.15E+03	(8)	10	v	16	v	6.9	v	7.8	v	16	v	7.7	v	10	v	15	v	4.4	v	7.7	v
Selenium	3.91E+02	(1)	1.75E+03	(5)	1.51E+02	(8)	< 1.8428	u	< 1.7741	u	< 1.6858	u	< 1.7341	u	< 1.7557	u	< 1.7886	u	< 1.8206	u	< 1.7738	u	< 1.6842	u	< 1.8042	u
Silver	3.91E+02	(1)	1.77E+03	(5)	2.03E+02	(8)	< 0.0358	u	< 0.0345	u	< 0.0328	u	< 0.0337	u	< 0.0341	u	< 0.0348	u	< 0.0354	u	< 0.0345	u	< 0.0327	u	< 0.0351	u
Vanadium	3.94E+02	(1)	6.14E+02	(5)	1.86E+04	(8)	24	v	23	v	22	v	17	v	15	v	18	v	19	v	49	v	21	v	18	v
Zinc	2.35E+04	(1)	1.06E+05	(5)	1.09E+05	(8)	19	v	24	v	17	v	18	v	24	v	24	v	32	v	21	v	15	v	19	v
Volatiles (mg/kg)																										
1,1,1,2-Tetrachloroethane	2.81E+01	(1)	1.37E+02	(4)	5.30E-01	(8)	< 0.0003	u	< 0.0004	u	< 0.0536	u	< 0.0026	u	< 0.0003	u	< 0.0003	u	< 0.0119	u	< 0.0004	u	< 0.0003	u	< 0.0489	u
1,1,1-Trichloroethane	1.44E+04	(1)	1.36E+04	(5)	7.53E+02	(8)	< 0.0003	u	< 0.0003	u	< 0.0993	u	< 0.0048	u	< 0.0003	u	< 0.0002	u	< 0.022	u	< 0.0003	u	< 0.0002	u	< 0.0905	u
1,1,2,2-Tetrachloroethane	7.98E+00	(1)	3.94E+01	(4)	7.09E-02	(8)	< 0.0004	u	< 0.0005	u	< 0.0792	u	< 0.0038	u	< 0.0004	u	< 0.0004	u	< 0.0175	u	< 0.0005	u	< 0.0004	u	< 0.0722	u
1,1,2-Trichloroethane	2.61E+00	(1)	2.30E+00	(5)	3.28E-02	(8)	< 0.0018	u	< 0.0022	u	< 0.0786	u	< 0.0038	u	< 0.0019	u	< 0.0018	u	< 0.0174	u	< 0.0024	u	< 0.0016	u	< 0.0716	u
1,1-Dichloroethane	7.86E+01	(1)	3.83E+02	(4)	2.00E+00	(8)	< 0.0004	u	< 0.0005	u	< 0.2615	u	< 0.0125	u	< 0.0004	u	< 0.0004	u	< 0.0578	u	< 0.0006	u	< 0.0004	u	< 0.2384	u
1,1-Dichloroethene	4.40E+02	(1)	4.24E+02	(5)	2.87E+01	(8)	< 0.0003	u	< 0.0004	u	< 0.045	u	< 0.0022	u	< 0.0003	u	< 0.0003	u	< 0.01	u	< 0.0004	u	< 0.0003	u	< 0.041	u
1,1-Dichloropropene	-	-	-	-	-	-	< 0.0003	u	< 0.0004	u	< 0.0974	u	< 0.0047	u	< 0.0003	u	< 0.0003	u	< 0.0215	u	< 0.0004	u	< 0.0003	u	< 0.0888	u
1,2,3-Trichlorobenzene	6.30E+01	(2)	9.30E+02	(6)	6.20E+00	(9)	< 0.0007	u	< 0.0008	u	< 0.1395	u	< 0.0067	u	< 0.0007	u	< 0.0006	u	< 0.0309	u	< 0.0009	u	< 0.0006	u	< 0.1272	u
1,2,3-Trichloropropane	5.10E-02	(1)	1.21E+00	(4)	7.68E-04	(8)	< 0.0006	u	< 0.0008	u	< 0.1097	u	< 0.0053	u	< 0.0007	u	< 0.0006	u	< 0.0243	u	< 0.0008	u	< 0.0006	u	< 0.1	u
1,2,4-Trichlorobenzene	8.29E+01	(1)	7.91E+01	(5)	2.60E+00	(8)	< 0.00066	u	< 0.00082	u	< 0.12063	u	< 0.00578	u	< 0.00071	u	< 0.00065	u	< 0.02668	u	< 0.00088	u	< 0.00059	u	< 0.10998	u
1,2,4-Trimethylbenzene	5.80E+01	(2)	2.40E+02	(6)	6.20E+00	(9)	0.00194	v	0.00201	J	9.7	v	0.021	J	0.00236	v	< 0.0005	u	0.42	v	0.00229	J	< 0.0004	u	13	v
1,2-Dibromo-3-chloropropane	8.58E-02	(1)	1.18E+00	(4)	3.45E-04	(8)	< 0.0005	u	< 0.0006	u	< 0.1123	u	< 0.0054	u	< 0.0006	u	< 0.0005	u	< 0.0248	u	< 0.0007	u	< 0.0005	u	< 0.1024	u
1,2-Dibromoethane (EDB)	6.72E-01	(1)	3.31E+00	(4)	5.19E-03	(8)	< 0.0002	u	< 0.0003	u	< 0.0521	u	< 0.0025	u	< 0.0002	u	< 0.0002	u	< 0.0115	u	< 0.0003	u	< 0.0002	u	< 0.0475	u
1,2-Dichlorobenzene	2.15E+03	(1)	2.50E+03	(5)	6.75E+01	(8)	< 0.00039	u	< 0.00048	u	< 0.03943	u	< 0.00189	u	< 0.00042	u	< 0.00038	u	< 0.00872	u	< 0.00052	u	< 0.00035	u	< 0.03595	u
1,2-Dichloroethane (EDC)	8.32E+00	(1)	4.07E+01	(4)	1.20E-01	(8)	< 0.0005	u	< 0.0006	u	< 0.2615	u	< 0.0125	u	< 0.0005	u	< 0.0005	u	< 0.0578	u	< 0.0006	u	< 0.0004	u	< 0.2384	u
1,2-Dichloropropane	1.78E+01	(1)	2.54E+01	(5)	3.58E-01	(8)	< 0.0004	u	< 0.0005	u	< 0.0365	u	< 0.0018	u	< 0.0004	u	< 0.0004	u	< 0.0081	u	< 0.0005	u	< 0.0003	u	< 0.0333	u
1,3,5-Trimethylbenzene	7.80E+02	(2)	1.20E+04	(6)	5.02E+01	(9)	0.00119	J	0.00114	J	4.7	v	0.0048	J	0.00159	J	< 0.0003	u	0.12	J	0.00151	J	< 0.0003	u	4.7	v
1,3-Dichlorobenzene	-	-	-	-	-	-	< 0.0003	u	< 0.00037	u	< 0.07697	u	< 0.00369	u	< 0.00032	u	< 0.00029	u	< 0.01702	u	< 0.00039	u	< 0.00027	u	< 0.07018	u
1,3-Dichloropropane	1.60E+03	(2)	2.30E+04	(6)	3.84E+01	(9)	< 0.0003	u	< 0.0003	u	< 0.09	u	< 0.0043	u	< 0.0003	u	< 0.0003	u	< 0.0199	u	< 0.0004	u	< 0.0002	u	< 0.0821	u
1,4-Dichlorobenzene	3.28E+01	(1)	1.59E+02	(4)	1.06E+00	(8)	< 0.00027	u	< 0.00034	u	< 0.08143	u	< 0.0039	u	< 0.00029	u	< 0.00027	u	< 0.01801	u	< 0.00037	u	< 0.00025	u	< 0.07423	u
1-Methylnaphthalene	1.80E+02	(3)	7.30E+02	(7)	1.71E+00	(9)	< 0.00069	u	< 0.00086	u	27	v	0.37	v	< 0.00074	u	< 0.00068	u	1.1	v	< 0.00092	u	< 0.00062	u	28	v
2,2-Dichloropropane	-	-	-	-	-	-	< 0.0003	u	< 0.0004	u	< 0.0952	u	< 0.0046	u	< 0.0003	u	< 0.0003	u	< 0.021	u	< 0.0004	u	< 0.0003	u	< 0.0868	u
2-Butanone	3.74E+04	(1)	9.17E+04	(5)	2.96E+02	(8)	0.00175	J	< 0.0007	u	< 0.4203	u	< 0.0202	u	< 0.0006	u	0.00234	J	< 0.093	u	< 0.0008	u	0.00161	J	< 0.3832	u
2-Chlorotoluene	1.56E+03	(1)	7.08E+03	(5)	5.26E+01	(8)	< 0.0003	u	< 0.0004	u	< 0.0739	u	< 0.0035	u	< 0.0004	u	< 0.0003	u	< 0.0163	u	< 0.0005	u	< 0.0003	u	< 0.0674	u
2-Hexanone	2.00E+02	(2)	1.30E+03	(6)	2.60E+00	(9)	< 0.0004	u	< 0.0005	u	< 0.1608	u	< 0.0077	u	< 0.0004	u	< 0.0004	u	< 0.0356	u	< 0.0005	u	0.000582	J	< 0.1466	u
2-Methylnaphthalene	2.40E+02	(2)	3.00E+03	(6)	5.61E+01	(9)	< 0.00069	u	< 0.00085	u	41	v	0.3	v	< 0.00074	u	< 0.00068	u	1.5	v	< 0.00092	u	< 0.00062	u	48	v
4-Chlorotoluene	1.60E+03	(2)	2.30E+04	(6)	7.08E+01	(9)	< 0.0003	u	< 0.0004	u	< 0.0494	u	< 0.0024	u	< 0.0004	u	< 0.0003	u	< 0.0109	u	< 0.0005	u	< 0.0003	u	< 0.0451	u
4-Isopropyltoluene	-	-	-	-	-	-	< 0.0007	u	< 0.0009	u	0.95	v	0.014	J	< 0.0007	u	< 0.0007	u	< 0.0103	u	< 0.0009	u	< 0.0006	u	0.74	v
4-Methyl-2-pentanone	5.81E+03	(1)	2.02E+04	(5)	7.07E+01	(8)	< 0.0008	u	< 0.0009	u	< 0.1134	u	< 0.0054	u	< 0.0008	u	< 0.0007	u	< 0.0251	u	< 0.001	u	< 0.0007	u	< 0.1034	u
Acetone	6.63E+04	(1)	2.42E+05	(5)	7.35E+02	(8)	0.00723	J	0.00158	J	< 0.4875	u	< 0.0234	u	0.00466	J	0.0184	v	< 0.1078	u	0.00359	J	0.00792	J	< 0.4444	u
Benzene	1.78E+01	(1)	8.72E+01	(4)	5.60E-01	(8)	0.0123	v	0.0149	v	0.2	J	0.047	v	0.0178	v	0.00079	J	< 0.0214	u	0.0159	v	< 0.0004	u	0.2	J
Bromobenzene	2.90E+02	(2)	1.80E+03	(6)	1.24E+01	(9)	< 0.0005	u	< 0.0006	u	< 0.0485	u	< 0.0023	u	< 0.0005	u	< 0.0005	u	< 0.0107	u	< 0.0007	u	< 0.0004	u	< 0.0442	u
Bromodichloromethane	6.19E+00	(1)	3.02E+01	(4)	9.15E-02	(8)	< 0.0002	u	< 0.0003	u	< 0.0535	u	< 0.0026	u	< 0.0003	u	< 0.0002	u	< 0.0118	u	< 0.0003	u	< 0.0002	u	< 0.0487	u
Bromoform	6.74E+02	(1)	3.25E+03	(4)	6.06E+00	(8)	< 0.0005	u	< 0.0006	u	< 0.0526	u	< 0.0025	u	< 0.0005	u	< 0.0005	u	< 0.0116	u	< 0.0006	u	< 0.0004	u	< 0.0479	u
Bromomethane	1.77E+01	(1)	1.79E+01	(5)	5.06E-01	(8)	< 0.0011	u	< 0.0013	u	< 0.1262	u	< 0.0061	u	< 0.0011	u	< 0.001	u	< 0.0279	u	< 0.0014	u	< 0.0009	u	< 0.115	u
Carbon disulfide	1.55E+03	(1)	1.62E+03	(5)	6.52E+01	(8)	< 0.0008	u	< 0.001	u	< 0.4705	u	< 0.0226	u	< 0.0009	u	< 0.0008	u	< 0.104	u	< 0.0011	u	< 0.0007	u	< 0.4289	u
Carbon tetrachloride	1.07E+01	(1)	5.25E+01	(4)	4.91E-01	(8)	< 0.0003	u	< 0.0004	u	< 0.0637	u	< 0.0031	u	< 0.0003	u	< 0.0003	u	< 0.0141	u	< 0.0004	u	< 0.0003	u	< 0.058	u
Chlorobenzene	3.78E+02	(1)	4.12E+02	(5)	1.23E+01	(8)	< 0.0002	u	< 0.0002	u	< 0.0503	u	< 0.0024	u	< 0.0002	u	< 0.0002	u	< 0.0111	u	< 0.0002	u	< 0.0002	u	< 0.0459	u
Chloroethane	1.90E+04	(1)	1.66E+04	(5)	1.58E+03	(8)	< 0.0018	u	< 0.0022	u	< 0.506	u	< 0.0243	u	< 0.0019	u	< 0.0018	u	< 0.1119	u	< 0.0024	u	< 0.0016	u	< 0.4614	u
Chloroform	5.90E+00	(1)	2.87E+01	(4)	1.61E-01	(8)	< 0.0004	u	< 0.0005	u	< 0.0681	u	< 0.0033	u	< 0.0004	u	< 0.0004	u	< 0.0151	u	< 0.0005	u	< 0.0003	u	< 0.0621	u
Chloromethane	4.11E+01	(1)	2.01E+02	(4)	1.40E+00	(8)	< 0.0002	u	< 0.0003	u	< 0.0757	u	< 0.0036	u	< 0.0002	u	< 0.0002	u	< 0.0167	u	< 0.0003	u	< 0.0002	u	< 0.069	u
cis-1,2-DCE	1.56E+02	(1)	7.08E+02	(5)	2.71E+00	(8)	< 0.0005	u	< 0.0006	u	< 0.0827	u	< 0.004	u	< 0.0005	u	< 0.0005	u	< 0.0183	u	< 0.0006	u	< 0.0004	u	< 0.0754	u
cis-1,3-Dichloropropene	2.93E+01	(1)	1.30E+02	(5)	4.13E-01	(8)	< 0.0018	u	< 0.0022	u	< 0.0454	u	< 0.0022	u	< 0.0019	u	< 0.0018	u	< 0.01	u	< 0.0024	u	< 0.0016	u	< 0.0414	u
Dibromochloromethane	1.39E+01	(1)	6.74E+01	(4)	1.11E-01	(8)	< 0.0002	u	< 0.0002	u	< 0.049	u	< 0.0024	u	< 0.0002	u	< 0.0002	u	< 0.0108	u	< 0.0003	u	< 0.0002	u	< 0.0447	u
Dibromomethane	2.30E+01	(2)	9.80E+01	(6)	5.90E-01	(9)	< 0.001	u	< 0.0012	u	< 0.0688	u	< 0.0033	u	< 0.0011	u	< 0.001	u	< 0.0152	u	< 0.0013	u	< 0.0009	u	< 0.0628	u
Dichlorodifluoromethane	1.82E+02	(1)	1.61E+02	(5)	1.07E+02	(8)	< 0.0007	u	< 0.0009	u	< 0.1644	u	< 0.0079	u	< 0.0008	u	< 0.0007	u	< 0.0364	u	< 0.001	u	< 0.0007	u	< 0.1499	u

	SWMU 10-10 (18-20')		SWMU 10-11 (4-6')		SWMU 10-11 (8-10')		SWMU 10-11 (18-20')		SWMU 10-12 (6-8')		SWMU 10-12 (20-22')		SWMU 10-13 (2-4')		SWMU 10-13 (6-8')		SWMU 10-13 (18-20')		SWMU 10-14 (6-8')	
	1505058-003		1505570-003		1505570-004		1505570-003		1505617-001		1505617-002		1505617-003		1505617-004		1505617-005		1505570-001	
	4/30/2015		5/12/2015		5/12/2015		5/12/2015		5/12/2015		5/12/2015		5/13/2015		5/13/2015		5/13/2015		5/12/2015	
Metals (mg/kg)																				
Antimony	2.7	J	< 1.4896	u	< 3.243	u	< 3.0138	u	< 2.9662	u	< 1.4434	u	< 1.4296	u	< 3.1409	u	< 2.8483	u	< 3.0545	u
Arsenic	1.9	J	< 0.3324	u	0.91	J	0.84	J	1.9	J	2	J	1.3	J	1.3	J	1.2	J	0.87	J
Barium	240	v	240	v	330	v	420	v	1700	v	500	v	260	v	200	v	110	v	160	v
Beryllium	1	v	0.61	v	0.98	v	0.89	v	1.1	v	0.94	v	0.71	v	1.2	v	1.1	v	0.78	v
Cadmium	< 0.0322	u	< 0.0314	u	< 0.0685	u	< 0.0318	u	< 0.0313	u	< 0.0305	u	< 0.0302	u	< 0.0332	u	< 0.0301	u	< 0.0322	u
Chromium	14	v	7.3	v	8.1	v	11	v	12	v	14	v	7.8	v	11	v	15	v	7	v
Hexavalent Chromium	< 2.3458	u	< 2.2359	u	< 2.4211	u	< 2.2794	u	< 2.3277	u	< 2.1955	u	< 2.1284	u	< 2.3615	u	< 2.1997	u	< 2.2523	u
Cobalt	7.9	v	3.5	v	5	v	7.7	v	5.7	v	9.1	v	4	v	5.9	v	6.3	v	4.5	v
Cyanide	< 0.2932	u	< 0.2795	u	< 0.3026	u	< 0.2849	u	< 0.291	u	< 0.2744	u	< 0.2661	u	< 0.2952	u	< 0.275	u	< 0.2815	u
Iron	20000	v	9200	v	12000	v	16000	v	21000	v	20000	v	15000	v	18000	v	23000	v	11000	v
Lead	2	v	3.4	v	5.8	v	3.5	v	3.7	v	1.8	v	2.9	v	5.2	v	2.3	v	3.6	v
Manganese	990	v	320	v	400	v	890	v	470	v	1300	v	390	v	190	v	430	v	430	v
Mercury	< 0.0032	u	0.05	v	0.014	J	< 0.0032	u	< 0.0034	u	< 0.0032	u	< 0.003	u	< 0.0034	u	< 0.0031	u	0.0046	J
Nickel	17	v	5.8	v	7.8	v	13	v	10	v	16	v	6.5	v	11	v	15	v	7.1	v
Selenium	< 1.7762	u	< 1.7346	u	< 3.7764	u	< 1.7547	u	< 1.727	u	< 1.6808	u	< 1.6647	u	< 1.8287	u	< 1.6583	u	< 1.7784	u
Silver	< 0.0345	u	< 0.0337	u	< 0.0734	u	< 0.0341	u	< 0.0336	u	< 0.0327	u	< 0.0323	u	< 0.0355	u	< 0.0322	u	< 0.0346	u
Vanadium	21	v	13	v	14	v	5.2	v	21	v	25	v	19	v	19	v	15	v	13	v
Zinc	25	v	16	v	18	v	23	v	20	v	28	v	13	v	17	v	21	v	14	v
Volatiles (mg/kg)																				
1,1,1,2-Tetrachloroethane	< 0.0003	u	< 0.0129	u	< 0.0027	u	< 0.0004	u	< 0.0004	u	< 0.0004	u	< 0.0004	u	< 0.0028	u	< 0.0004	u	< 0.0023	u
1,1,1-Trichloroethane	< 0.0003	u	< 0.0238	u	< 0.0049	u	< 0.0003	u	< 0.0003	u	< 0.0004	u	< 0.0004	u	< 0.0051	u	< 0.0003	u	< 0.0043	u
1,1,2,2-Tetrachloroethane	< 0.0004	u	< 0.019	u	< 0.0039	u	< 0.0005	u	< 0.0005	u	< 0.0006	u	< 0.0005	u	< 0.0409	u	< 0.0005	u	< 0.0034	u
1,1,2-Trichloroethane	< 0.0019	u	< 0.0189	u	< 0.0039	u	< 0.0024	u	< 0.0023	u	< 0.0028	u	< 0.0025	u	< 0.0041	u	< 0.0023	u	< 0.0034	u
1,1-Dichloroethane	< 0.0004	u	< 0.0628	u	< 0.0129	u	< 0.0006	u	< 0.0005	u	< 0.0006	u	< 0.0006	u	< 0.0135	u	< 0.0005	u	< 0.0113	u
1,1-Dichloroethene	< 0.0003	u	< 0.0108	u	< 0.0022	u	< 0.0004	u	< 0.0004	u	< 0.0005	u	< 0.0004	u	< 0.0023	u	< 0.0004	u	< 0.002	u
1,1-Dichloropropene	< 0.0003	u	< 0.0234	u	< 0.0048	u	< 0.0004	u	< 0.0004	u	< 0.0005	u	< 0.0005	u	< 0.005	u	< 0.0004	u	< 0.0042	u
1,2,3-Trichlorobenzene	< 0.0007	u	< 0.0335	u	< 0.0069	u	< 0.0009	u	< 0.0009	u	< 0.001	u	< 0.0009	u	< 0.072	u	< 0.0008	u	< 0.006	u
1,2,3-Trichloropropane	< 0.0007	u	< 0.0263	u	< 0.0054	u	< 0.0009	u	< 0.0008	u	< 0.001	u	< 0.0009	u	< 0.0566	u	< 0.0008	u	< 0.0048	u
1,2,4-Trichlorobenzene	< 0.00069	u	< 0.02897	u	< 0.00596	u	< 0.0009	u	< 0.00087	u	< 0.00103	u	< 0.00093	u	< 0.06224	u	< 0.00084	u	< 0.00522	u
1,2,4-Trimethylbenzene	0.00238	v	0.4	v	0.79	v	0.00377	v	< 0.0006	u	0.00203	J	< 0.0007	u	5.2	v	0.0023	v	< 0.0014	u
1,2-Dibromo-3-chloropropane	< 0.0005	u	< 0.027	u	< 0.0056	u	< 0.0007	u	< 0.0007	u	< 0.0008	u	< 0.0007	u	< 0.0579	u	< 0.0007	u	< 0.0049	u
1,2-Dibromoethane (EDB)	< 0.0002	u	< 0.0125	u	< 0.0026	u	< 0.0003	u	< 0.0003	u	< 0.0003	u	< 0.0003	u	< 0.0027	u	< 0.0003	u	< 0.0023	u
1,2-Dichlorobenzene	< 0.00041	u	< 0.00947	u	< 0.00194	u	< 0.00053	u	< 0.00051	u	< 0.00061	u	< 0.00055	u	< 0.02034	u	< 0.0005	u	< 0.0017	u
1,2-Dichloroethane (EDC)	< 0.0005	u	< 0.0628	u	< 0.0129	u	< 0.0007	u	< 0.0006	u	< 0.0007	u	< 0.0007	u	< 0.0135	u	< 0.0006	u	< 0.0113	u
1,2-Dichloropropane	< 0.0004	u	< 0.0088	u	< 0.0018	u	< 0.0005	u	< 0.0005	u	< 0.0006	u	< 0.0005	u	< 0.0019	u	< 0.0005	u	< 0.0016	u
1,3,5-Trimethylbenzene	0.00151	J	0.31	v	0.29	v	0.00245	v	< 0.0004	u	0.00134	J	< 0.0004	u	1.9	v	0.00154	J	< 0.0019	u
1,3-Dichlorobenzene	< 0.00031	u	< 0.01848	u	< 0.0038	u	< 0.00041	u	< 0.00039	u	< 0.00046	u	< 0.00042	u	< 0.03972	u	< 0.00038	u	< 0.00333	u
1,3-Dichloropropane	< 0.0003	u	< 0.0216	u	< 0.0045	u	< 0.0004	u	< 0.0004	u	< 0.0004	u	< 0.0004	u	< 0.0046	u	< 0.0004	u	< 0.0039	u
1,4-Dichlorobenzene	< 0.00029	u	< 0.01955	u	< 0.00402	u	< 0.00038	u	< 0.00036	u	< 0.00043	u	< 0.00039	u	< 0.04201	u	< 0.00035	u	< 0.00352	u
1-Methylnaphthalene	< 0.00072	u	1.6	v	1.3	v	0.00126	J	< 0.00091	u	< 0.00108	u	< 0.00097	u	11	v	< 0.00088	u	< 0.01699	u
2,2-Dichloropropane	< 0.0003	u	< 0.0229	u	< 0.0047	u	< 0.0004	u	< 0.0004	u	< 0.0005	u	< 0.0004	u	< 0.0049	u	< 0.0004	u	< 0.0041	u
2-Butanone	0.00159	J	< 0.1009	u	< 0.0208	u	< 0.0008	u	0.00208	J	0.00234	J	0.00424	J	< 0.0217	u	0.00181	J	< 0.0182	u
2-Chlorotoluene	< 0.0004	u	< 0.0177	u	< 0.0037	u	< 0.0005	u	< 0.0005	u	< 0.0005	u	< 0.0005	u	< 0.0381	u	< 0.0004	u	< 0.0032	u
2-Hexanone	< 0.0004	u	< 0.0386	u	< 0.0079	u	< 0.0005	u	< 0.0005	u	< 0.0006	u	0.00096	J	< 0.0083	u	< 0.0005	u	< 0.007	u
2-Methylnaphthalene	< 0.00072	u	1.8	v	2.3	v	0.0013	J	< 0.00091	u	< 0.00107	u	< 0.00097	u	20	v	< 0.00088	u	< 0.01863	u
4-Chlorotoluene	< 0.0004	u	< 0.0119	u	< 0.0024	u	< 0.0005	u	< 0.0005	u	< 0.0005	u	< 0.0005	u	< 0.0255	u	< 0.0004	u	< 0.0021	u
4-Isopropyltoluene	< 0.0007	u	< 0.0112	u	< 0.0023	u	< 0.0009	u	< 0.0009	u	< 0.0011	u	< 0.001	u	0.37	v	< 0.0009	u	< 0.002	u
4-Methyl-2-pentanone	< 0.0008	u	< 0.0272	u	< 0.0056	u	< 0.001	u	< 0.001	u	< 0.0012	u	< 0.0011	u	< 0.0059	u	< 0.001	u	< 0.0049	u
Acetone	0.00422	J	0.15	J	0.058	J	0.00262	J	0.00766	J	0.0074	J	0.0451	v	< 0.0252	u	0.00217	J	0.054	J
Benzene	0.018	v	< 0.0233	u	< 0.0048	u	0.026	v	0.00132	J	0.0154	v	0.00091	J	< 0.005	u	0.0194	v	< 0.0042	u
Bromobenzene	< 0.0005	u	< 0.0117	u	< 0.0024	u	< 0.0007	u	< 0.0007	u	< 0.0008	u	< 0.0007	u	< 0.025	u	< 0.0006	u	< 0.0021	u
Bromodichloromethane	< 0.0003	u	< 0.0128	u	< 0.0026	u	< 0.0003	u	< 0.0003	u	< 0.0004	u	< 0.0003	u	< 0.0028	u	< 0.0003	u	< 0.0023	u
Bromoform	< 0.0005	u	< 0.0126	u	< 0.0026	u	< 0.0006	u	< 0.0006	u	< 0.0007	u	< 0.0006	u	< 0.0271	u	< 0.0006	u	< 0.0023	u
Bromomethane	< 0.0011	u	0.12	J	0.026	J	< 0.0014	u	< 0.0014	u	< 0.0016	u	< 0.0015	u	0.023	J	< 0.0013	u	0.023	J
Carbon disulfide	< 0.0008	u	< 0.113	u	< 0.0233	u	< 0.0011	u	< 0.0011	u	< 0.0012	u	< 0.0011	u	< 0.0243	u	< 0.001	u	< 0.0204	u
Carbon tetrachloride	< 0.0003	u	< 0.0153	u	< 0.0031	u	< 0.0004	u	< 0.0004	u	< 0.0005	u	< 0.0005	u	< 0.0033	u	< 0.0004	u	< 0.0028	u
Chlorobenzene	< 0.0002	u	< 0.0121	u	< 0.0025	u	< 0.0002	u	< 0.0002	u	< 0.0003	u	< 0.0003	u	< 0.0026	u	< 0.0002	u	< 0.0022	u
Chloroethane	< 0.0019	u	< 0.1215	u	< 0.025	u	< 0.0024	u	< 0.0023	u	< 0.0028	u	< 0.0025	u	< 0.0261	u	< 0.0023	u	< 0.0219	u
Chloroform	< 0.0004	u	< 0.0164	u	< 0.0034	u	< 0.0005	u	< 0.0005	u	< 0.0006	u	< 0.0005	u	< 0.0035	u	< 0.0005	u	< 0.003	u
Chloromethane	< 0.0002	u	< 0.0182	u	< 0.0037	u	< 0.0003	u	< 0.0003	u	< 0.0003	u	< 0.0003	u	< 0.0039	u	< 0.0003	u	< 0.0033	u
cis-1,2-DCE	< 0.0005	u	< 0.0199	u	< 0.0041	u	< 0.0006	u	< 0.0006	u	< 0.0007	u	< 0.0007	u	< 0.0043	u	< 0.0006	u	< 0.0036	u
cis-1,3-Dichloropropene	< 0.0019	u	< 0.0109	u	< 0.0022	u	< 0.0024	u	< 0.0023	u	< 0.0028	u	< 0.0025	u	< 0.0023	u	< 0.0023	u	< 0.002	u
Dibromochloromethane	< 0.0002	u	< 0.0118	u	< 0.0024	u	< 0.0003	u	< 0.0003	u	< 0.0003	u	< 0.0003	u	< 0.0025	u	< 0.0003	u	< 0.0021	u
Dibromomethane	< 0.0011	u	< 0.0165	u	< 0.0034	u	< 0.0014	u	< 0.0013	u	< 0.0016	u	< 0.0014	u	< 0.0036	u	< 0.0013	u	< 0.003	u
Dichlorodifluoromethane	< 0.0008	u	< 0.0395	u	< 0.0081	u	< 0.001	u	< 0.001	u	< 0.0011	u	< 0.001	u	< 0.0085	u	< 0.0009	u	< 0.0071	u

Table 7
SWMU 10 Soil Analytical Results Summary
Western Refining Southwest, Inc. - Gallup Refinery
Gallup, New Mexico

	Residential Soil Screening Level	Source	Non-Residential Soil Screening Level	Source	Leachate DAF (295) (mg/kg) SoilGW	Source	SWMU 10-7 (4-6')	SWMU 10-7 (18-20')	SWMU 10-8 (2-4')	SWMU 10-8 (4-6')	SWMU 10-8 (18-20')	SWMU 10-9 (2-4')	SWMU 10-9 (4-6')	SWMU 10-9 (18-20')	SWMU 10-10 (2-4')	SWMU 10-10 (4-6')	SWMU 10-10 (18-20')	SWMU 10-11 (4-6')	SWMU 10-11 (8-10')	SWMU 10-11 (18-20')	SWMU 10-12 (6-8')	SWMU 10-12 (20-22')	SWMU 10-13 (2-4')	SWMU 10-13 (6-8')	SWMU 10-13 (18-20')	SWMU 10-14 (6-8')
							1505059-002	1505059-003	1505057-005	1505057-006	1505057-007	1505057-001	1505057-002	1505057-003	1505058-001	1505058-002	1505058-003	1505570-003	1505570-004	1505570-003	1505617-001	1505617-002	1505617-003	1505617-004	1505617-005	1505570-001
							5/1/2015	5/1/2015	4/30/2015	4/30/2015	4/30/2015	4/30/2015	4/30/2015	4/30/2015	4/30/2015	4/30/2015	4/30/2015	5/12/2015	5/12/2015	5/12/2015	5/12/2015	5/12/2015	5/13/2015	5/13/2015	5/13/2015	5/12/2015
Ethylbenzene	7.51E+01	(1)	3.68E+02	(4)	3.87E+00	(8)	0.00188 v	0.00213 J	1.4 v	0.044 v	0.00285 v	< 0.0003 u	0.04 J	0.00242 v	< 0.0003 u	3.6 v	0.00241 v	0.1 J	0.21 v	0.00371 v	< 0.0004 u	0.00249 J	< 0.0004 u	1.3 v	0.00216 J	< 0.0026 u
Hexachlorobutadiene	6.16E+01	(1)	2.69E+02	(5)	1.30E+00	(8)	< 0.00035 u	< 0.00044 u	< 0.09078 u	< 0.00435 u	< 0.00038 u	< 0.00035 u	< 0.02007 u	< 0.00047 u	< 0.00032 u	< 0.08276 u	< 0.00037 u	< 0.0218 u	< 0.00448 u	< 0.00048 u	< 0.00047 u	< 0.00055 u	< 0.0005 u	< 0.04684 u	< 0.00045 u	< 0.00393 u
Isopropylbenzene	2.36E+03	(1)	2.74E+03	(5)	1.68E+02	(8)	< 0.0004 u	< 0.0005 u	0.52 J	0.012 J	0.00045 J	< 0.0004 u	0.016 J	< 0.0005 u	< 0.0004 u	1.2 v	< 0.0004 u	0.04 J	0.077 v	0.00061 J	< 0.0005 u	< 0.0006 u	< 0.0006 u	0.67 v	< 0.0005 u	< 0.0024 u
Methyl tert-butyl ether (MTBE)	9.75E+02	(1)	4.82E+03	(4)	8.16E+00	(8)	0.000891 J	< 0.0009 u	< 0.0925 u	< 0.0044 u	< 0.0008 u	< 0.0007 u	< 0.0204 u	< 0.001 u	< 0.0007 u	< 0.0843 u	< 0.0008 u	< 0.0222 u	< 0.0046 u	< 0.001 u	< 0.001 u	< 0.0012 u	< 0.001 u	< 0.0048 u	< 0.0009 u	< 0.004 u
Methylene chloride	4.09E+02	(1)	1.21E+03	(5)	6.94E+00	(8)	0.000686 J	0.0007 J	< 0.2615 u	< 0.0125 u	< 0.0005 u	0.00044 J	< 0.0578 u	< 0.0006 u	0.00051 J	< 0.2384 u	< 0.0005 u	< 0.0628 u	< 0.0129 u	0.00081 J	< 0.0006 u	< 0.0007 u	0.00069 J	< 0.0135 u	0.000655 J	< 0.0113 u
Naphthalene	4.97E+01	(1)	1.59E+02	(5)	1.21E+00	(8)	< 0.00058 u	< 0.00071 u	7.8 v	0.14 v	0.00081 J	< 0.00057 u	0.32 v	0.00087 J	< 0.00052 u	11 v	0.000725 J	0.54 v	0.46 v	0.00119 J	< 0.00076 u	< 0.0009 u	< 0.00081 u	3.8 v	0.000791 J	< 0.00674 u
n-Butylbenzene	3.90E+03	(2)	5.80E+04	(6)	9.44E+02	(9)	< 0.0007 u	< 0.0009 u	1.2 J	0.023 J	< 0.0008 u	< 0.0007 u	0.065 J	< 0.001 u	< 0.0007 u	1.4 J	< 0.0008 u	0.063 J	0.098 v	< 0.001 u	< 0.001 u	< 0.0011 u	< 0.001 u	0.58 J	< 0.0009 u	< 0.0024 u
n-Propylbenzene	3.80E+03	(2)	2.40E+04	(6)	3.54E+02	(9)	< 0.0003 u	< 0.0004 u	0.85 v	0.026 J	0.00043 J	< 0.0003 u	0.052 J	< 0.0004 u	< 0.0003 u	1.8 v	0.000372 J	0.057 J	0.12 v	0.00068 J	< 0.0004 u	< 0.0005 u	< 0.0005 u	0.86 v	< 0.0004 u	< 0.0021 u
sec-Butylbenzene	7.80E+03	(2)	1.20E+05	(6)	1.74E+03	(9)	0.00065 J	0.00079 J	0.51 J	0.011 J	0.00071 J	< 0.0004 u	0.021 J	0.00085 J	< 0.0004 u	0.75 v	0.000688 J	< 0.0224 u	0.051 v	0.00095 J	0.00083 J	0.00096 J	< 0.0006 u	0.36 v	0.000813 J	0.0097 J
Styrene	7.26E+03	(1)	1.02E+04	(5)	3.04E+02	(8)	< 0.0003 u	< 0.0004 u	< 0.12 u	< 0.0058 u	< 0.0003 u	< 0.0003 u	< 0.0265 u	< 0.0004 u	< 0.0003 u	< 0.1094 u	< 0.0003 u	< 0.0288 u	< 0.0059 u	< 0.0004 u	< 0.0004 u	< 0.0005 u	< 0.0004 u	< 0.0062 u	< 0.0004 u	< 0.0052 u
tert-Butylbenzene	7.80E+03	(2)	1.20E+05	(6)	4.72E+02	(9)	< 0.0003 u	< 0.0003 u	< 0.0749 u	< 0.0036 u	< 0.0003 u	< 0.0003 u	< 0.0166 u	< 0.0004 u	< 0.0002 u	< 0.0683 u	< 0.0003 u	< 0.018 u	< 0.0037 u	< 0.0004 u	< 0.0004 u	< 0.0004 u	< 0.0004 u	< 0.0386 u	< 0.0003 u	< 0.0032 u
Tetrachloroethene (PCE)	1.11E+02	(1)	1.20E+02	(5)	4.73E+00	(8)	< 0.0004 u	< 0.0004 u	< 0.0566 u	< 0.0027 u	< 0.0004 u	< 0.0003 u	< 0.0125 u	< 0.0005 u	< 0.0003 u	< 0.0516 u	< 0.0004 u	< 0.0136 u	< 0.0028 u	< 0.0005 u	< 0.0005 u	< 0.0005 u	< 0.0005 u	< 0.0029 u	< 0.0004 u	< 0.0025 u
Toluene	5.23E+03	(1)	1.40E+04	(5)	1.79E+02	(8)	0.00801 v	0.00962 v	0.48 J	< 0.0037 u	0.0122 v	0.0008 J	< 0.0172 u	0.0115 v	0.000255 J	5 v	0.0104 v	0.021 J	0.02 J	0.0162 v	0.00101 J	0.0101 v	0.00089 J	0.11 v	0.00936 v	< 0.0034 u
trans-1,2-DCE	2.95E+02	(1)	3.05E+02	(5)	6.92E+00	(8)	< 0.0003 u	< 0.0004 u	< 0.0425 u	< 0.002 u	< 0.0003 u	< 0.0003 u	< 0.0094 u	< 0.0004 u	< 0.0003 u	< 0.0387 u	< 0.0003 u	< 0.0102 u	< 0.0021 u	< 0.0004 u	< 0.0004 u	< 0.0004 u	< 0.0004 u	< 0.0022 u	< 0.0004 u	< 0.0018 u
trans-1,3-Dichloropropene	2.93E+01	(1)	1.30E+02	(5)	4.13E-01	(8)	< 0.0002 u	< 0.0003 u	< 0.1177 u	< 0.0056 u	< 0.0002 u	< 0.0002 u	< 0.026 u	< 0.0003 u	< 0.0002 u	< 0.1073 u	< 0.0002 u	< 0.0283 u	< 0.0058 u	< 0.0003 u	< 0.0003 u	< 0.0004 u	< 0.0003 u	< 0.0061 u	< 0.0003 u	< 0.0051 u
Trichloroethene (TCE)	6.77E+00	(1)	6.90E+00	(5)	2.58E-01	(8)	< 0.0004 u	< 0.0004 u	< 0.0637 u	< 0.0031 u	< 0.0004 u	< 0.0003 u	< 0.0141 u	< 0.0005 u	< 0.0003 u	< 0.0581 u	< 0.0004 u	< 0.0153 u	< 0.0031 u	< 0.0005 u	< 0.0005 u	< 0.0005 u	< 0.0005 u	< 0.0033 u	< 0.0004 u	< 0.0028 u
Trichlorofluoromethane	1.23E+03	(1)	1.13E+03	(5)	2.31E+02	(8)	< 0.0004 u	< 0.0004 u	< 0.1973 u	< 0.0095 u	< 0.0004 u	< 0.0004 u	< 0.0436 u	< 0.0005 u	< 0.0003 u	< 0.1799 u	< 0.0004 u	< 0.0474 u	< 0.0098 u	< 0.0005 u	< 0.0005 u	< 0.0006 u	< 0.0005 u	< 0.0102 u	< 0.0005 u	< 0.0086 u
Vinyl chloride	7.42E-01	(1)	2.84E+01	(4)	1.99E-02	(8)	< 0.0002 u	< 0.0003 u	< 0.2615 u	< 0.0125 u	< 0.0002 u	< 0.0002 u	< 0.0578 u	< 0.0003 u	< 0.0002 u	< 0.2384 u	< 0.0002 u	< 0.0628 u	< 0.0129 u	< 0.0003 u	< 0.0003 u	< 0.0003 u	< 0.0003 u	< 0.0135 u	< 0.0003 u	< 0.0113 u
Xylenes, Total	8.71E+02	(1)	7.98E+02	(5)	4.39E+01	(8)	0.00622 v	0.00711 v	13 v	0.016 J	0.00872 v	< 0.001 u	0.26 J	0.00807 v	< 0.001 u	29 v	0.00797 v	0.73 v	1.7 v	0.0121 v	< 0.0014 u	0.00583 v	< 0.0015 u	5 v	0.00769 v	< 0.0079 u
Semi-volatiles (mg/kg)																										
1,2,4-Trichlorobenzene	8.29E+01	(1)	7.91E+01	(5)	2.60E+00	(8)	< 0.1213 u	< 0.12 u	< 1.1646 u	< 0.1185 u	< 0.1177 u	< 1.0207 u	< 1.017 u	< 0.1186 u	< 0.2327 u	< 1.2417 u	< 0.1206 u	< 1.1468 u	< 1.2306 u	< 0.1164 u	< 0.1186 u	< 0.1125 u	< 0.1079 u	< 0.1208 u	< 0.1121 u	< 0.1148 u
1,2-Dichlorobenzene	2.15E+03	(1)	2.50E+03	(5)	6.75E+01	(8)	< 0.1134 u	< 0.1121 u	< 1.0882 u	< 0.1107 u	< 0.11 u	< 0.9537 u	< 0.9502 u	< 0.1108 u	< 0.2175 u	< 1.1602 u	< 0.1126 u	< 1.0716 u	< 1.1499 u	< 0.1087 u	< 0.1108 u	< 0.1051 u	< 0.1009 u	< 0.1128 u	< 0.1048 u	< 0.1072 u
1,3-Dichlorobenzene	-	-	-	-	-	-	< 0.1053 u	< 0.1041 u	< 1.0104 u	< 0.1028 u	< 0.1021 u	< 0.8856 u	< 0.8824 u	< 0.1029 u	< 0.2019 u	< 1.0774 u	< 0.1046 u	< 0.995 u	< 1.0678 u	< 0.101 u	< 0.1029 u	< 0.0976 u	< 0.0937 u	< 0.1048 u	< 0.0973 u	< 0.0996 u
1,4-Dichlorobenzene	3.28E+01	(1)	1.59E+02	(4)	1.06E+00	(8)	< 0.124 u	< 0.1226 u	< 1.1899 u	< 0.1211 u	< 0.1202 u	< 1.0429 u	< 1.0391 u	< 0.1212 u	< 0.2378 u	< 1.2688 u	< 0.1232 u	< 1.1718 u	< 1.2575 u	< 0.1189 u	< 0.1211 u	< 0.1149 u	< 0.1103 u	< 0.1234 u	< 0.1146 u	< 0.1173 u
1-Methylnaphthalene	1.80E+02	(3)	7.30E+02	(7)	1.71E+00	(9)	< 0.1099 u	< 0.1087 u	68 v	0.26 v	< 0.1066 u	< 0.9242 u	1.1 J	< 0.1074 u	< 0.2107 u	17 v	< 0.1092 u	14 v	3.8 v	< 0.1054 u	< 0.1074 u	< 0.1019 u	< 0.0977 u	12 v	< 0.1015 u	< 0.1039 u
2,4,5-Trichlorophenol	6.16E+03	(1)	2.69E+04	(5)	9.76E+02	(8)	< 0.1381 u	< 0.1366 u	< 1.3258 u	< 0.1349 u	< 0.134 u	< 1.162 u	< 1.1577 u	< 0.135 u	< 0.265 u	< 1.4136 u	< 0.1372 u	< 1.3056 u	< 1.401 u	< 0.1325 u	< 0.135 u	< 0.1281 u	< 0.1229 u	< 0.1375 u	< 0.1277 u	< 0.1306 u
2,4,6-Trichlorophenol	6.16E+01	(1)	2.69E+02	(5)	9.95E+00	(8)	< 0.137 u	< 0.1355 u	< 1.3153 u	< 0.1338 u	< 0.1329 u	< 1.1528 u	< 1.1485 u	< 0.134 u	< 0.2629 u	< 1.4024 u	< 0.1362 u	< 1.2952 u	< 1.3899 u	< 0.1314 u	< 0.1339 u	< 0.127 u	< 0.1219 u	< 0.1364 u	< 0.1267 u	< 0.1296 u
2,4-Dichlorophenol	1.85E+02	(1)	8.07E+02	(5)	1.22E+01	(8)	< 0.1185 u	< 0.1172 u	< 1.1377 u	< 0.1158 u	< 0.115 u	< 0.9971 u	< 0.9934 u	< 0.1159 u	< 0.2274 u	< 1.213 u	< 0.1178 u	< 1.1203 u	< 1.2022 u	< 0.1137 u	< 0.1158 u	< 0.1099 u	< 0.1054 u	< 0.118 u	< 0.1096 u	< 0.1121 u
2,4-Dimethylphenol	1.23E+03	(1)	5.38E+03	(5)	9.51E+01	(8)	< 0.0932 u	< 0.0921 u	< 0.8942 u	< 0.091 u	< 0.0904 u	< 0.7838 u	< 0.7809 u	< 0.0911 u	< 0.1787 u	< 0.9535 u	< 0.0926 u	< 0.8806 u	< 0.945 u	< 0.0894 u	< 0.091 u	< 0.0864 u	< 0.0829 u	< 0.0927 u	< 0.0861 u	< 0.0881 u
2,4-Dinitrophenol	1.23E+02	(1)	5.38E+02	(5)	9.89E+00	(8)	< 0.0492 u	< 0.0487 u	< 0.4727 u	< 0.0481 u	< 0.0478 u	< 0.4143 u	< 0.4128 u	< 0.0481 u	< 0.0945 u	< 0.504 u	< 0.0489 u	< 0.4655 u	< 0.4995 u	< 0.0472 u	< 0.0481 u	< 0.0457 u	< 0.0438 u	< 0.049 u	< 0.0455 u	< 0.0466 u
2,4-Dinitrotoluene	1.71E+01	(1)	8.23E+01	(4)	7.25E-01	(8)	< 0.106 u	< 0.1049 u	< 1.0178 u	< 0.1036 u	< 0.1028 u	< 0.892 u	< 0.8888 u	< 0.1037 u	< 0.2034 u	< 1.0852 u	< 0.1054 u	< 1.0023 u	< 1.0755 u	< 0.1017 u	< 0.1036 u	< 0.0983 u	< 0.0943 u	< 0.1055 u	< 0.098 u	< 0.1003 u
2,6-Dinitrotoluene	3.56E+00	(1)	1.72E+01	(4)	1.51E-01	(8)	< 0.1317 u	< 0.1303 u	< 1.2646 u	< 0.1287 u	< 0.1278 u	< 1.1083 u	< 1.1043 u	< 0.1288 u	< 0.2527 u	< 1.3483 u	< 0.1309 u	< 1.2453 u	< 1.3363 u	< 0.1264 u	< 0.1287 u	< 0.1222 u	< 0.1172 u	< 0.1311 u	< 0.1218 u	< 0.1246 u
2-Chloronaphthalene	6.26E+03	(1)	2.83E+04	(5)	8.41E+02	(8)	< 0.127 u	< 0.1256 u	< 1.2189 u	< 0.124 u	< 0.1232 u	< 1.0683 u	< 1.0644 u	< 0.1241 u	< 0.2436 u	< 1.2996 u	< 0.1262 u	< 1.2003 u	< 1.288 u	< 0.1218 u	< 0.1241 u	< 0.1177 u	< 0.113 u	< 0.1264 u	< 0.1174 u	< 0.1201 u
2-Chlorophenol	3.91E+02	(1)	1.77E+03	(5)	1.70E+01	(8)	< 0.1106 u	< 0.1094 u	< 1.0617 u	< 0.108 u	< 0.1073 u	< 0.9305 u	< 0.9271 u	< 0.1081 u	< 0.2122 u	< 1.132 u	< 0.1099 u	< 1.0455 u	< 1.1219 u	< 0.1061 u	< 0.1081 u	< 0.1026 u	< 0.0984 u	< 0.1101 u	< 0.1022 u	< 0.1046 u
2-Methylnaphthalene	2.40E+02	(2)	3.00E+03	(6)	5.61E+01	(9)	< 0.1085 u	< 0.1073 u	89 v	0.35 v	< 0.1052 u	< 0.9125 u	1 J	< 0.106 u	< 0.2081 u	25 v	< 0.1078 u	23 v	5.7 v	< 0.104 u	< 0.106 u	< 0.1006 u	< 0.0965 u	21 v	< 0.1003 u	< 0.1026 u
'2-Methylphenol (cresol,o-)	3.20E+03	(2)	4.10E+04	(6)	2.21E+02	(9)	< 0.1188 u	< 0.1175 u	< 1.1405 u	< 0.1161 u	< 0.1152 u	< 0.9996 u	< 0.996 u	< 0.1162 u	< 0.2279 u	< 1.2161 u	< 0.1181 u	< 1.1231 u	< 1.2052 u	< 0.114 u	< 0.1161 u	< 0.1102 u	< 0.1057 u	2.2 v	< 0.1098 u	< 0.1124 u
2-Nitroaniline	6.30E+02	(2)	8.00E+03	(6)	2.36E+01	(9)	< 0.1349 u	< 0.1334 u	< 1.2945 u	< 0.1317 u	< 0.1308 u	< 1.1346 u	< 1.1304 u	< 0.1318 u	< 0.2587 u	< 1.3802 u	< 0.134 u	< 1.2748 u	< 1.368 u	< 0.1294 u	< 0.1318 u	< 0.125 u	< 0.12 u	< 0.1342 u	< 0.1247 u	< 0.1276 u
2-Nitrophenol	-	-	-	-	-	-	< 0.1065 u	< 0.1054 u	< 1.0225 u	< 0.1041 u	< 0.1033 u	< 0.8962 u	< 0.8929 u	< 0.1041 u	< 0.2044 u	< 1.0902 u	< 0.1059 u	< 1.0069 u	< 1.0805 u	< 0.1022 u	< 0.1041 u	< 0.0988 u	< 0.0948 u	< 0.106 u	< 0.0985 u	< 0.1008 u
3,3´-Dichlorobenzidine	1.18E+01	(1)	5.70E+01	(4)	1.81E+00	(8)	< 0.0913 u	< 0.0903 u	< 0.876 u	< 0.0891 u	< 0.0885 u	< 0.7678 u	< 0.765 u	< 0.0892 u	< 0.1751 u	< 0.934 u	< 0.0907 u	< 0.8627 u	< 0.9257 u	< 0.0875 u	< 0.0892 u	< 0.0846 u	< 0.0812 u	< 0.0908 u	< 0.0844 u	< 0.0863 u
3+4-Methylphenol	-	-	-	-	-	-	< 0.1228 u	< 0.1215 u	< 1.1791 u	< 0.12 u	< 0.1191 u	< 1.0334 u	< 1.0296 u	< 0.1201 u	< 0.2356 u	< 1.2572 u	< 0.1221 u	< 1.1611 u	< 1.246 u	< 0.1178 u	< 0.12 u	< 0.1139 u	< 0.1093 u	0.79 v	< 0.1135 u	< 0.1162 u
3-Nitroaniline	-	-	-	-	-	-	< 0.1142 u	< 0.1129 u	< 1.0961 u	< 0.1115 u	< 0.1108 u	< 0.9607 u	< 0.9572 u	< 0.1116 u	< 0.2191 u	< 1.1687 u	< 0.1135 u	< 1.0794 u	< 1.1583 u	< 0.1095 u	< 0.1116 u	< 0.1059 u	< 0.1016 u	< 0.1137 u	< 0.1056 u	< 0.108 u
4,6-Dinitro-2-methylphenol	4.93E+00	(1)	2.15E+01	(5)	5.81E-01	(8)	< 0.0644 u	< 0.0637 u	< 0.6186 u	< 0.0629 u	< 0.0625 u	< 0.5422 u	< 0.5402 u	< 0.063 u	< 0.1236 u	< 0.6596 u	< 0.064 u	< 0.6092 u	< 0.6537 u	< 0.0618 u	< 0.063 u	< 0.0598 u	< 0.0573 u	< 0.0641 u	< 0.0596 u	< 0.061 u
4-Bromophenyl phenyl ether	-	-	-	-	-	-	< 0.1258 u	< 0.1244 u	< 1.207 u	< 0.1228 u	< 0.122 u	< 1.0579 u	< 1.054 u	< 0.1229 u	< 0.2412 u	< 1.287 u	< 0.125 u	< 1.1886 u	< 1.2755 u	< 0.1206 u	< 0.1229 u	< 0.1166 u	< 0.1119 u	< 0.1252 u	< 0.1162 u	< 0.1189 u
4-Chloro-3-methylphenol	-	-	-	-	-	-	< 0.118 u	< 0.1167 u	< 1.1327 u	< 0.1153 u	< 0.1145 u	< 0.9928 u	< 0.9892 u	< 0.1154 u	< 0.2264 u	< 1.2077 u	< 0.1173 u	< 1.1155 u	< 1.197 u	< 0.1132 u	< 0.1153 u	< 0.1094 u	< 0.105 u	< 0.1175 u	< 0.1091 u	< 0.1116 u
4-Chloroaniline	2.70E+01	(3)	1.10E+02	(7)	4.72E-02	(9)	< 0.1096 u	< 0.1084 u	< 1.0521 u	< 0.1071 u	< 0.1063 u	< 0.9221 u	< 0.9187 u	< 0.1072 u	< 0.2103 u	< 1.1218 u	< 0.1089 u	< 1.0361 u	< 1.1118 u	< 0.1051 u	< 0.1071 u	< 0.1016 u	< 0.0975 u	< 0.1091 u	< 0.1013 u	< 0.1037 u
4-Chlorophenyl phenyl ether	-	-	-	-	-	-	< 0.1765 u	< 0.1745 u	< 1.6941 u	< 0.1724 u	< 0.1712 u	< 1.4847 u	< 1.4793 u	< 0.1725 u	< 0.3386 u	< 1.8062 u	< 0.1754 u	< 1.6682 u	< 1.7902 u	< 0.1693 u	< 0.1725 u	< 0.1636 u	< 0.157 u	< 0.1757 u	< 0.1631 u	< 0.1669 u
4-Nitroaniline	2.70E+02	(3)	1.10E+03	(7)	4.72E-01	(9)	< 0.1065 u	< 0.1053 u	< 1.0218 u	< 0.104 u	< 0.1033 u	< 0.8956 u	< 0.8923 u	< 0.1041 u	< 0.2042 u	< 1.0895 u	< 0.1058 u	< 1.0063 u	< 1.0798 u	< 0.1021 u	< 0.104 u	< 0.0987 u	< 0.0947 u	< 0.106 u	< 0.0984 u	< 0.1007 u
4-Nitrophenol	-	-	-	-	-	-	< 0.1021 u	< 0.101 u	< 0.9802 u	< 0.0997 u	< 0.099 u	< 0.8591 u	< 0.8559 u	< 0.0998 u	< 0.1959 u	< 1.0451 u	< 0.1015 u	< 0.9652 u	< 1.0358 u	< 0.0979 u	< 0.0998 u	< 0.0947 u	< 0.0908 u	< 0.1016 u	< 0.0944 u	< 0.0966 u
Acenaphthene	3.48E+03	(1)	1.51E+04	(5)	1.22E+03	(8)	< 0.1444 u	< 0.1428 u	< 1.3863 u	< 0.1411 u	< 0.1401 u	< 1.215 u	< 1.2106 u	< 0.1412 u	< 0.2771 u	< 1.4781 u	< 0.1435 u	< 1.3652 u	< 1.465 u	< 0.1385 u	< 0.1411 u	< 0.1339 u	< 0.1285 u	< 0.1438 u	< 0.1335 u	< 0.1366 u
Acenaphthylene	-	-	-	-	-	-	< 0.1201 u	< 0.1187 u	< 1.1525 u	< 0.1173 u	< 0.1165 u	< 1.0101 u	< 1.0064 u	< 0.1174 u	< 0.2303 u	< 1.2288 u	< 0.1193 u	< 1.1349 u	< 1.2178 u	< 0.1152 u	< 0.1173 u	< 0.1113 u	< 0.1068 u	< 0.1195 u	< 0.111 u	< 0.1136 u
Aniline	9.50E+02	(3)	4.00E+03	(7)	1.36E+00	(9)	< 0.1032 u	< 0.102 u	< 0.9902 u	< 0.1008 u	< 0.1001 u	< 0.8679 u	< 0.8647 u	< 0.1009 u	< 0.1979 u	< 1.0558 u	< 0.1025 u	< 0.9751 u	< 1.0464 u	< 0.0989 u	< 0.1008 u	< 0.0957 u	< 0.0918 u	< 0.1027 u	< 0.0954 u	< 0.0976 u
Anthracene	1.74E+04	(1)	7.53E+04	(5)	1.25E+04	(8)	< 0.1007 u	< 0.0996 u	< 0.9664 u	< 0.0983 u	< 0.0976 u	< 0.847 u	< 0.8439 u	< 0.0984 u	< 0.1931 u	< 1.0304 u	< 0.1 u	< 0.9516 u	< 1.0212 u	< 0.0966 u	< 0.0984 u	< 0.0933 u	< 0.0896 u	< 0.1002 u	< 0.0931 u	< 0.0952 u
Azobenzene	5.60E+01	(3)	2.60E+02	(7)	2.71E+07	(9)	< 0.1329 u	< 0.1314 u	< 1.2753 u	< 0.1298 u	< 0.1289 u	< 1.1178 u	< 1.1137 u	< 0.1299 u	< 0.2549 u	< 1.3598 u	< 0.132 u	< 1.2559 u	< 1.3477 u	< 0.1274 u	< 0.1298 u	< 0.1232 u	< 0.1182 u	< 0.1322 u	< 0.1228 u	< 0.1257 u
Benz(a)anthracene	1.53E+00	(1)	3.23E+01	(4)	2.69E+01	(8)	< 0.0932 u	< 0.0921 u	< 0.8941 u	< 0.091 u	< 0.0904 u	< 0.7837 u	< 0.7808 u	< 0.0911 u	< 0.1787 u	< 0.9534 u	< 0.0926 u	< 0.8805 u	< 0.9449 u	< 0.0893 u	< 0.091 u	< 0.0864 u	< 0.0829 u	< 0.0927 u	< 0.0861 u	< 0.0881 u
Benzo(a)pyrene	1.53E-01	(1)	3.23E+00	(4)	8.92E+00	(8)	< 0.133 u	< 0.1315 u	< 1.2767 u	< 0.1299 u	< 0.129 u	< 1.119 u	< 1.1149 u	< 0.13 u	< 0.2552 u	< 1.3613 u	< 0.1322 u	< 1.2573 u	< 1.3492 u	< 0.1276 u	< 0.13 u	< 0.1233 u	< 0.1183 u	< 0.1324 u	< 0.1229 u	< 0.1258 u
Benzo(b)fluoranthene	1.53E+00	(1)	3.23E+01	(4)	9.10E+01	(8)	< 0.1126 u	< 0.1113 u	< 1.0803 u	< 0.1099 u	< 0.1092 u	< 0.9468 u	< 0.9434 u	< 0.11 u	< 0.2159 u	< 1.1518 u	< 0.1118 u	< 1.0638 u	< 1.1416 u	< 0.1079 u	< 0.11 u	< 0.1044 u	< 0.1001 u	< 0.112 u	< 0.104 u	< 0.1064 u
Benzo(g,h,i)perylene	-	-	-	-	-	-	< 0.1349 u	< 0.1334 u	< 1.2946 u	< 0.1317 u	< 0.1308 u	< 1.1347 u	< 1.1305 u	< 0.1318 u	< 0.2587 u	< 1.3803 u	< 0.134 u	< 1.2749 u	< 1.3681 u	< 0.1294 u	< 0.1318 u	< 0.1251 u	< 0.12 u	< 0.1342 u	< 0.1247 u	< 0.1276 u
Benzo(k)fluoranthene	1.53E+01	(1)	3.23E+02	(4)	8.92E+02	(8)	< 0.1339 u	< 0.1325 u	< 1.2857 u	< 0.1308 u	< 0.1299 u	< 1.1268 u	< 1.1227 u	< 0.1309 u	< 0.2569 u	< 1.3708 u	< 0.1331 u	< 1.2661 u	< 1.3586 u	< 0.1285 u	< 0.1309 u	< 0.1242 u	< 0.1192 u	< 0.1333 u	< 0.1238 u	< 0.1267 u
Benzoic acid	2.50E+05	(2)	3.30E+06	(6)	5.31E+03	(9)	< 0.0675 u	< 0.0668 u	< 0.6482 u	< 0.066 u	< 0.0655 u	< 0.5681 u	< 0.5661 u	< 0.066 u	< 0.1295 u	< 0.6912 u	< 0.0671 u	< 0.6383 u	< 0.685 u	< 0.0648 u	< 0.066 u	< 0.0626 u	< 0.0601 u	< 0.0672 u	< 0.0624 u	< 0.0639 u
Benzyl alcohol	6.30E+03	(2)	8.20E+04	(6)	1.42E+02	(9)	< 0.1053 u	< 0.1041 u	< 1.0105 u	< 0.1028 u	< 0.1021 u	< 0.8857 u	< 0.8824 u	< 0.1029 u	< 0.202 u	< 1.0774 u	< 0.1046 u	< 0.9951 u	< 1.0679 u	< 0.101 u	< 0.1029 u	< 0.0976 u	< 0.0937 u	< 0.1048 u	< 0.0973 u	< 0.0996 u
Bis(2-chloroethoxy)methane	1.90E+02	(2)	2.50E+03	(6)	3.84E+00	(9)	< 0.1131 u	< 0.1119 u	< 1.0858 u	< 0.1105 u	< 0.1097 u	< 0.9516 u	< 0.9482 u	< 0.1106 u	< 0.217 u	< 1.1577 u	< 0.1124 u	< 1.0692 u	< 1.1474 u	< 0.1085 u	< 0.1105 u	< 0.1049 u	< 0.1006 u	< 0.1126 u	< 0.1046 u	< 0.107 u
Bis(2-chloroethyl)ether	3.11E+00	(1)	1.95E+00	(5)	8.93E-03	(8)	< 0.1171 u	< 0.1158 u	< 1.1241 u	< 0.1144 u	< 0.1136 u	< 0.9852 u	< 0.9816 u	< 0.1145 u	< 0.2247 u	< 1.1986 u	< 0.1164 u	< 1.107 u	< 1.1879 u	< 0.1123 u	< 0.1144 u	< 0.1086 u	< 0.1042 u	< 0.1166 u	< 0.1082 u	< 0.1108 u
Bis(2-chloroisopropyl)ether	9.93E+01	(1)	5.19E+02	(4)	6.98E-01	(8)	< 0.0905 u	< 0.0895 u	< 0.8691 u	< 0.0884 u	< 0.0878 u	< 0.7617 u	< 0.759 u	< 0.0885 u	< 0.1737 u	< 0.9267 u	< 0.09 u	< 0.8559 u	< 0.9184 u	< 0.0868 u	< 0.0885 u	< 0.084 u	< 0.0806 u	< 0.0901 u	< 0.0837 u	< 0.0856 u
Bis(2-ethylhexyl)phthalate	3.80E+02	(1)	1.83E+03	(4)	2.95E+03	(8)	< 0.1332 u	< 0.1317 u	< 1.2781 u	< 0.1301 u	< 0.1292 u	1.5 J	< 1.1161 u	< 0.1302 u	< 0.2554 u	< 1.3628 u	< 0.1323 u	< 1.2586 u	< 1.3506 u	< 0.1277 u	< 0.1301 u	< 0.1235 u	< 0.1185 u	< 0.1325 u	< 0.1231 u	< 0.1259 u
Butyl benzyl phthalate	2.90E+03	(3)	1.20E+04	(7)	6.79E+01	(9)	< 0.1447 u	< 0.1431 u	< 1.3889 u	< 0.1413 u	< 0.1403 u	< 1.2173 u	< 1.2128 u	< 0.1414 u	< 0.2776 u	< 1.4808 u	< 0.1438 u	< 1.3677 u	< 1.4677 u	< 0.1388 u	< 0.1414 u	< 0.1342 u	< 0.1287 u	< 0.144 u	< 0.1337 u	< 0.1369 u
Carbazole	-	-	-	-	-	-	< 0.1104 u	< 0.1092 u	< 1.0596 u	< 0.1078 u	< 0.1071 u	< 0.9286 u	< 0.9253 u	< 0.1079 u	< 0.2118 u	< 1.1297 u	< 0.1097 u	< 1.0434 u	< 1.1197 u	< 0.1059 u	< 0.1079 u	< 0.1023 u	< 0.0982 u	< 0.1099 u	< 0.102 u	< 0.1044 u

Table 7
SWMU 10 Soil Analytical Results Summary
Western Refining Southwest, Inc. - Gallup Refinery
Gallup, New Mexico

	Residential Soil Screening Level	Source	Non-Residential Soil Screening Level	Source	Leachate DAF (295) (mg/kg) SoilGW	Source	SWMU 10-7 (4-6')		SWMU 10-7 (18-20')		SWMU 10-8 (2-4')		SWMU 10-8 (4-6')		SWMU 10-8 (18-20')		SWMU 10-9 (2-4')		SWMU 10-9 (4-6')		SWMU 10-9 (18-20')		SWMU 10-10 (2-4')		SWMU 10-10 (4-6')		SWMU 10-10 (18-20')		SWMU 10-11 (4-6')		SWMU 10-11 (8-10')		SWMU 10-11 (18-20')		SWMU 10-12 (6-8')		SWMU 10-12 (20-22')		SWMU 10-13 (2-4')		SWMU 10-13 (6-8')		SWMU 10-13 (18-20')		SWMU 10-14 (6-8')	
							1505059-002		1505059-003		1505057-005		1505057-006		1505057-007		1505057-001		1505057-002		1505057-003		1505058-001		1505058-002		1505058-003		1505570-003		1505570-004		1505570-003		1505617-001		1505617-002		1505617-003		1505617-004		1505617-005		1505570-001	
							5/1/2015		5/1/2015		4/30/2015		4/30/2015		4/30/2015		4/30/2015		4/30/2015		4/30/2015		4/30/2015		4/30/2015		4/30/2015		5/12/2015		5/12/2015		5/12/2015		5/12/2015		5/12/2015		5/13/2015		5/13/2015		5/13/2015		5/12/2015	
Chrysene	1.53E+02	(1)	3.23E+03	(4)	2.74E+03	(8)	< 0.119	u	< 0.1177	u	< 1.1424	u	< 0.1162	u	< 0.1154	u	< 1.0012	u	< 0.9976	u	< 0.1163	u	< 0.2283	u	< 1.218	u	< 0.1183	u	< 1.1249	u	< 1.2072	u	< 0.1141	u	< 0.1163	u	< 0.1103	u	< 0.1059	u	< 0.1185	u	< 0.11	u	< 0.1126	u
Dibenz(a,h)anthracene	1.53E-01	(1)	3.23E+00	(4)	9.01E+01	(8)	< 0.1284	u	< 0.127	u	< 1.2325	u	< 0.1254	u	< 0.1245	u	< 1.0802	u	< 1.0763	u	< 0.1255	u	< 0.2463	u	< 1.3141	u	< 0.1276	u	< 1.2137	u	< 1.3025	u	< 0.1232	u	< 0.1255	u	< 0.1191	u	< 0.1142	u	< 0.1278	u	< 0.1187	u	< 0.1214	u
Dibenzofuran	-	-	-	-	-	-	< 0.1268	u	< 0.1254	u	< 1.2167	u	< 0.1238	u	< 0.1229	u	< 1.0664	u	< 1.0625	u	< 0.1239	u	< 0.2432	u	< 1.2973	u	< 0.126	u	< 1.1981	u	< 1.2857	u	< 0.1216	u	< 0.1239	u	< 0.1175	u	< 0.1128	u	< 0.1262	u	< 0.1172	u	< 0.1199	u
Diethyl phthalate	4.93E+04	(1)	2.15E+05	(5)	1.44E+03	(8)	< 0.1345	u	< 0.133	u	< 1.2911	u	< 0.1314	u	< 0.1305	u	< 1.1316	u	< 1.1275	u	< 0.1315	u	< 0.258	u	< 1.3766	u	< 0.1337	u	< 1.2714	u	< 1.3644	u	< 0.129	u	< 0.1314	u	< 0.1247	u	< 0.1197	u	< 0.1339	u	< 0.1243	u	< 0.1272	u
Dimethyl phthalate	6.11E+05	(1)	2.38E+06	(5)	2.38E+04	(8)	< 0.1091	u	< 0.1079	u	< 1.047	u	< 0.1065	u	< 0.1058	u	< 0.9176	u	< 0.9143	u	< 0.1066	u	< 0.2092	u	< 1.1163	u	< 0.1084	u	< 1.031	u	< 1.1064	u	< 0.1046	u	< 0.1066	u	< 0.1011	u	< 0.097	u	< 0.1086	u	< 0.1008	u	< 0.1032	u
Di-n-butyl phthalate	6.16E+03	(1)	2.69E+04	(5)	4.98E+02	(8)	< 0.134	u	< 0.1326	u	< 1.2866	u	< 0.1309	u	< 0.13	u	< 1.1276	u	< 1.1235	u	< 0.131	u	< 0.2571	u	< 1.3718	u	< 0.1332	u	< 1.267	u	< 1.3596	u	< 0.1286	u	< 0.131	u	< 0.1243	u	< 0.1192	u	< 0.1334	u	< 0.1239	u	< 0.1268	u
Di-n-octyl phthalate	-	-	-	-	-	-	< 0.1319	u	< 0.1305	u	< 1.2665	u	< 0.1289	u	< 0.128	u	< 1.11	u	< 1.1059	u	< 0.129	u	< 0.2531	u	< 1.3503	u	< 0.1311	u	< 1.2472	u	< 1.3383	u	< 0.1266	u	< 0.1289	u	< 0.1223	u	< 0.1174	u	< 0.1313	u	< 0.122	u	< 0.1248	u
Fluoranthene	2.32E+03	(1)	1.00E+04	(5)	1.97E+04	(8)	< 0.1438	u	< 0.1422	u	< 1.3805	u	< 0.1405	u	< 0.1395	u	< 1.2099	u	< 1.2055	u	< 0.1406	u	< 0.2759	u	< 1.4719	u	< 0.1429	u	< 1.3595	u	< 1.4588	u	< 0.1379	u	< 0.1405	u	< 0.1334	u	< 0.128	u	< 0.1432	u	< 0.1329	u	< 0.136	u
Fluorene	2.32E+03	(1)	1.00E+04	(5)	1.18E+03	(8)	< 0.1614	u	< 0.1596	u	8.1	v	< 0.1576	u	< 0.1565	u	< 1.3574	u	< 1.3524	u	< 0.1577	u	< 0.3095	u	2.2	J	< 0.1603	u	1.8	J	< 1.6366	u	< 0.1548	u	< 0.1577	u	< 0.1496	u	< 0.1435	u	1.1	v	< 0.1491	u	0.2	J
Hexachlorobenzene	3.33E+00	(1)	1.60E+01	(4)	1.36E+00	(8)	< 0.1119	u	< 0.1106	u	< 1.0737	u	< 0.1093	u	< 0.1085	u	< 0.9411	u	< 0.9376	u	< 0.1094	u	< 0.2146	u	< 1.1448	u	< 0.1112	u	< 1.0574	u	< 1.1347	u	< 0.1073	u	< 0.1093	u	< 0.1037	u	< 0.0995	u	< 0.1113	u	< 0.1034	u	< 0.1058	u
Hexachlorobutadiene	6.16E+01	(1)	2.69E+02	(5)	1.30E+00	(8)	< 0.1173	u	< 0.116	u	< 1.1255	u	< 0.1145	u	< 0.1137	u	< 0.9865	u	< 0.9829	u	< 0.1146	u	< 0.2249	u	< 1.2001	u	< 0.1165	u	< 1.1084	u	< 1.1894	u	< 0.1125	u	< 0.1146	u	< 0.1087	u	< 0.1043	u	< 0.1167	u	< 0.1084	u	< 0.1109	u
Hexachlorocyclopentadiene	3.70E+02	(1)	8.67E+02	(5)	1.97E+01	(8)	< 0.0822	u	< 0.0813	u	< 0.7891	u	< 0.0803	u	< 0.0797	u	< 0.6916	u	< 0.6891	u	< 0.0804	u	< 0.1577	u	< 0.8413	u	< 0.0817	u	< 0.777	u	< 0.8339	u	< 0.0788	u	< 0.0803	u	< 0.0762	u	< 0.0731	u	< 0.0818	u	< 0.076	u	< 0.0778	u
Hexachloroethane	4.31E+01	(1)	1.88E+02	(5)	9.77E-01	(8)	< 0.1055	u	< 0.1043	u	< 1.0127	u	< 0.1031	u	< 0.1023	u	< 0.8875	u	< 0.8843	u	< 0.1031	u	< 0.2024	u	< 1.0797	u	< 0.1048	u	< 0.9972	u	< 1.0701	u	< 0.1012	u	< 0.1031	u	< 0.0978	u	< 0.0939	u	< 0.105	u	< 0.0975	u	< 0.0998	u
Indeno(1,2,3-cd)pyrene	1.53E+00	(1)	3.23E+01	(4)	2.96E+02	(8)	< 0.1347	u	< 0.1332	u	< 1.2929	u	< 0.1316	u	< 0.1306	u	< 1.1331	u	< 1.129	u	< 0.1317	u	< 0.2584	u	< 1.3785	u	< 0.1338	u	< 1.2731	u	< 1.3662	u	< 0.1292	u	< 0.1316	u	< 0.1249	u	< 0.1198	u	< 0.1341	u	< 0.1245	u	< 0.1274	u
Naphthalene	4.97E+01	(1)	1.59E+02	(5)	1.21E+00	(8)	< 0.1128	u	< 0.1115	u	18	v	0.15	J	< 0.1094	u	< 0.9487	u	< 0.9453	u	< 0.1102	u	< 0.2163	u	5.9	v	< 0.1121	u	5.3	v	1.2	J	< 0.1082	u	< 0.1102	u	< 0.1046	u	< 0.1003	u	3.9	v	< 0.1042	u	< 0.1067	u
Nitrobenzene	6.04E+01	(1)	2.93E+02	(4)	2.12E-01	(8)	< 0.122	u	< 0.1207	u	< 1.1713	u	< 0.1192	u	< 0.1184	u	< 1.0266	u	< 1.0228	u	< 0.1193	u	< 0.2341	u	< 1.2489	u	< 0.1213	u	< 1.1534	u	< 1.2378	u	< 0.117	u	< 0.1192	u	< 0.1131	u	< 0.1086	u	< 0.1215	u	< 0.1128	u	< 0.1154	u
N-Nitrosodi-n-propylamine	7.80E-01	(3)	3.30E+00	(7)	2.39E-03	(9)	< 0.1229	u	< 0.1215	u	< 1.1792	u	< 0.12	u	< 0.1192	u	< 1.0335	u	< 1.0297	u	< 0.1201	u	< 0.2357	u	< 1.2573	u	< 0.1221	u	< 1.1612	u	< 1.2461	u	< 0.1178	u	< 0.12	u	< 0.1139	u	< 0.1093	u	< 0.1223	u	< 0.1136	u	< 0.1162	u
N-Nitrosodiphenylamine	7.94E-03	(1)	1.71E-01	(4)	1.45E-04	(8)	< 0.1061	u	< 0.1049	u	< 1.0185	u	< 0.1036	u	< 0.1029	u	< 0.8927	u	< 0.8894	u	< 0.1037	u	< 0.2036	u	< 1.086	u	< 0.1054	u	< 1.003	u	< 1.0763	u	< 0.1018	u	< 0.1037	u	< 0.0984	u	< 0.0944	u	< 0.1056	u	< 0.0981	u	< 0.1004	u
Pentachlorophenol	9.85E+00	(1)	4.45E+01	(4)	8.97E-01	(8)	< 0.074	u	< 0.0732	u	< 0.7103	u	< 0.0723	u	< 0.0718	u	< 0.6225	u	< 0.6203	u	< 0.0723	u	< 0.142	u	< 0.7573	u	< 0.0735	u	< 0.6995	u	< 0.7506	u	< 0.071	u	< 0.0723	u	< 0.0686	u	< 0.0658	u	< 0.0737	u	< 0.0684	u	< 0.07	u
Phenanthrene	1.74E+03	(1)	7.53E+03	(5)	1.27E+03	(8)	< 0.124	u	< 0.1226	u	15	v	< 0.1211	u	< 0.1203	u	< 1.0431	u	< 1.0393	u	< 0.1212	u	< 0.2379	u	4.1	v	< 0.1232	u	3.6	v	< 1.2577	u	< 0.1189	u	< 0.1212	u	< 0.115	u	< 0.1103	u	2.3	v	< 0.1146	u	< 0.1173	u
Phenol	1.83E+04	(1)	7.74E+04	(5)	7.72E+02	(8)	< 0.1062	u	< 0.105	u	< 1.0196	u	< 0.1038	u	< 0.103	u	< 0.8936	u	< 0.8903	u	< 0.1038	u	< 0.2038	u	< 1.0871	u	< 0.1055	u	< 1.004	u	< 1.0774	u	< 0.1019	u	< 0.1038	u	< 0.0985	u	< 0.0945	u	0.91	v	< 0.0982	u	< 0.1005	u
Pyrene	1.74E+03	(1)	7.53E+03	(5)	2.83E+03	(8)	< 0.153	u	< 0.1513	u	< 1.4683	u	< 0.1494	u	< 0.1484	u	< 1.2868	u	< 1.2822	u	< 0.1495	u	< 0.2934	u	< 1.5655	u	< 0.152	u	< 1.4459	u	< 1.5516	u	< 0.1467	u	< 0.1495	u	< 0.1418	u	< 0.1361	u	< 0.1523	u	< 0.1414	u	< 0.1447	u
Pyridine	7.80E+01	(2)	1.20E+03	(6)	2.01E+00	(9)	< 0.0996	u	< 0.0985	u	< 0.956	u	< 0.0973	u	< 0.0966	u	< 0.8378	u	< 0.8348	u	< 0.0974	u	< 0.191	u	< 1.0193	u	< 0.099	u	< 0.9414	u	< 1.0102	u	< 0.0955	u	< 0.0973	u	< 0.0923	u	< 0.0886	u	< 0.0991	u	< 0.0921	u	< 0.0942	u
Total Petroleum Hydrocarbons (mg/kg)																																														
Gasoline Range Organics (GRO)	-		-		-		< 1	u	< 1	u	670	v	10	v	< 1	u	< 1	u	12	J	< 1	u	< 1	u	560	v	< 1	u	40	v	68	v	< 1	u	< 1	u	2.4	J	< 1	u	320	v	< 1	u	50	v
Diesel Range Organics (DRO)	1.00E+03	(11)	3.80E+03	(11)	-		< 6	u	< 5	u	**9700**	v	25	v	< 6.3	u	210	v	300	v	< 6.2	u	59	v	**8900**	v	< 5	u	**3800**	v	870	v	< 6.4	u	< 5	u	< 6	u	< 5	u	**2300**	v	< 5	u	**1200**	v
Motor Oil Range Organics (MRO)	1.00E+03	(11)	3.80E+03	(11)	-		< 50	u	< 49	u	**2000**	v	< 56	u	< 57	u	170	v	120	v	< 56	u	98	v	**1600**	v	< 50	u	680	v	280	v	< 58	u	< 50	u	< 50	u	< 48	u	< 498	u	< 49	u	< 550	u

- No screening level or analytical result available
NMED - Risk Assessment Guidance for Site Investigations and Remediation (July 2015)
EPA - Regional Screening Levels (Nov 2015)
(1) NMED Residential Screening Level
(2) EPA Residential Screening Level
(3) EPA Residential - Screening Levels (June 2015) multiplied by 10 pursuant to Section IV.D.2 of the Oct. 31, 2013 RCRA Post-Closure Permit because the constituent is listed as carcinogenic
(4) NMED Industrial Occupational Screening Level
(5) NMED Construction Worker Screening Level
(6) EPA Industrial - Screening Levels (June 2015)
(7) EPA Industrial - Screening Levels June 2015) multiplied by 10 pursuant to Section IV.D.2 of the Oct. 31, 2013 RCRA Post-Clousre Permit because the constituent is listed as carcinogenic
(8) SoilGW NMED Dilution Attenuation Factor (DAF) = 20
(9) SoilGW Risk-based EPA DAF = 20
(10) SoilGW MCL-based EPA DAF = 20
(11) NMED Table 6-2 TPH Soil Screening Levels "uknown oil" with DAF = 1.0 - see report Section 5 for use of screening levels

Bold represents value above Non-Residential Screening Level
yellow highlight represents value above Leachate (DAF) Screening Level
Bold with yellow highlight value exceeds Non-Residential Screening Level and DAF

* - sample reanalyzed for hexavalent chromium, see amended lab report #1505223
** - sample reanalyzed for hexavalent chromium, see lab report #1505003
v = reportable detection above the Practical quantitation limit (PQL)
u - result is not detected at method detection limit (MDL)
j - estimated result at concentration above MDL but less than PQL

Table 7
SWMU 10 Soil Analytical Results Summary
Western Refining Southwest, Inc. - Gallup Refinery
Gallup, New Mexico

	Residential Soil Screening Level	Source	Non-Residential Soil Screening Level	Source	Leachate DAF (295) (mg/kg) SoilGW	Source	SWMU 10-14 (21-23')	SWMU 10-15 (2-4')	SWMU 10-15 (4-6')	SWMU 10-15 (18-20')	SWMU 10-16 (2-4')	SWMU 10-16 (4-5.5')	SWMU 10-16 (8-9')	SWMU 10-17 (6-8')	SWMU 10-18 (2-2.5')	SWMU 10-18 (8-10')	SWMU 10-18 (18-20')	SWMU 10-19 (2-2.5')	SWMU 10-19 (12-14')	SWMU 10-19 (18-20')	SWMU 10-20 (2-2.5')	SWMU 10-20 (8-10')	SWMU 10-20 (10-12')	SWMU 10-20 (16-18')	SWMU 10-20 (20-22')	SWMU 10-21 (2-2.5')
							1505570-002	1505617-006	1505617-007	1505617-008	1505705-001	1505705-002	1505705-003	1505617-009	1605874-001	1605874-002	1605874-003	1605875-005	1605875-006	1605875-007	1605875-008	1605875-001	1605875-002	1605875-003	1605875-004	1605943-(
							5/12/2015	5/13/2015	5/13/2015	5/13/2015	5/13/2015	5/13/2015	5/13/2015	5/13/2015	5/16/2016	5/16/2016	5/16/2016	5/17/2016	5/17/2016	5/17/2016	5/17/2016	5/17/2016	5/17/2016	5/17/2016	5/17/2016	5/18/201
Metals (mg/kg)																										
Antimony	3.13E+01	(1)	1.42E+02	(5)	9.68E+01	(8)	< 7.0836 u	< 1.6215 u	< 1.4891 u	< 2.8183 u	< 1.4809 u	< 1.4396 u	< 1.4877 u	< 3.0564 u	2.7 J	< 2.8 u	2.9 J	4 v	< 6.8559 u	3.2 v	2.7 J	2.8 J	3.7 v	2.5 J	3.3 v	< 1.3
Arsenic	4.25E+00	(1)	2.15E+01	(4)	4.41E+00	(8)	1.1 J	1.1 J	1.3 J	2.1 J	1.8 J	1.4 J	1.3 J	1.5 J	1.8 J	2.2 J	2 J	1.9 J	< 4.2233 u	3 v	**5.4** v	3.9 v	1.9 J	2.2 J	2.7 J	3.3
Barium	1.56E+04	(1)	4.35E+03	(5)	3.98E+04	(8)	220 v	52 v	120 v	850 v	500 v	430 v	55 v	200 v	130 v	170 v	1000 v	160 v	830 v	480 v	490 v	410 v	250 v	210 v	750 v	570
Beryllium	1.56E+02	(1)	1.48E+02	(5)	2.89E+03	(8)	0.79 v	1 v	1 v	1 v	0.79 v	0.73 v	0.78 v	1 v	1.1 v	1.1 v	0.86 v	1.2 v	1.1 v	1 v	0.77 v	1.2 v	1.1 v	0.87 v	0.88 v	0.72
Cadmium	7.05E+01	(1)	7.21E+01	(5)	1.38E+02	(8)	< 0.0299 u	< 0.0342 u	< 0.0314 u	< 0.0297 u	< 0.0313 u	< 0.0304 u	< 0.0314 u	< 0.0323 u	< 0.0757 u	< 0.15 u	< 0.074 u	< 0.0759 u	< 0.3668 u	< 0.071 u	< 0.076 u	< 0.079 u	< 0.081 u	< 0.075 u	< 0.072 u	< 0.0689
Chromium	9.66E+01	(1)	1.34E+02	(5)	2.97E+06	(8)	8.9 v	9.2 v	9.1 v	13 v	9.3 v	8.8 v	10 v	11 v	8.8 v	11 v	16 v	9.3 v	12 v	13 v	**150** v	15 v	10 v	21 v	12 v	9.2
Hexavalent Chromium	3.05E+00	(1)	6.69E+01	(5)	1.43E+00	(8)	< 2.2093 u	< 2.3898 u	< 2.3405 u	< 2.1714 u	< 0.7191 u	< 0.7103 u	< 0.7148 u	< 2.2901 u	< 0.64 u	< 0.64 u	< 0.64 u	< 0.64 u	< 0.64 u	< 0.64 u	1.2 J	< 0.64 u	< 0.64 u	0.96 J	< 0.64 u	< 0.64
Cobalt	2.30E+01	(2)	3.50E+02	(6)	7.97E+01	(9)	5 v	4.7 v	4.6 v	7.4 v	4.4 v	4.2 v	5.7 v	5.3 v	4.7 v	6.4 v	8.3 v	5.2 v	6.5 v	7.9 v	4.9 v	5.6 v	5.6 v	5.5 v	8.5 v	3.7
Cyanide	1.12E+01	(1)	1.21E+01	(5)	7.70E-02	(8)	< 0.2762 u	< 0.2987 u	< 0.2926 u	< 0.2714 u	< 0.0438 u	< 0.0433 u	< 0.0436 u	< 0.2863 u	0.08 J	0.098 J	0.059 J	< 0.039 u	< 0.039 u	0.04 J	1.6 v	1.1 v	3.9 v	< 0.039 u	< 0.039 u	2.2
Iron	5.50E+04	(2)	8.20E+05	(6)	1.03E+05	(9)	15000 v	15000 v	17000 v	20000 v	15000 v	15000 v	17000 v	16000 v	20000 v	15000 v	19000 v	18000 v	21000 v	21000 v	16000 v	22000 v	21000 v	17000 v	20000 v	9900
Lead	4.00E+02	(1)	8.00E+02	(4)	4.13E+03	(10)	3.6 v	5.1 v	3.7 v	1.8 v	2.9 v	3 v	3.3 v	4.4 v	5.2 v	4.9 v	2.6 v	5.1 v	5.7 v	3.5 v	21 v	2.8 v	6 v	5.3 v	3.5 v	2.1
Manganese	1.80E+03	(2)	2.60E+04	(6)	8.26E+03	(9)	410 v	490 v	200 v	980 v	460 v	240 v	810 v	210 v	200 v	700 v	690 v	280 v	1200 v	410 v	520 v	370 v	190 v	750 v	1100 v	440
Mercury	2.38E+01	(1)	2.07E+01	(5)	9.64E+00	(8)	0.0032 J	< 0.0033 u	< 0.0032 u	< 0.0031 u	0.0048 J	0.0037 J	0.0054 J	< 0.0031 u	0.0044 J	0.0052 J	0.0011 J	0.002 J	0.0019 J	0.00081 J	2 v	0.23 v	0.0041 J	0.37 v	0.0012 J	0.056
Nickel	1.56E+03	(1)	6.19E+03	(5)	7.15E+03	(8)	11 v	8.7 v	8.3 v	15 v	7.7 v	7.2 v	10 v	9.6 v	8.7 v	12 v	15 v	9.8 v	15 v	15 v	12 v	11 v	10 v	10 v	14 v	6
Selenium	3.91E+02	(1)	1.75E+03	(5)	1.51E+02	(8)	< 1.6497 u	< 1.8882 u	< 1.734 u	< 1.6409 u	< 1.7245 u	< 1.6763 u	< 1.7324 u	< 1.7795 u	< 1.3042 u	< 2.6 u	< 1.3 u	< 1.3064 u	< 6.3156 u	< 1.219 u	< 1.3049 u	< 1.3674 u	< 1.3864 u	< 1.2956 u	< 1.2368 u	< 1.2
Silver	3.91E+02	(1)	1.77E+03	(5)	2.03E+02	(8)	< 0.0321 u	< 0.0367 u	< 0.0337 u	< 0.0319 u	< 0.0335 u	< 0.0326 u	< 0.0337 u	< 0.0346 u	< 0.0379 u	< 0.074 u	< 0.037 u	< 0.038 u	< 0.1836 u	< 0.035 u	< 0.038 u	< 0.04 u	< 0.04 u	< 0.038 u	< 0.036 u	< 0.0345
Vanadium	3.94E+02	(1)	6.14E+02	(5)	1.86E+04	(8)	7.3 v	17 v	15 v	21 v	21 v	22 v	20 v	19 v	17 v	19 v	21 v	17 v	14 J	13 v	23 v	26 v	19 v	18 v	16 v	16
Zinc	2.35E+04	(1)	1.06E+05	(5)	1.09E+05	(8)	16 v	15 v	15 v	23 v	15 v	14 v	18 v	17 v	15 v	21 v	28 v	17 v	21 v	25 v	390 v	23 v	18 v	26 v	27 v	16
Volatiles (mg/kg)																										
1,1,1,2-Tetrachloroethane	2.81E+01	(1)	1.37E+02	(4)	5.30E-01	(8)	< 0.0004 u	< 0.0003 u	< 0.0003 u	< 0.0004 u	< 0.0003 u	< 0.0003 u	< 0.0003 u	< 0.052 u	< 0.0022 u	< 0.0017 u	< 0.0022 u	< 0.0025 u	< 0.0162 u	< 0.0021 u	< 0.0046 u	< 0.1643 u	< 0.1571 u	< 0.0595 u	< 0.0024 u	< 0.0022
1,1,1-Trichloroethane	1.44E+04	(1)	1.36E+04	(5)	7.53E+02	(8)	< 0.0003 u	< 0.0003 u	< 0.0002 u	< 0.0003 u	< 0.0003 u	< 0.0003 u	< 0.0003 u	< 0.0964 u	< 0.0022 u	< 0.0017 u	< 0.0022 u	< 0.0025 u	< 0.0103 u	< 0.0021 u	< 0.0029 u	< 0.1048 u	< 0.1002 u	< 0.038 u	< 0.0024 u	< 0.0022
1,1,2,2-Tetrachloroethane	7.98E+00	(1)	3.94E+01	(4)	7.09E-02	(8)	< 0.0005 u	< 0.0004 u	< 0.0004 u	< 0.0005 u	< 0.0005 u	< 0.0004 u	< 0.0004 u	< 0.0769 u	< 0.0022 u	< 0.0017 u	< 0.0022 u	< 0.0025 u	< 0.0273 u	< 0.0021 u	< 0.0077 u	< 0.2782 u	< 0.2661 u	< 0.1008 u	< 0.0024 u	< 0.0022
1,1,2-Trichloroethane	2.61E+00	(1)	2.30E+00	(5)	3.28E-02	(8)	< 0.0022 u	< 0.0019 u	< 0.0017 u	< 0.0022 u	< 0.0021 u	< 0.0019 u	< 0.0018 u	< 0.0763 u	< 0.0022 u	< 0.0017 u	< 0.0022 u	< 0.0025 u	< 0.0199 u	< 0.0021 u	< 0.0056 u	< 0.2023 u	< 0.1935 u	< 0.0733 u	< 0.0024 u	< 0.0022
1,1-Dichloroethane	7.86E+01	(1)	3.83E+02	(4)	2.00E+00	(8)	< 0.0005 u	< 0.0004 u	< 0.0004 u	< 0.0005 u	< 0.0005 u	< 0.0004 u	< 0.0004 u	< 0.2539 u	< 0.0022 u	< 0.0017 u	< 0.0022 u	< 0.0025 u	< 0.0091 u	< 0.0021 u	< 0.0026 u	< 0.0928 u	< 0.0887 u	< 0.0336 u	< 0.0024 u	< 0.0022
1,1-Dichloroethene	4.40E+02	(1)	4.24E+02	(5)	2.87E+01	(8)	< 0.0004 u	< 0.0003 u	< 0.0003 u	< 0.0004 u	< 0.0003 u	< 0.0003 u	< 0.0003 u	< 0.0437 u	< 0.0004 u	< 0.0003 u	< 0.0004 u	< 0.0004 u	< 0.0553 u	< 0.0003 u	< 0.0156 u	< 0.5622 u	< 0.5378 u	< 0.2037 u	< 0.0004 u	< 0.0004
1,1-Dichloropropene	-	-	-	-	-	-	< 0.0004 u	< 0.0004 u	< 0.0003 u	< 0.0004 u	< 0.0004 u	< 0.0003 u	< 0.0003 u	< 0.0945 u	< 0.0022 u	< 0.0017 u	< 0.0022 u	< 0.0025 u	< 0.0134 u	< 0.0021 u	< 0.0038 u	< 0.1362 u	< 0.1302 u	< 0.0493 u	< 0.0024 u	< 0.0022
1,2,3-Trichlorobenzene	6.30E+01	(2)	9.30E+02	(6)	6.20E+00	(9)	< 0.0008 u	< 0.0007 u	< 0.0006 u	< 0.0008 u	< 0.0008 u	< 0.0007 u	< 0.0007 u	< 0.1355 u	< 0.0005 u	< 0.0004 u	< 0.0005 u	< 0.0006 u	< 0.0252 u	< 0.0005 u	< 0.0071 u	< 0.2568 u	< 0.2457 u	< 0.0931 u	< 0.0006 u	< 0.0005
1,2,3-Trichloropropane	5.10E-02	(1)	1.21E+00	(4)	7.68E-04	(8)	< 0.0008 u	< 0.0007 u	< 0.0006 u	< 0.0008 u	< 0.0007 u	< 0.0007 u	< 0.0006 u	< 0.1065 u	< 0.0022 u	< 0.0017 u	< 0.0022 u	< 0.0025 u	< 0.0292 u	< 0.0021 u	< 0.0082 u	< 0.2969 u	< 0.284 u	< 0.1076 u	< 0.0024 u	< 0.0022
1,2,4-Trichlorobenzene	8.29E+01	(1)	7.91E+01	(5)	2.60E+00	(8)	< 0.00082 u	< 0.00071 u	< 0.00064 u	< 0.00083 u	< 0.00077 u	< 0.00071 u	< 0.00067 u	< 0.11712 u	< 0.0007 u	< 0.0005 u	< 0.0007 u	< 0.0008 u	< 0.018 u	< 0.0006 u	< 0.0051 u	< 0.1836 u	< 0.1756 u	< 0.0665 u	< 0.0007 u	< 0.0007
1,2,4-Trimethylbenzene	5.80E+01	(2)	2.40E+02	(6)	6.20E+00	(9)	0.00376 v	< 0.0005 u	< 0.0004 u	0.00497 v	< 0.0005 u	< 0.0005 u	0.00269 v	27 v	< 0.0004 u	0.0006 J	0.0012 J	< 0.0004 u	3.4 v	0.0013 J	< 0.0035 u	25 v	13 v	4 v	0.0008 J	0.002
1,2-Dibromo-3-chloropropane	8.58E-02	(1)	1.18E+00	(4)	3.45E-04	(8)	< 0.0007 u	< 0.0006 u	< 0.0005 u	< 0.0007 u	< 0.0006 u	< 0.0006 u	< 0.0005 u	< 0.109 u	< 0.0002 u	< 0.0002 u	< 0.0002 u	< 0.0003 u	< 0.0517 u	< 0.0002 u	< 0.0146 u	< 0.5258 u	< 0.5029 u	< 0.1905 u	< 0.0003 u	< 0.0002
1,2-Dibromoethane (EDB)	6.72E-01	(1)	3.31E+00	(4)	5.19E-03	(8)	< 0.0003 u	< 0.0002 u	< 0.0002 u	< 0.0003 u	< 0.0002 u	< 0.0002 u	< 0.0002 u	< 0.0506 u	< 0.0022 u	< 0.0017 u	< 0.0022 u	< 0.0025 u	< 0.012 u	< 0.0021 u	< 0.0034 u	< 0.1221 u	< 0.1168 u	< 0.0442 u	< 0.0024 u	< 0.0022
1,2-Dichlorobenzene	2.15E+03	(1)	2.50E+03	(5)	6.75E+01	(8)	< 0.00049 u	< 0.00042 u	< 0.00037 u	< 0.00049 u	< 0.00045 u	< 0.00042 u	< 0.00039 u	< 0.03828 u	< 0.0003 u	< 0.0003 u	< 0.0003 u	< 0.0004 u	< 0.0147 u	< 0.0003 u	< 0.0042 u	< 0.1498 u	< 0.1433 u	< 0.0543 u	< 0.0004 u	< 0.0003
1,2-Dichloroethane (EDC)	8.32E+00	(1)	4.07E+01	(4)	1.20E-01	(8)	< 0.0006 u	< 0.0005 u	< 0.0005 u	< 0.0006 u	< 0.0006 u	< 0.0005 u	< 0.0005 u	< 0.2539 u	< 0.0022 u	< 0.0017 u	< 0.0022 u	< 0.0025 u	< 0.044 u	< 0.0021 u	< 0.0124 u	< 0.4476 u	< 0.4281 u	< 0.1622 u	< 0.0024 u	< 0.0022
1,2-Dichloropropane	1.78E+01	(1)	2.54E+01	(5)	3.58E-01	(8)	< 0.0005 u	< 0.0004 u	< 0.0004 u	< 0.0005 u	< 0.0004 u	< 0.0004 u	< 0.0004 u	< 0.0355 u	< 0.0022 u	< 0.0017 u	< 0.0022 u	< 0.0025 u	< 0.0142 u	< 0.0021 u	< 0.004 u	< 0.144 u	< 0.1377 u	< 0.0522 u	< 0.0024 u	< 0.0022
1,3,5-Trimethylbenzene	7.80E+02	(2)	1.20E+04	(6)	5.02E+01	(9)	0.00233 v	< 0.0003 u	< 0.0003 u	0.00318 v	< 0.0004 u	< 0.0003 u	0.0017 J	10 v	< 0.0004 u	0.0004 J	0.0007 J	< 0.0004 u	1.4 v	0.0008 J	< 0.0035 u	8.5 v	4.6 v	1.7 v	< 0.0004 u	0.0008
1,3-Dichlorobenzene	-	-	-	-	-	-	< 0.00037 u	< 0.00032 u	< 0.00028 u	< 0.00037 u	< 0.00035 u	< 0.00032 u	< 0.0003 u	< 0.07473 u	< 0.0004 u	< 0.0003 u	< 0.0004 u	< 0.0005 u	< 0.0138 u	< 0.0004 u	< 0.0039 u	< 0.1408 u	< 0.1346 u	< 0.051 u	< 0.0004 u	< 0.0004
1,3-Dichloropropane	1.60E+03	(2)	2.30E+04	(6)	3.84E+01	(9)	< 0.0003 u	< 0.0003 u	< 0.0003 u	< 0.0003 u	< 0.0003 u	< 0.0003 u	< 0.0003 u	< 0.0874 u	< 0.0022 u	< 0.0017 u	< 0.0022 u	< 0.0025 u	< 0.0191 u	< 0.0021 u	< 0.0054 u	< 0.1948 u	< 0.1863 u	< 0.0706 u	< 0.0024 u	< 0.0022
1,4-Dichlorobenzene	3.28E+01	(1)	1.59E+02	(4)	1.06E+00	(8)	< 0.00034 u	< 0.0003 u	< 0.00026 u	< 0.00034 u	< 0.00032 u	< 0.00029 u	< 0.00028 u	< 0.07905 u	< 0.0004 u	< 0.0003 u	< 0.0004 u	< 0.0005 u	< 0.0209 u	< 0.0004 u	< 0.0059 u	< 0.2127 u	< 0.2035 u	< 0.0771 u	< 0.0005 u	< 0.0004
1-Methylnaphthalene	1.80E+02	(3)	7.30E+02	(7)	1.71E+00	(9)	< 0.00086 u	< 0.00075 u	< 0.00067 u	< 0.00087 u	< 0.00081 u	< 0.00075 u	< 0.0007 u	48 v	< 0.0003 u	< 0.0002 u	0.0003 J	< 0.0003 u	7.2 v	0.0014 J	< 0.0106 u	41 v	25 v	8.4 v	< 0.0003 u	0.0004
2,2-Dichloropropane	-	-	-	-	-	-	< 0.0004 u	< 0.0003 u	< 0.0003 u	< 0.0004 u	< 0.0004 u	< 0.0003 u	< 0.0003 u	< 0.0924 u	< 0.0003 u	< 0.0002 u	< 0.0003 u	< 0.0003 u	< 0.0097 u	< 0.0003 u	< 0.0027 u	< 0.0983 u	< 0.094 u	< 0.0356 u	< 0.0003 u	< 0.0003
2-Butanone	3.74E+04	(1)	9.17E+04	(5)	2.96E+02	(8)	< 0.0007 u	< 0.0006 u	0.00114 J	0.00227 J	0.00304 J	0.00146 J	0.00173 J	< 0.4081 u	< 0.0008 u	< 0.0006 u	< 0.0008 u	< 0.0009 u	< 0.0964 u	< 0.0008 u	< 0.0272 u	< 0.9809 u	< 0.9383 u	< 0.3554 u	< 0.0009 u	< 0.0008
2-Chlorotoluene	1.56E+03	(1)	7.08E+03	(5)	5.26E+01	(8)	< 0.0004 u	< 0.0004 u	< 0.0003 u	< 0.0004 u	< 0.0004 u	< 0.0004 u	< 0.0004 u	< 0.0717 u	< 0.0004 u	< 0.0003 u	< 0.0004 u	< 0.0004 u	< 0.0124 u	< 0.0004 u	< 0.0035 u	< 0.1266 u	< 0.1211 u	< 0.0459 u	< 0.0004 u	< 0.0004
2-Hexanone	2.00E+02	(2)	1.30E+03	(6)	2.60E+00	(9)	< 0.0005 u	< 0.0004 u	< 0.0004 u	< 0.0005 u	0.00079 J	0.000669 J	< 0.0004 u	< 0.1561 u	< 0.0006 u	< 0.0004 u	< 0.0005 u	< 0.0006 u	< 0.0918 u	< 0.0005 u	< 0.0259 u	< 0.9341 u	< 0.8934 u	< 0.3384 u	< 0.0006 u	< 0.0006
2-Methylnaphthalene	2.40E+02	(2)	3.00E+03	(6)	5.61E+01	(9)	< 0.00086 u	< 0.00074 u	< 0.00066 u	< 0.00086 u	< 0.0008 u	< 0.00074 u	< 0.0007 u	87 v	< 0.0006 u	< 0.0005 u	< 0.0006 u	< 0.0007 u	13 v	0.0017 J	< 0.0102 u	73 v	42 v	13 v	< 0.0006 u	< 0.0006
4-Chlorotoluene	1.60E+03	(2)	2.30E+04	(6)	7.08E+01	(9)	< 0.0004 u	< 0.0004 u	< 0.0003 u	< 0.0004 u	< 0.0004 u	< 0.0004 u	< 0.0003 u	< 0.048 u	< 0.0004 u	< 0.0003 u	< 0.0004 u	< 0.0004 u	< 0.0149 u	< 0.0003 u	< 0.0042 u	< 0.1518 u	< 0.1452 u	< 0.055 u	< 0.0004 u	< 0.0004
4-Isopropyltoluene	-	-	-	-	-	-	< 0.0009 u	< 0.0007 u	< 0.0007 u	< 0.0009 u	< 0.0008 u	< 0.0007 u	< 0.0007 u	1.6 v	< 0.0004 u	< 0.0003 u	< 0.0004 u	< 0.0005 u	0.35 v	< 0.0004 u	< 0.0043 u	0.96 J	0.41 J	0.34 J	< 0.0005 u	< 0.0004
4-Methyl-2-pentanone	5.81E+03	(1)	2.02E+04	(5)	7.07E+01	(8)	< 0.0009 u	< 0.0008 u	< 0.0007 u	< 0.0009 u	< 0.0009 u	< 0.0008 u	< 0.0008 u	< 0.1101 u	< 0.0044 u	< 0.0035 u	< 0.0043 u	< 0.005 u	< 0.0492 u	< 0.0042 u	< 0.0139 u	< 0.5002 u	< 0.4785 u	< 0.1812 u	< 0.0048 u	< 0.0045
Acetone	6.63E+04	(1)	2.42E+05	(5)	7.35E+02	(8)	0.00282 J	0.00666 J	0.0032 J	0.00238 J	0.0254 v	0.00651 J	0.00313 J	< 0.4733 u	0.009 J	0.0072 J	0.0078 J	0.0121 J	< 0.2183 u	0.0018 J	< 0.0615 u	< 2.2209 u	< 2.1243 u	< 0.8046 u	0.0054 J	0.0139
Benzene	1.78E+01	(1)	8.72E+01	(4)	5.60E-01	(8)	0.0224 v	0.00119 J	0.00144 J	0.0292 v	0.00112 J	0.00221 v	0.0176 v	1.9 v	< 0.0022 u	0.007 v	0.0102 v	< 0.0025 u	< 0.0675 u	0.0083 v	< 0.019 u	3.7 v	2.2 v	0.36 v	0.0081 v	< 0.0022
Bromobenzene	2.90E+02	(2)	1.80E+03	(6)	1.24E+01	(9)	< 0.0006 u	< 0.0005 u	< 0.0005 u	< 0.0006 u	< 0.0006 u	< 0.0005 u	< 0.0005 u	< 0.0471 u	< 0.0002 u	< 0.0002 u	< 0.0002 u	< 0.0003 u	< 0.0136 u	< 0.0002 u	< 0.0038 u	< 0.1384 u	< 0.1323 u	< 0.0501 u	< 0.0002 u	< 0.0002
Bromodichloromethane	6.19E+00	(1)	3.02E+01	(4)	9.15E-02	(8)	< 0.0003 u	< 0.0003 u	< 0.0002 u	< 0.0003 u	< 0.0003 u	< 0.0003 u	< 0.0002 u	< 0.0519 u	< 0.0022 u	< 0.0017 u	< 0.0022 u	< 0.0025 u	< 0.0098 u	< 0.0021 u	< 0.0028 u	< 0.1 u	< 0.0957 u	< 0.0362 u	< 0.0024 u	< 0.0022
Bromoform	6.74E+02	(1)	3.25E+03	(4)	6.06E+00	(8)	< 0.0006 u	< 0.0005 u	< 0.0004 u	< 0.0006 u	< 0.0005 u	< 0.0005 u	< 0.0005 u	< 0.051 u	< 0.0022 u	< 0.0017 u	< 0.0022 u	< 0.0025 u	< 0.0206 u	< 0.0021 u	< 0.0058 u	< 0.2091 u	< 0.2 u	< 0.0757 u	< 0.0024 u	< 0.0022
Bromomethane	1.77E+01	(1)	1.79E+01	(5)	5.06E-01	(8)	< 0.0013 u	< 0.0011 u	< 0.001 u	< 0.0013 u	< 0.0012 u	< 0.0011 u	< 0.0011 u	< 0.1225 u	< 0.0004 u	< 0.0003 u	< 0.0004 u	< 0.0004 u	< 0.0622 u	< 0.0004 u	< 0.0175 u	< 0.6324 u	< 0.6049 u	< 0.2291 u	< 0.0004 u	< 0.0004
Carbon disulfide	1.55E+03	(1)	1.62E+03	(5)	6.52E+01	(8)	< 0.001 u	0.00097 J	< 0.0008 u	< 0.001 u	< 0.0009 u	< 0.0009 u	< 0.0008 u	< 0.4567 u	< 0.0008 u	< 0.0006 u	< 0.0008 u	< 0.0009 u	< 0.0557 u	< 0.0008 u	< 0.0157 u	< 0.5667 u	< 0.5421 u	< 0.2053 u	< 0.0009 u	< 0.0008
Carbon tetrachloride	1.07E+01	(1)	5.25E+01	(4)	4.91E-01	(8)	< 0.0004 u	< 0.0003 u	< 0.0003 u	< 0.0004 u	< 0.0004 u	< 0.0003 u	< 0.0003 u	< 0.0618 u	< 0.0022 u	< 0.0017 u	< 0.0022 u	< 0.0025 u	< 0.0111 u	< 0.0021 u	< 0.0031 u	< 0.1127 u	< 0.1078 u	< 0.0408 u	< 0.0024 u	< 0.0022
Chlorobenzene	3.78E+02	(1)	4.12E+02	(5)	1.23E+01	(8)	< 0.0002 u	< 0.0002 u	< 0.0002 u	< 0.0002 u	< 0.0002 u	< 0.0002 u	< 0.0002 u	< 0.0489 u	< 0.0003 u	< 0.0002 u	< 0.0002 u	< 0.0003 u	< 0.0137 u	< 0.0002 u	< 0.0039 u	< 0.1397 u	< 0.1337 u	< 0.0506 u	< 0.0003 u	< 0.0003
Chloroethane	1.90E+04	(1)	1.66E+04	(5)	1.58E+03	(8)	< 0.0022 u	< 0.0019 u	< 0.0017 u	< 0.0022 u	< 0.0021 u	< 0.0019 u	< 0.0018 u	< 0.4913 u	< 0.0004 u	< 0.0003 u	< 0.0004 u	< 0.0005 u	< 0.0337 u	< 0.0004 u	< 0.0095 u	< 0.3426 u	< 0.3277 u	< 0.1241 u	< 0.0004 u	< 0.0004
Chloroform	5.90E+00	(1)	2.87E+01	(4)	1.61E-01	(8)	< 0.0005 u	< 0.0004 u	< 0.0004 u	< 0.0005 u	< 0.0004 u	< 0.0004 u	< 0.0004 u	< 0.0662 u	< 0.0022 u	< 0.0017 u	< 0.0022 u	< 0.0025 u	< 0.0127 u	< 0.0021 u	< 0.0036 u	< 0.1295 u	< 0.1239 u	< 0.0469 u	< 0.0024 u	< 0.0022
Chloromethane	4.11E+01	(1)	2.01E+02	(4)	1.40E+00	(8)	< 0.0003 u	< 0.0002 u	< 0.0002 u	< 0.0003 u	< 0.0002 u	< 0.0002 u	< 0.0002 u	< 0.0735 u	< 0.0006 u	< 0.0004 u	< 0.0005 u	< 0.0006 u	< 0.015 u	< 0.0005 u	< 0.0042 u	< 0.1528 u	< 0.1462 u	< 0.0554 u	< 0.0006 u	< 0.0006
cis-1,2-DCE	1.56E+02	(1)	7.08E+02	(5)	2.71E+00	(8)	< 0.0006 u	< 0.0005 u	< 0.0005 u	< 0.0006 u	< 0.0005 u	< 0.0005 u	< 0.0005 u	< 0.0803 u	< 0.0022 u	< 0.0017 u	< 0.0022 u	< 0.0025 u	< 0.0098 u	< 0.0021 u	< 0.0028 u	< 0.0998 u	< 0.0955 u	< 0.0362 u	< 0.0024 u	< 0.0022
cis-1,3-Dichloropropene	2.93E+01	(1)	1.30E+02	(5)	4.13E-01	(8)	< 0.0022 u	< 0.0019 u	< 0.0017 u	< 0.0022 u	< 0.0021 u	< 0.0019 u	< 0.0018 u	< 0.044 u	< 0.0022 u	< 0.0017 u	< 0.0022 u	< 0.0025 u	< 0.0156 u	< 0.0021 u	< 0.0044 u	< 0.1583 u	< 0.1514 u	< 0.0573 u	< 0.0024 u	< 0.0022
Dibromochloromethane	1.39E+01	(1)	6.74E+01	(4)	1.11E-01	(8)	< 0.0002 u	< 0.0002 u	< 0.0002 u	< 0.0002 u	< 0.0002 u	< 0.0002 u	< 0.0002 u	< 0.0476 u	< 0.0022 u	< 0.0017 u	< 0.0022 u	< 0.0025 u	< 0.0152 u	< 0.0021 u	< 0.0043 u	< 0.1551 u	< 0.1483 u	< 0.0562 u	< 0.0024 u	< 0.0022
Dibromomethane	2.30E+01	(2)	9.80E+01	(6)	5.90E-01	(9)	< 0.0013 u	< 0.0011 u	< 0.001 u	< 0.0013 u	< 0.0012 u	< 0.0011 u	< 0.001 u	< 0.0668 u	< 0.0022 u	< 0.0017 u	< 0.0022 u	< 0.0025 u	< 0.0146 u	< 0.0021 u	< 0.0041 u	< 0.1487 u	< 0.1422 u	< 0.0539 u	< 0.0024 u	< 0.0022
Dichlorodifluoromethane	1.82E+02	(1)	1.61E+02	(5)	1.07E+02	(8)	< 0.0009 u	< 0.0008 u	< 0.0007 u	< 0.0009 u	< 0.0008 u	< 0.0008 u	< 0.0007 u	< 0.1596 u	< 0.0013 u	< 0.001 u	< 0.0013 u	< 0.0015 u	< 0.0522 u	< 0.0012 u	< 0.0147 u	< 0.5311 u	< 0.508 u	< 0.1924 u	< 0.0014 u	< 0.0013

Table 7
SWMU 10 Soil Analytical Results Summary
Western Refining Southwest, Inc. - Gallup Refinery
Gallup, New Mexico

	Residential Soil Screening Level	Source	Non-Residential Soil Screening Level	Source	Leachate DAF (295) (mg/kg) SoilGW	Source	SWMU 10-14 (21-23')		SWMU 10-15 (2-4')		SWMU 10-15 (4-6')		SWMU 10-15 (18-20')		SWMU 10-16 (2-4')		SWMU 10-16 (4-5.5')		SWMU 10-16 (8-9')		SWMU 10-17 (6-8')	
							1505570-002		1505617-006		1505617-007		1505617-008		1505705-001		1505705-002		1505705-003		1505617-009	
							5/12/2015		5/13/2015		5/13/2015		5/13/2015		5/13/2015		5/13/2015		5/13/2015		5/13/2015	
Ethylbenzene	7.51E+01	(1)	3.68E+02	(4)	3.87E+00	(8)	0.00331	v	0.00035	J	0.00037	J	0.00472	v	< 0.0003	u	0.000401	J	0.00347	v	11	v
Hexachlorobutadiene	6.16E+01	(1)	2.69E+02	(5)	1.30E+00	(8)	< 0.00044	u	< 0.00038	u	< 0.00034	u	< 0.00044	u	< 0.00041	u	< 0.00038	u	< 0.00036	u	< 0.08814	u
Isopropylbenzene	2.36E+03	(1)	2.74E+03	(5)	1.68E+02	(8)	0.000543	J	< 0.0004	u	< 0.0004	u	0.000689	J	< 0.0005	u	< 0.0004	u	0.000539	J	3.1	v
Methyl tert-butyl ether (MTBE)	9.75E+02	(1)	4.82E+03	(4)	8.16E+00	(8)	< 0.0009	u	0.00478	v	0.00936	v	< 0.0009	u	< 0.0009	u	< 0.0008	u	< 0.0008	u	< 0.0898	u
Methylene chloride	4.09E+02	(1)	1.21E+03	(5)	6.94E+00	(8)	< 0.0005	u	0.0005	J	< 0.0004	u	< 0.0005	u	< 0.0005	u	0.000506	J	0.000611	J	< 0.2539	u
Naphthalene	4.97E+01	(1)	1.59E+02	(5)	1.21E+00	(8)	0.00101	J	< 0.00062	u	< 0.00055	u	0.00109	J	< 0.00067	u	< 0.00062	u	0.000845	J	20	v
n-Butylbenzene	3.90E+03	(2)	5.80E+04	(6)	9.44E+02	(9)	< 0.0009	u	< 0.0008	u	< 0.0007	u	< 0.0009	u	< 0.0008	u	< 0.0008	u	< 0.0007	u	2.8	v
n-Propylbenzene	3.80E+03	(2)	2.40E+04	(6)	3.54E+02	(9)	0.000587	J	< 0.0004	u	< 0.0003	u	0.000889	J	< 0.0004	u	< 0.0004	u	0.000494	J	5.2	v
sec-Butylbenzene	7.80E+03	(2)	1.20E+05	(6)	1.74E+03	(9)	0.000853	J	0.00063	J	0.00056	J	0.000889	J	< 0.0005	u	< 0.0005	u	0.000683	J	1.8	v
Styrene	7.26E+03	(1)	1.02E+04	(5)	3.04E+02	(8)	< 0.0004	u	< 0.0003	u	< 0.0003	u	< 0.0004	u	< 0.0003	u	< 0.0003	u	< 0.0003	u	< 0.1165	u
tert-Butylbenzene	7.80E+03	(2)	1.20E+05	(6)	4.72E+02	(9)	< 0.0003	u	< 0.0003	u	< 0.0003	u	< 0.0003	u	< 0.0003	u	< 0.0003	u	< 0.0003	u	< 0.0727	u
Tetrachloroethene (PCE)	1.11E+02	(1)	1.20E+02	(5)	4.73E+00	(8)	< 0.0004	u	< 0.0004	u	< 0.0003	u	< 0.0004	u	< 0.0004	u	< 0.0004	u	< 0.0004	u	< 0.055	u
Toluene	5.23E+03	(1)	1.40E+04	(5)	1.79E+02	(8)	0.0147	v	0.00109	J	0.0012	J	0.0204	v	0.00104	J	0.00151	J	0.0135	v	34	v
trans-1,2-DCE	2.95E+02	(1)	3.05E+02	(5)	6.92E+00	(8)	< 0.0004	u	< 0.0003	u	< 0.0003	u	< 0.0004	u	< 0.0003	u	< 0.0003	u	< 0.0003	u	< 0.0412	u
trans-1,3-Dichloropropene	2.93E+01	(1)	1.30E+02	(5)	4.13E-01	(8)	< 0.0003	u	< 0.0003	u	< 0.0002	u	< 0.0003	u	< 0.0003	u	< 0.0002	u	< 0.0002	u	< 0.1143	u
Trichloroethene (TCE)	6.77E+00	(1)	6.90E+00	(5)	2.58E-01	(8)	< 0.0004	u	< 0.0004	u	< 0.0003	u	< 0.0004	u	< 0.0004	u	< 0.0004	u	< 0.0004	u	< 0.0618	u
Trichlorofluoromethane	1.23E+03	(1)	1.13E+03	(5)	2.31E+02	(8)	< 0.0004	u	< 0.0004	u	< 0.0003	u	< 0.0004	u	< 0.0004	u	< 0.0004	u	< 0.0004	u	< 0.1916	u
Vinyl chloride	7.42E-01	(1)	2.84E+01	(4)	1.99E-02	(8)	< 0.0003	u	< 0.0002	u	< 0.0002	u	< 0.0003	u	< 0.0002	u	< 0.0002	u	< 0.0002	u	< 0.2539	u
Xylenes, Total	8.71E+02	(1)	7.98E+02	(5)	4.39E+01	(8)	0.0115	v	0.00141	J	0.00123	J	0.0155	v	< 0.0012	u	< 0.0011	u	0.00946	v	86	v
Semi-volatiles (mg/kg)																						
1,2,4-Trichlorobenzene	8.29E+01	(1)	7.91E+01	(5)	2.60E+00	(8)	< 0.1127	u	< 0.1216	u	< 0.12	u	< 0.1103	u	< 0.1145	u	< 0.1129	u	< 0.1144	u	< 1.1687	u
1,2-Dichlorobenzene	2.15E+03	(1)	2.50E+03	(5)	6.75E+01	(8)	< 0.1053	u	< 0.1136	u	< 0.1121	u	< 0.103	u	< 0.107	u	< 0.1055	u	< 0.1069	u	< 1.0921	u
1,3-Dichlorobenzene	-	-	-	-	-	-	< 0.0978	u	< 0.1055	u	< 0.1041	u	< 0.0957	u	< 0.0994	u	< 0.098	u	< 0.0992	u	< 1.0141	u
1,4-Dichlorobenzene	3.28E+01	(1)	1.59E+02	(4)	1.06E+00	(8)	< 0.1152	u	< 0.1242	u	< 0.1226	u	< 0.1127	u	< 0.117	u	< 0.1154	u	< 0.1169	u	< 1.1942	u
1-Methylnaphthalene	1.80E+02	(3)	7.30E+02	(7)	1.71E+00	(9)	< 0.1021	u	< 0.1101	u	< 0.1087	u	< 0.0998	u	< 0.1037	u	< 0.1023	u	< 0.1036	u	76	v
2,4,5-Trichlorophenol	6.16E+03	(1)	2.69E+04	(5)	9.76E+02	(8)	< 0.1283	u	< 0.1384	u	< 0.1366	u	< 0.1255	u	< 0.1304	u	< 0.1286	u	< 0.1302	u	< 1.3305	u
2,4,6-Trichlorophenol	6.16E+01	(1)	2.69E+02	(5)	9.95E+00	(8)	< 0.1273	u	< 0.1373	u	< 0.1355	u	< 0.1245	u	< 0.1293	u	< 0.1275	u	< 0.1292	u	< 1.32	u
2,4-Dichlorophenol	1.85E+02	(1)	8.07E+02	(5)	1.22E+01	(8)	< 0.1101	u	< 0.1187	u	< 0.1172	u	< 0.1077	u	< 0.1119	u	< 0.1103	u	< 0.1117	u	< 1.1417	u
2,4-Dimethylphenol	1.23E+03	(1)	5.38E+03	(5)	9.51E+01	(8)	< 0.0865	u	< 0.0933	u	< 0.0922	u	< 0.0847	u	< 0.0879	u	< 0.0867	u	< 0.0878	u	36	v
2,4-Dinitrophenol	1.23E+02	(1)	5.38E+02	(5)	9.89E+00	(8)	< 0.0458	u	< 0.0493	u	< 0.0487	u	< 0.0448	u	< 0.0465	u	< 0.0458	u	< 0.0464	u	< 0.4744	u
2,4-Dinitrotoluene	1.71E+01	(1)	8.23E+01	(4)	7.25E-01	(8)	< 0.0985	u	< 0.1062	u	< 0.1049	u	< 0.0964	u	< 0.1001	u	< 0.0987	u	< 0.1	u	< 1.0214	u
2,6-Dinitrotoluene	3.56E+00	(1)	1.72E+01	(4)	1.51E-01	(8)	< 0.1224	u	< 0.132	u	< 0.1303	u	< 0.1197	u	< 0.1244	u	< 0.1226	u	< 0.1242	u	< 1.2691	u
2-Chloronaphthalene	6.26E+03	(1)	2.83E+04	(5)	8.41E+02	(8)	< 0.118	u	< 0.1272	u	< 0.1256	u	< 0.1154	u	< 0.1199	u	< 0.1182	u	< 0.1197	u	< 1.2232	u
2-Chlorophenol	3.91E+02	(1)	1.77E+03	(5)	1.70E+01	(8)	< 0.1028	u	< 0.1108	u	< 0.1094	u	< 0.1005	u	< 0.1044	u	< 0.103	u	< 0.1043	u	< 1.0655	u
2-Methylnaphthalene	2.40E+02	(2)	3.00E+03	(6)	5.61E+01	(9)	< 0.1008	u	< 0.1087	u	< 0.1073	u	< 0.0986	u	< 0.1024	u	< 0.101	u	< 0.1023	u	130	v
'2-Methylphenol (cresol,o-)	3.20E+03	(2)	4.10E+04	(6)	2.21E+02	(9)	< 0.1104	u	< 0.119	u	< 0.1175	u	< 0.108	u	< 0.1122	u	< 0.1106	u	< 0.112	u	56	v
2-Nitroaniline	6.30E+02	(2)	8.00E+03	(6)	2.36E+01	(9)	< 0.1253	u	< 0.1351	u	< 0.1334	u	< 0.1226	u	< 0.1273	u	< 0.1255	u	< 0.1271	u	< 1.2991	u
2-Nitrophenol	-	-	-	-	-	-	< 0.099	u	< 0.1067	u	< 0.1054	u	< 0.0968	u	< 0.1006	u	< 0.0992	u	< 0.1004	u	< 1.0262	u
3,3´-Dichlorobenzidine	1.18E+01	(1)	5.70E+01	(4)	1.81E+00	(8)	< 0.0848	u	< 0.0914	u	< 0.0903	u	< 0.0829	u	< 0.0862	u	< 0.085	u	< 0.086	u	< 0.8792	u
3+4-Methylphenol	-	-	-	-	-	-	< 0.1141	u	< 0.1231	u	< 0.1215	u	< 0.1116	u	< 0.116	u	< 0.1143	u	< 0.1158	u	100	v
3-Nitroaniline	-	-	-	-	-	-	< 0.1061	u	< 0.1144	u	< 0.113	u	< 0.1038	u	< 0.1078	u	< 0.1063	u	< 0.1077	u	< 1.1	u
4,6-Dinitro-2-methylphenol	4.93E+00	(1)	2.15E+01	(5)	5.81E-01	(8)	< 0.0599	u	< 0.0646	u	< 0.0637	u	< 0.0586	u	< 0.0608	u	< 0.06	u	< 0.0608	u	< 0.6208	u
4-Bromophenyl phenyl ether	-	-	-	-	-	-	< 0.1168	u	< 0.126	u	< 0.1244	u	< 0.1143	u	< 0.1187	u	< 0.1171	u	< 0.1185	u	< 1.2113	u
4-Chloro-3-methylphenol	-	-	-	-	-	-	< 0.1096	u	< 0.1182	u	< 0.1167	u	< 0.1073	u	< 0.1114	u	< 0.1098	u	< 0.1113	u	< 1.1368	u
4-Chloroaniline	2.70E+01	(3)	1.10E+02	(7)	4.72E-02	(9)	< 0.1018	u	< 0.1098	u	< 0.1084	u	< 0.0996	u	< 0.1035	u	< 0.102	u	< 0.1033	u	< 1.0559	u
4-Chlorophenyl phenyl ether	-	-	-	-	-	-	< 0.164	u	< 0.1768	u	< 0.1746	u	< 0.1604	u	< 0.1666	u	< 0.1643	u	< 0.1664	u	< 1.7001	u
4-Nitroaniline	2.70E+02	(3)	1.10E+03	(7)	4.72E-01	(9)	< 0.0989	u	< 0.1067	u	< 0.1053	u	< 0.0968	u	< 0.1005	u	< 0.0991	u	< 0.1004	u	< 1.0255	u
4-Nitrophenol	-	-	-	-	-	-	< 0.0949	u	< 0.1023	u	< 0.101	u	< 0.0928	u	< 0.0964	u	< 0.0951	u	< 0.0963	u	< 0.9837	u
Acenaphthene	3.48E+03	(1)	1.51E+04	(5)	1.22E+03	(8)	< 0.1342	u	< 0.1447	u	< 0.1429	u	< 0.1313	u	< 0.1363	u	< 0.1344	u	< 0.1362	u	< 1.3913	u
Acenaphthylene	-	-	-	-	-	-	< 0.1115	u	< 0.1203	u	< 0.1188	u	< 0.1091	u	< 0.1133	u	< 0.1118	u	< 0.1132	u	< 1.1566	u
Aniline	9.50E+02	(3)	4.00E+03	(7)	1.36E+00	(9)	< 0.0958	u	< 0.1034	u	< 0.102	u	< 0.0938	u	< 0.0974	u	< 0.096	u	< 0.0973	u	< 0.9938	u
Anthracene	1.74E+04	(1)	7.53E+04	(5)	1.25E+04	(8)	< 0.0935	u	< 0.1009	u	< 0.0996	u	< 0.0915	u	< 0.095	u	< 0.0937	u	< 0.0949	u	< 0.9698	u
Azobenzene	5.60E+01	(3)	2.60E+02	(7)	2.71E+07	(9)	< 0.1234	u	< 0.1331	u	< 0.1314	u	< 0.1208	u	< 0.1254	u	< 0.1237	u	< 0.1253	u	< 1.2799	u
Benz(a)anthracene	1.53E+00	(1)	3.23E+01	(4)	2.69E+01	(8)	< 0.0865	u	< 0.0933	u	< 0.0921	u	< 0.0847	u	< 0.0879	u	< 0.0867	u	< 0.0878	u	< 0.8973	u
Benzo(a)pyrene	1.53E-01	(1)	3.23E+00	(4)	8.92E+00	(8)	< 0.1236	u	< 0.1333	u	< 0.1316	u	< 0.1209	u	< 0.1256	u	< 0.1238	u	< 0.1254	u	< 1.2813	u
Benzo(b)fluoranthene	1.53E+00	(1)	3.23E+01	(4)	9.10E+01	(8)	< 0.1046	u	< 0.1128	u	< 0.1113	u	< 0.1023	u	< 0.1062	u	< 0.1048	u	< 0.1061	u	< 1.0842	u
Benzo(g,h,i)perylene	-	-	-	-	-	-	< 0.1253	u	< 0.1351	u	< 0.1334	u	< 0.1226	u	< 0.1273	u	< 0.1255	u	< 0.1272	u	< 1.2992	u
Benzo(k)fluoranthene	1.53E+01	(1)	3.23E+02	(4)	8.92E+02	(8)	< 0.1244	u	< 0.1342	u	< 0.1325	u	< 0.1217	u	< 0.1264	u	< 0.1247	u	< 0.1263	u	< 1.2902	u
Benzoic acid	2.50E+05	(2)	3.30E+06	(6)	5.31E+03	(9)	< 0.0627	u	< 0.0677	u	< 0.0668	u	< 0.0614	u	< 0.0638	u	< 0.0629	u	< 0.0637	u	< 0.6505	u
Benzyl alcohol	6.30E+03	(2)	8.20E+04	(6)	1.42E+02	(9)	< 0.0978	u	< 0.1055	u	< 0.1041	u	< 0.0957	u	< 0.0994	u	< 0.098	u	< 0.0992	u	< 1.0141	u
Bis(2-chloroethoxy)methane	1.90E+02	(2)	2.50E+03	(6)	3.84E+00	(9)	< 0.1051	u	< 0.1133	u	< 0.1119	u	< 0.1028	u	< 0.1068	u	< 0.1053	u	< 0.1066	u	< 1.0897	u
Bis(2-chloroethyl)ether	3.11E+00	(1)	1.95E+00	(5)	8.93E-03	(8)	< 0.1088	u	< 0.1173	u	< 0.1158	u	< 0.1064	u	< 0.1105	u	< 0.109	u	< 0.1104	u	< 1.1281	u
Bis(2-chloroisopropyl)ether	9.93E+01	(1)	5.19E+02	(4)	6.98E-01	(8)	< 0.0841	u	< 0.0907	u	< 0.0896	u	< 0.0823	u	< 0.0855	u	< 0.0843	u	< 0.0854	u	< 0.8722	u
Bis(2-ethylhexyl)phthalate	3.80E+02	(1)	1.83E+03	(4)	2.95E+03	(8)	< 0.1237	u	< 0.1334	u	< 0.1317	u	< 0.121	u	< 0.1257	u	< 0.1239	u	< 0.1255	u	< 1.2827	u
Butyl benzyl phthalate	2.90E+03	(3)	1.20E+04	(7)	6.79E+01	(9)	< 0.1344	u	< 0.145	u	< 0.1431	u	< 0.1315	u	< 0.1366	u	< 0.1347	u	< 0.1364	u	< 1.3938	u
Carbazole	-	-	-	-	-	-	< 0.1025	u	< 0.1106	u	< 0.1092	u	< 0.1003	u	< 0.1042	u	< 0.1028	u	< 0.1041	u	< 1.0633	u

	SWMU 10-18 (2-2.5')		SWMU 10-18 (8-10')		SWMU 10-18 (18-20')		SWMU 10-19 (2-2.5')		SWMU 10-19 (12-14')		SWMU 10-19 (18-20')		SWMU 10-20 (2-2.5')		SWMU 10-20 (8-10')		SWMU 10-20 (10-12')		SWMU 10-20 (16-18')		SWMU 10-20 (20-22')		SWMU 10-21 (2-2.5')
	1605874-001		1605874-002		1605874-003		1605875-005		1605875-006		1605875-007		1605875-008		1605875-001		1605875-002		1605875-003		1605875-004		1605943-(
	5/16/2016		5/16/2016		5/16/2016		5/17/2016		5/17/2016		5/17/2016		5/17/2016		5/17/2016		5/17/2016		5/17/2016		5/17/2016		5/18/201
Ethylbenzene	< 0.0003	u	0.001	J	0.0016	J	< 0.0003	u	0.29	v	0.0014	J	< 0.0039	u	9.6	v	4.5	v	0.63	v	0.0014	J	0.0012
Hexachlorobutadiene	< 0.0005	u	< 0.0004	u	< 0.0005	u	< 0.0006	u	< 0.0206	u	< 0.0005	u	< 0.0058	u	< 0.2099	u	< 0.2008	u	< 0.0761	u	< 0.0006	u	< 0.0005
Isopropylbenzene	< 0.0003	u	< 0.0002	u	< 0.0003	u	< 0.0003	u	0.14	J	< 0.0003	u	< 0.0041	u	2	v	0.92	J	0.17	J	< 0.0003	u	< 0.0003
Methyl tert-butyl ether (MTBE)	< 0.0004	u	< 0.0003	u	< 0.0004	u	< 0.0004	u	< 0.053	u	< 0.0004	u	< 0.0149	u	< 0.5394	u	< 0.516	u	< 0.1954	u	< 0.0004	u	< 0.0004
Methylene chloride	< 0.0022	u	< 0.0017	u	< 0.0022	u	< 0.0025	u	0.05	J	< 0.0021	u	< 0.0137	u	0.51	J	0.5	J	< 0.1793	u	< 0.0024	u	< 0.0022
Naphthalene	< 0.0022	u	< 0.0017	u	< 0.0022	u	< 0.0025	u	2.3	v	< 0.0021	u	< 0.0074	u	24	v	12	v	3.1	v	< 0.0024	u	< 0.0022
n-Butylbenzene	< 0.0005	u	< 0.0004	u	< 0.0005	u	< 0.0006	u	0.27	J	< 0.0005	u	< 0.0042	u	1.9	J	0.97	J	0.28	J	< 0.0006	u	< 0.0005
n-Propylbenzene	< 0.0004	u	< 0.0003	u	< 0.0004	u	< 0.0004	u	0.28	v	0.0004	J	< 0.0037	u	4.2	v	1.9	v	0.36	J	< 0.0004	u	< 0.0004
sec-Butylbenzene	< 0.0004	u	< 0.0003	u	< 0.0004	u	< 0.0004	u	0.17	v	< 0.0004	u	< 0.0066	u	1.1	J	0.49	J	0.16	J	< 0.0004	u	< 0.0004
Styrene	< 0.0003	u	< 0.0002	u	< 0.0003	u	< 0.0003	u	< 0.0151	u	< 0.0003	u	< 0.0042	u	< 0.1533	u	< 0.1466	u	< 0.0555	u	< 0.0003	u	< 0.0003
tert-Butylbenzene	< 0.0003	u	< 0.0003	u	< 0.0003	u	< 0.0004	u	< 0.014	u	< 0.0003	u	< 0.0039	u	< 0.1423	u	< 0.1361	u	< 0.0516	u	< 0.0004	u	< 0.0003
Tetrachloroethene (PCE)	< 0.0003	u	< 0.0002	u	< 0.0003	u	< 0.0003	u	< 0.014	u	< 0.0003	u	< 0.0039	u	< 0.1424	u	< 0.1362	u	< 0.0516	u	< 0.0003	u	< 0.0003
Toluene	0.001	J	0.0055	v	0.0076	v	0.0011	J	0.16	J	0.0066	v	< 0.0028	u	36	v	18	v	2.3	v	0.0065	v	0.0048
trans-1,2-DCE	< 0.0002	u	< 0.0002	u	< 0.0002	u	< 0.0003	u	< 0.0472	u	< 0.0002	u	< 0.0133	u	< 0.4805	u	< 0.4596	u	< 0.1741	u	< 0.0002	u	< 0.0002
trans-1,3-Dichloropropene	< 0.0003	u	< 0.0002	u	< 0.0003	u	< 0.0003	u	< 0.0247	u	< 0.0003	u	< 0.007	u	< 0.2512	u	< 0.2403	u	< 0.091	u	< 0.0003	u	< 0.0003
Trichloroethene (TCE)	< 0.0022	u	< 0.0017	u	< 0.0022	u	< 0.0025	u	< 0.0181	u	< 0.0021	u	< 0.0051	u	< 0.184	u	< 0.176	u	< 0.0667	u	< 0.0024	u	< 0.0022
Trichlorofluoromethane	< 0.0003	u	< 0.0002	u	< 0.0003	u	< 0.0003	u	< 0.0126	u	< 0.0003	u	< 0.0036	u	< 0.1283	u	< 0.1228	u	< 0.0465	u	< 0.0003	u	< 0.0003
Vinyl chloride	< 0.0006	u	< 0.0005	u	< 0.0006	u	< 0.0007	u	< 0.0138	u	< 0.0006	u	< 0.0039	u	< 0.1404	u	< 0.1343	u	< 0.0509	u	< 0.0006	u	< 0.0006
Xylenes, Total	< 0.0009	u	0.0027	v	0.0045	v	< 0.001	u	5.9	v	0.0044	v	< 0.009	u	72	v	34	v	7	v	0.0036	v	0.0045
Semi-volatiles (mg/kg)																							
1,2,4-Trichlorobenzene	< 0.1311	u	< 0.1267	u	< 0.1244	u	< 0.13	u	< 0.12	u	< 0.12	u	< 13	u	< 0.1365	u	< 0.1365	u	< 0.13	u	< 0.12	u	< 0.12
1,2-Dichlorobenzene	< 0.0928	u	< 0.0897	u	< 0.0881	u	< 0.092	u	< 0.088	u	< 0.085	u	< 8.9	u	< 0.0966	u	< 0.0967	u	< 0.092	u	< 0.086	u	< 0.082
1,3-Dichlorobenzene	< 0.0937	u	< 0.0905	u	< 0.0889	u	< 0.093	u	< 0.088	u	< 0.086	u	< 9	u	< 0.0975	u	< 0.0976	u	< 0.092	u	< 0.087	u	< 0.083
1,4-Dichlorobenzene	< 0.1025	u	< 0.099	u	< 0.0972	u	< 0.1	u	< 0.097	u	< 0.094	u	< 9.9	u	< 0.1067	u	< 0.1067	u	< 0.1	u	< 0.095	u	< 0.091
1-Methylnaphthalene	< 0.1218	u	< 0.1177	u	< 0.1156	u	< 0.12	u	2.1	v	< 0.11	u	< 12	u	11	v	18	v	2.2	v	< 0.11	u	< 0.11
2,4,5-Trichlorophenol	< 0.1213	u	< 0.1172	u	< 0.1151	u	< 0.12	u	< 0.11	u	< 0.11	u	< 12	u	< 0.1263	u	< 0.1263	u	< 0.12	u	< 0.11	u	< 0.11
2,4,6-Trichlorophenol	< 0.1005	u	< 0.0972	u	< 0.0954	u	< 0.099	u	< 0.095	u	< 0.093	u	< 9.7	u	< 0.1047	u	< 0.1047	u	< 0.099	u	< 0.094	u	< 0.089
2,4-Dichlorophenol	< 0.113	u	< 0.1093	u	< 0.1073	u	< 0.11	u	< 0.11	u	< 0.1	u	< 11	u	< 0.1177	u	< 0.1177	u	< 0.11	u	< 0.11	u	< 0.1
2,4-Dimethylphenol	< 0.1316	u	< 0.1272	u	< 0.1249	u	< 0.13	u	< 0.12	u	< 0.12	u	< 13	u	4.3	v	11	v	8.3	v	< 0.12	u	< 0.12
2,4-Dinitrophenol	< 0.0804	u	< 0.0777	u	< 0.0763	u	< 0.079	u	< 0.076	u	< 0.074	u	< 7.7	u	< 0.0837	u	< 0.0837	u	< 0.079	u	< 0.075	u	< 0.071
2,4-Dinitrotoluene	< 0.1082	u	< 0.1046	u	< 0.1027	u	< 0.11	u	< 0.1	u	< 0.1	u	< 10	u	< 0.1127	u	< 0.1127	u	< 0.11	u	< 0.1	u	< 0.096
2,6-Dinitrotoluene	< 0.1282	u	< 0.1239	u	< 0.1217	u	< 0.13	u	< 0.12	u	< 0.12	u	< 12	u	< 0.1335	u	< 0.1336	u	< 0.13	u	< 0.12	u	< 0.11
2-Chloronaphthalene	< 0.0954	u	< 0.0922	u	< 0.0905	u	< 0.094	u	< 0.09	u	< 0.088	u	< 9.2	u	< 0.0993	u	< 0.0994	u	< 0.094	u	< 0.089	u	< 0.085
2-Chlorophenol	< 0.0955	u	< 0.0923	u	< 0.0907	u	< 0.094	u	< 0.09	u	< 0.088	u	< 9.2	u	< 0.0995	u	< 0.0995	u	< 0.094	u	< 0.089	u	< 0.085
2-Methylnaphthalene	< 0.1438	u	< 0.139	u	< 0.1365	u	< 0.14	u	3	v	< 0.13	u	< 14	u	20	v	31	v	3.7	v	< 0.13	u	< 0.13
'2-Methylphenol (cresol,o-)	< 0.1013	u	< 0.0979	u	< 0.0961	u	< 0.1	u	< 0.096	u	< 0.093	u	< 9.8	u	13	v	24	v	17	v	< 0.094	u	< 0.09
2-Nitroaniline	< 0.1306	u	< 0.1262	u	< 0.1239	u	< 0.13	u	< 0.12	u	< 0.12	u	< 13	u	< 0.136	u	< 0.136	u	< 0.13	u	< 0.12	u	< 0.12
2-Nitrophenol	< 0.1202	u	< 0.1162	u	< 0.1141	u	< 0.12	u	< 0.11	u	< 0.11	u	< 12	u	< 0.1252	u	< 0.1252	u	< 0.12	u	< 0.11	u	< 0.11
3,3´-Dichlorobenzidine	< 0.0892	u	< 0.0862	u	< 0.0847	u	< 0.088	u	< 0.084	u	< 0.082	u	< 8.6	u	< 0.0929	u	< 0.0929	u	< 0.088	u	< 0.083	u	< 0.079
3+4-Methylphenol	< 0.0877	u	< 0.0848	u	< 0.0833	u	< 0.087	u	< 0.083	u	< 0.081	u	< 8.4	u	24	v	43	v	26	v	< 0.082	u	< 0.078
3-Nitroaniline	< 0.1068	u	< 0.1032	u	< 0.1014	u	< 0.11	u	< 0.1	u	< 0.098	u	< 10	u	< 0.1112	u	< 0.1113	u	< 0.11	u	< 0.099	u	< 0.095
4,6-Dinitro-2-methylphenol	< 0.0733	u	< 0.0708	u	< 0.0695	u	< 0.072	u	< 0.069	u	< 0.067	u	< 7.1	u	< 0.0763	u	< 0.0763	u	< 0.072	u	< 0.068	u	< 0.065
4-Bromophenyl phenyl ether	< 0.1158	u	< 0.112	u	< 0.1099	u	< 0.11	u	< 0.11	u	< 0.11	u	< 11	u	< 0.1206	u	< 0.1207	u	< 0.11	u	< 0.11	u	< 0.1
4-Chloro-3-methylphenol	< 0.1446	u	< 0.1397	u	< 0.1372	u	< 0.14	u	< 0.14	u	< 0.13	u	< 14	u	< 0.1505	u	< 0.1506	u	< 0.14	u	< 0.13	u	< 0.13
4-Chloroaniline	< 0.1317	u	< 0.1273	u	< 0.125	u	< 0.13	u	< 0.12	u	< 0.12	u	< 13	u	< 0.1372	u	< 0.1372	u	< 0.13	u	< 0.12	u	< 0.12
4-Chlorophenyl phenyl ether	< 0.1384	u	< 0.1338	u	< 0.1314	u	< 0.14	u	< 0.13	u	< 0.13	u	< 13	u	< 0.1442	u	< 0.1442	u	< 0.14	u	< 0.13	u	< 0.12
4-Nitroaniline	< 0.0854	u	< 0.0826	u	< 0.0811	u	< 0.084	u	< 0.081	u	< 0.079	u	< 8.2	u	< 0.089	u	< 0.089	u	< 0.084	u	< 0.08	u	< 0.076
4-Nitrophenol	< 0.0923	u	< 0.0892	u	< 0.0876	u	< 0.091	u	< 0.087	u	< 0.085	u	< 8.9	u	< 0.0961	u	< 0.0962	u	< 0.091	u	< 0.086	u	< 0.082
Acenaphthene	< 0.1039	u	< 0.1004	u	< 0.0986	u	< 0.1	u	< 0.098	u	< 0.096	u	< 10	u	< 0.1082	u	< 0.1082	u	< 0.1	u	< 0.097	u	< 0.092
Acenaphthylene	< 0.0986	u	< 0.0953	u	< 0.0936	u	< 0.097	u	< 0.093	u	< 0.091	u	< 9.5	u	< 0.1027	u	< 0.1027	u	< 0.097	u	< 0.092	u	< 0.087
Aniline	< 0.1145	u	< 0.1107	u	< 0.1087	u	< 0.11	u	< 0.11	u	< 0.11	u	< 11	u	< 0.1192	u	< 0.1193	u	< 0.11	u	< 0.11	u	< 0.1
Anthracene	< 0.0804	u	< 0.0777	u	< 0.0763	u	< 0.079	u	< 0.076	u	< 0.074	u	< 7.7	u	< 0.0838	u	< 0.0838	u	< 0.079	u	< 0.075	u	< 0.071
Azobenzene	< 0.1477	u	< 0.1427	u	< 0.1401	u	< 0.15	u	< 0.14	u	< 0.14	u	< 14	u	< 0.1538	u	< 0.1538	u	< 0.15	u	< 0.14	u	< 0.13
Benz(a)anthracene	< 0.1043	u	< 0.1008	u	< 0.099	u	< 0.1	u	< 0.098	u	< 0.096	u	< 10	u	< 0.1086	u	< 0.1087	u	< 0.1	u	< 0.097	u	< 0.092
Benzo(a)pyrene	< 0.0918	u	< 0.0887	u	< 0.0871	u	< 0.091	u	< 0.087	u	< 0.084	u	< 8.8	u	< 0.0955	u	< 0.0956	u	< 0.09	u	< 0.085	u	< 0.081
Benzo(b)fluoranthene	< 0.1094	u	< 0.1058	u	< 0.1039	u	< 0.11	u	< 0.1	u	< 0.1	u	< 11	u	< 0.114	u	< 0.114	u	< 0.11	u	< 0.1	u	< 0.097
Benzo(g,h,i)perylene	< 0.1068	u	< 0.1033	u	< 0.1014	u	< 0.11	u	< 0.1	u	< 0.098	u	< 10	u	< 0.1113	u	< 0.1113	u	< 0.11	u	< 0.1	u	< 0.095
Benzo(k)fluoranthene	< 0.1067	u	< 0.1032	u	< 0.1013	u	< 0.11	u	< 0.1	u	< 0.098	u	< 10	u	< 0.1111	u	< 0.1112	u	< 0.11	u	< 0.099	u	< 0.095
Benzoic acid	< 0.1005	u	< 0.0971	u	< 0.0953	u	< 0.099	u	< 0.095	u	< 0.092	u	< 9.7	u	< 0.1046	u	< 0.1046	u	< 0.099	u	< 0.094	u	< 0.089
Benzyl alcohol	< 0.0949	u	< 0.0917	u	< 0.09	u	< 0.094	u	< 0.09	u	< 0.087	u	< 9.1	u	< 0.0988	u	< 0.0988	u	< 0.094	u	< 0.088	u	< 0.084
Bis(2-chloroethoxy)methane	< 0.1315	u	< 0.1271	u	< 0.1248	u	< 0.13	u	< 0.12	u	< 0.12	u	< 13	u	< 0.1369	u	< 0.137	u	< 0.13	u	< 0.12	u	< 0.12
Bis(2-chloroethyl)ether	< 0.089	u	< 0.0861	u	< 0.0845	u	< 0.088	u	< 0.084	u	< 0.082	u	< 8.6	u	< 0.0927	u	< 0.0927	u	< 0.088	u	< 0.083	u	< 0.079
Bis(2-chloroisopropyl)ether	< 0.1082	u	< 0.1046	u	< 0.1027	u	< 0.11	u	< 0.1	u	< 0.1	u	< 10	u	< 0.1127	u	< 0.1127	u	< 0.11	u	< 0.1	u	< 0.096
Bis(2-ethylhexyl)phthalate	< 0.0987	u	< 0.0954	u	< 0.0937	u	< 0.098	u	< 0.093	u	< 0.091	u	< 9.5	u	< 0.1028	u	< 0.1028	u	< 0.097	u	< 0.092	u	0.17
Butyl benzyl phthalate	< 0.1073	u	< 0.1037	u	< 0.1018	u	< 0.11	u	< 0.1	u	< 0.099	u	< 10	u	< 0.1117	u	< 0.1117	u	< 0.11	u	< 0.1	u	< 0.095
Carbazole	< 0.0818	u	< 0.0791	u	< 0.0777	u	< 0.081	u	< 0.077	u	< 0.075	u	< 7.9	u	< 0.0852	u	< 0.0852	u	< 0.081	u	< 0.076	u	< 0.073

Table 7
SWMU 10 Soil Analytical Results Summary
Western Refining Southwest, Inc. - Gallup Refinery
Gallup, New Mexico

	Residential Soil Screening Level	Source	Non-Residential Soil Screening Level	Source	Leachate DAF (295) (mg/kg) SoilGW	Source	SWMU 10-14 (21-23')		SWMU 10-15 (2-4')		SWMU 10-15 (4-6')		SWMU 10-15 (18-20')		SWMU 10-16 (2-4')		SWMU 10-16 (4-5.5')		SWMU 10-16 (8-9')		SWMU 10-17 (6-8')		SWMU 10-18 (2-2.5')		SWMU 10-18 (8-10')		SWMU 10-18 (18-20')		SWMU 10-19 (2-2.5')		SWMU 10-19 (12-14')		SWMU 10-19 (18-20')		SWMU 10-20 (2-2.5')		SWMU 10-20 (8-10')		SWMU 10-20 (10-12')		SWMU 10-20 (16-18')		SWMU 10-20 (20-22')		SWMU 10-21 (2-2.5')	
							1505570-002		1505617-006		1505617-007		1505617-008		1505705-001		1505705-002		1505705-003		1505617-009		1605874-001		1605874-002		1605874-003		1605875-005		1605875-006		1605875-007		1605875-008		1605875-001		1605875-002		1605875-003		1605875-004		1605943-(	
							5/12/2015		5/13/2015		5/13/2015		5/13/2015		5/13/2015		5/13/2015		5/13/2015		5/13/2015		5/16/2016		5/16/2016		5/16/2016		5/17/2016		5/17/2016		5/17/2016		5/17/2016		5/17/2016		5/17/2016		5/17/2016		5/17/2016		5/18/201	
Chrysene	1.53E+02	(1)	3.23E+03	(4)	2.74E+03	(8)	< 0.1106	u	< 0.1192	u	< 0.1177	u	< 0.1082	u	< 0.1123	u	< 0.1108	u	< 0.1122	u	< 1.1464	u	< 0.1032	u	< 0.0997	u	< 0.0979	u	< 0.1	u	< 0.097	u	< 0.095	u	< 9.9	u	< 0.1074	u	< 0.1075	u	< 0.1	u	< 0.096	u	< 0.091	
Dibenz(a,h)anthracene	1.53E-01	(1)	3.23E+00	(4)	9.01E+01	(8)	< 0.1193	u	< 0.1286	u	< 0.127	u	< 0.1167	u	< 0.1212	u	< 0.1195	u	< 0.1211	u	< 1.2369	u	< 0.098	u	< 0.0947	u	< 0.093	u	< 0.097	u	< 0.093	u	< 0.09	u	< 9.4	u	< 0.102	u	< 0.1021	u	< 0.097	u	< 0.091	u	< 0.087	
Dibenzofuran	-	-	-	-	-	-	< 0.1178	u	< 0.127	u	< 0.1254	u	< 0.1152	u	< 0.1197	u	< 0.118	u	< 0.1195	u	< 1.221	u	< 0.1219	u	< 0.1178	u	< 0.1157	u	< 0.12	u	< 0.12	u	< 0.11	u	< 12	u	< 0.1269	u	< 0.1269	u	< 0.12	u	< 0.11	u	< 0.11	
Diethyl phthalate	4.93E+04	(1)	2.15E+05	(5)	1.44E+03	(8)	< 0.125	u	< 0.1348	u	< 0.133	u	< 0.1222	u	< 0.127	u	< 0.1252	u	< 0.1268	u	< 1.2957	u	< 0.1229	u	< 0.1188	u	< 0.1166	u	< 0.12	u	< 0.12	u	< 0.11	u	< 12	u	< 0.1279	u	< 0.128	u	< 0.12	u	< 0.11	u	< 0.11	
Dimethyl phthalate	6.11E+05	(1)	2.38E+06	(5)	2.38E+04	(8)	< 0.1013	u	< 0.1093	u	< 0.1079	u	< 0.0991	u	< 0.103	u	< 0.1015	u	< 0.1028	u	< 1.0507	u	< 0.1185	u	< 0.1146	u	< 0.1125	u	< 0.12	u	< 0.11	u	< 0.11	u	< 11	u	< 0.1234	u	< 0.1235	u	< 0.12	u	< 0.11	u	< 0.11	
Di-n-butyl phthalate	6.16E+03	(1)	2.69E+04	(5)	4.98E+02	(8)	< 0.1245	u	< 0.1343	u	< 0.1326	u	< 0.1218	u	< 0.1265	u	< 0.1248	u	< 0.1264	u	< 1.2912	u	0.14	J	0.089	J	< 0.086	u	< 0.089	u	< 0.086	u	< 0.083	u	< 8.7	u	< 0.0943	u	< 0.0944	u	< 0.089	u	< 0.084	u	< 0.08	
Di-n-octyl phthalate	-	-	-	-	-	-	< 0.1226	u	< 0.1322	u	< 0.1305	u	< 0.1199	u	< 0.1246	u	< 0.1228	u	< 0.1244	u	< 1.271	u	< 0.1034	u	< 0.0999	u	< 0.0981	u	< 0.1	u	< 0.098	u	< 0.095	u	< 10	u	< 0.1076	u	< 0.1077	u	< 0.1	u	< 0.096	u	< 0.092	
Fluoranthene	2.32E+03	(1)	1.00E+04	(5)	1.97E+04	(8)	< 0.1336	u	< 0.1441	u	< 0.1423	u	< 0.1307	u	< 0.1358	u	< 0.1339	u	< 0.1356	u	< 1.3854	u	< 0.0698	u	< 0.0675	u	< 0.0662	u	< 0.069	u	< 0.066	u	< 0.064	u	< 6.7	u	< 0.0727	u	< 0.0727	u	< 0.069	u	< 0.065	u	< 0.062	
Fluorene	2.32E+03	(1)	1.00E+04	(5)	1.18E+03	(8)	< 0.1499	u	< 0.1617	u	< 0.1596	u	< 0.1466	u	< 0.1523	u	< 0.1502	u	< 0.1521	u	7.1	v	< 0.1109	u	< 0.1072	u	< 0.1053	u	< 0.11	u	< 0.1	u	< 0.1	u	< 11	u	1.5	v	2.1	v	0.49	v	< 0.1	u	< 0.098	
Hexachlorobenzene	3.33E+00	(1)	1.60E+01	(4)	1.36E+00	(8)	< 0.1039	u	< 0.1121	u	< 0.1106	u	< 0.1017	u	< 0.1056	u	< 0.1041	u	< 0.1055	u	< 1.0776	u	< 0.0955	u	< 0.0923	u	< 0.0907	u	< 0.094	u	< 0.09	u	< 0.088	u	< 9.2	u	< 0.0995	u	< 0.0995	u	< 0.094	u	< 0.089	u	< 0.085	
Hexachlorobutadiene	6.16E+01	(1)	2.69E+02	(5)	1.30E+00	(8)	< 0.1089	u	< 0.1175	u	< 0.116	u	< 0.1066	u	< 0.1107	u	< 0.1091	u	< 0.1105	u	< 1.1295	u	< 0.1366	u	< 0.132	u	< 0.1296	u	< 0.13	u	< 0.13	u	< 0.13	u	< 13	u	< 0.1422	u	< 0.1422	u	< 0.13	u	< 0.13	u	< 0.12	
Hexachlorocyclopentadiene	3.70E+02	(1)	8.67E+02	(5)	1.97E+01	(8)	< 0.0764	u	< 0.0824	u	< 0.0813	u	< 0.0747	u	< 0.0776	u	< 0.0765	u	< 0.0775	u	< 0.7919	u	< 0.1385	u	< 0.1339	u	< 0.1315	u	< 0.14	u	< 0.13	u	< 0.13	u	< 13	u	< 0.1443	u	< 0.1443	u	< 0.14	u	< 0.13	u	< 0.12	
Hexachloroethane	4.31E+01	(1)	1.88E+02	(5)	9.77E-01	(8)	< 0.098	u	< 0.1057	u	< 0.1044	u	< 0.0959	u	< 0.0996	u	< 0.0982	u	< 0.0995	u	< 1.0163	u	< 0.1041	u	< 0.1006	u	< 0.0988	u	< 0.1	u	< 0.098	u	< 0.096	u	< 10	u	< 0.1084	u	< 0.1084	u	< 0.1	u	< 0.097	u	< 0.092	
Indeno(1,2,3-cd)pyrene	1.53E+00	(1)	3.23E+01	(4)	2.96E+02	(8)	< 0.1251	u	< 0.1349	u	< 0.1332	u	< 0.1224	u	< 0.1271	u	< 0.1254	u	< 0.127	u	< 1.2975	u	< 0.0946	u	< 0.0915	u	< 0.0898	u	< 0.093	u	< 0.089	u	< 0.087	u	< 9.1	u	< 0.0985	u	< 0.0986	u	< 0.093	u	< 0.088	u	< 0.084	
Naphthalene	4.97E+01	(1)	1.59E+02	(5)	1.21E+00	(8)	< 0.1048	u	< 0.113	u	< 0.1115	u	< 0.1025	u	< 0.1065	u	< 0.105	u	< 0.1063	u	24	v	< 0.1163	u	< 0.1124	u	< 0.1104	u	< 0.11	u	0.41	v	< 0.11	u	< 11	u	5	v	8.5	v	0.73	v	< 0.11	u	< 0.1	
Nitrobenzene	6.04E+01	(1)	2.93E+02	(4)	2.12E-01	(8)	< 0.1134	u	< 0.1223	u	< 0.1207	u	< 0.1109	u	< 0.1152	u	< 0.1136	u	< 0.115	u	< 1.1755	u	< 0.125	u	< 0.1209	u	< 0.1187	u	< 0.12	u	< 0.12	u	< 0.12	u	< 12	u	< 0.1302	u	< 0.1303	u	< 0.12	u	< 0.12	u	< 0.11	
N-Nitrosodi-n-propylamine	7.80E-01	(3)	3.30E+00	(7)	2.39E-03	(9)	< 0.1141	u	< 0.1231	u	< 0.1215	u	< 0.1117	u	< 0.116	u	< 0.1144	u	< 0.1158	u	< 1.1834	u	< 0.1165	u	< 0.1126	u	< 0.1105	u	< 0.12	u	< 0.11	u	< 0.11	u	< 11	u	< 0.1213	u	< 0.1213	u	< 0.11	u	< 0.11	u	< 0.1	
N-Nitrosodiphenylamine	7.94E-03	(1)	1.71E-01	(4)	1.45E-04	(8)	< 0.0986	u	< 0.1063	u	< 0.105	u	< 0.0964	u	< 0.1002	u	< 0.0988	u	< 0.1	u	< 1.0222	u	< 0.1183	u	< 0.1144	u	< 0.1123	u	< 0.12	u	< 0.11	u	< 0.11	u	< 11	u	< 0.1232	u	< 0.1233	u	< 0.12	u	< 0.11	u	< 0.1	
Pentachlorophenol	9.85E+00	(1)	4.45E+01	(4)	8.97E-01	(8)	< 0.0687	u	< 0.0741	u	< 0.0732	u	< 0.0673	u	< 0.0699	u	< 0.0689	u	< 0.0698	u	< 0.7128	u	< 0.0779	u	< 0.0753	u	< 0.0739	u	< 0.077	u	< 0.074	u	< 0.072	u	< 7.5	u	< 0.0811	u	< 0.0811	u	< 0.077	u	< 0.073	u	< 0.069	
Phenanthrene	1.74E+03	(1)	7.53E+03	(5)	1.27E+03	(8)	< 0.1152	u	< 0.1242	u	< 0.1226	u	< 0.1127	u	< 0.117	u	< 0.1154	u	< 0.1169	u	15	v	< 0.0823	u	< 0.0796	u	< 0.0781	u	< 0.081	u	0.61	v	< 0.076	u	< 7.9	u	3.2	v	5	v	1	v	< 0.077	u	< 0.073	
Phenol	1.83E+04	(1)	7.74E+04	(5)	7.72E+02	(8)	< 0.0987	u	< 0.1064	u	< 0.1051	u	< 0.0965	u	< 0.1003	u	< 0.0989	u	< 0.1001	u	52	v	< 0.0913	u	< 0.0882	u	< 0.0866	u	< 0.09	u	< 0.086	u	< 0.084	u	< 8.8	u	30	v	34	v	18	v	< 0.085	u	< 0.081	
Pyrene	1.74E+03	(1)	7.53E+03	(5)	2.83E+03	(8)	< 0.1421	u	< 0.1533	u	< 0.1513	u	< 0.139	u	< 0.1444	u	< 0.1424	u	< 0.1442	u	< 1.4735	u	< 0.0916	u	< 0.0885	u	< 0.0869	u	< 0.09	u	< 0.086	u	< 0.084	u	< 8.8	u	0.27	v	0.33	v	0.13	j	< 0.085	u	< 0.081	
Pyridine	7.80E+01	(2)	1.20E+03	(6)	2.01E+00	(9)	< 0.0925	u	< 0.0998	u	< 0.0985	u	< 0.0905	u	< 0.094	u	< 0.0927	u	< 0.0939	u	< 0.9594	u	< 0.0961	u	< 0.0928	u	< 0.0912	u	< 0.095	u	< 0.091	u	< 0.088	u	< 9.3	u	< 0.1	u	< 0.1001	u	< 0.095	u	< 0.089	u	< 0.085	
Total Petroleum Hydrocarbons (mg/kg)																																													
Gasoline Range Organics (GRO)	-		-		-		< 1	u	< 1	u	< 2.6	u	< 1	u	< 1	u	< 1	u	< 1	u	1300	v	1.5	J	1	J	0.66	J	< 0.6449	u	270	v	< 0.5228	u	1.1	J	1100	v	640	v	220	v	< 0.5213	u	2	
Diesel Range Organics (DRO)	1.00E+03	(11)	3.80E+03	(11)	-		< 6.2	u	< 5	u	< 5	u	< 5	u	< 6	u	< 6	u	< 6	u	**7800**	v	< 4.3	u	11	J	< 4	u	< 4.3	u	590	v	< 4.1	u	**8900**	v	**2000**	v	**3500**	v	380	v	< 3.7	u	32	
Motor Oil Range Organics (MRO)	1.00E+03	(11)	3.80E+03	(11)	-		< 56	u	< 49	u	< 48	u	< 48	u	< 50	u	< 50	u	< 50	u	< 4776	u	< 60	u	< 58	u	< 56	u	< 60	u	78	v	< 57	u	**6700**	v	< 640	u	< 630	u	< 57	u	< 52	u	< 52	

- No screening level or analytical result available
NMED - Risk Assessment Guidance for Site Investigations and Remediation (July 2015)
EPA - Regional Screening Levels (Nov 2015)
(1) NMED Residential Screening Level
(2) EPA Residential Screening Level
(3) EPA Residential - Screening Levels (June 2015) multiplied by 10 pursuant to Section IV.D.2 of the Oct. 31, 2013 RCRA Post-Closure Permit because the constituent is listed as carcinogenic
(4) NMED Industrial Occupational Screening Level
(5) NMED Construction Worker Screening Level
(6) EPA Industrial - Screening Levels (June 2015)
(7) EPA Industrial - Screening Levels June 2015) multiplied by 10 pursuant to Section IV.D.2 of the Oct. 31, 2013 RCRA Post-Clousre Permit because the constituent is listed as carcinogenic
(8) SoilGW NMED Dilution Attenuation Factor (DAF) = 20
(9) SoilGW Risk-based EPA DAF = 20
(10) SoilGW MCL-based EPA DAF = 20
(11) NMED Table 6-2 TPH Soil Screening Levels "uknown oil" with DAF = 1.0 - see report Section 5 for use of screening levels

Bold represents value above Non-Residential Screening Level
yellow highlight represents value above Leachate (DAF) Screening Level
Bold with yellow highlight value exceeds Non-Residential Screening Level and DAF

* - sample reanalyzed for hexavalent chromium, see amended lab report #1505223
** - sample reanalyzed for hexavalent chromium, see lab report #1505003
v = reportable detection above the Practical quantitation limit (PQL)
u - result is not detected at method detection limit (MDL)
j - estimated result at concentration above MDL but less than PQL

Table 7
SWMU 10 Soil Analytical Results Summary
Western Refining Southwest, Inc. - Gallup Refinery
Gallup, New Mexico

	Residential Soil Screening Level	Source	Non-Residential Soil Screening Level	Source	Leachate DAF (295) (mg/kg) SoilGW	Source		SWMU 10-21 (12-14')		SWMU 10-21 (20-22')		SWMU 10-22 (2-2.5')		SWMU 10-22 (8-9')		SWMU 10-23 (2-2.5')		SWMU 10-23 (15-16')		SWMU 10-24 (2-2.5')		SWMU 10-24 (6-8')		SWMU 10-24 (8-10')		SWMU 10-24 (15-16')		SWMU 10-25 (2-2.5')		SWMU 10-25 (10-12')		SWMU 10-25 (16.5-18')	
							01	1605943-002		1605943-003		1605943-004		1605943-005		1609B57-001		1609B57-002		1609B57-003		1609B57-004		1609B57-005		1609B57-006		1609B57-007		1609B57-008		1609B57-009	
							6	5/18/2016		5/18/2016		5/18/2016		5/18/2016		9/19/2016		9/19/2016		9/19/2016		9/19/2016		9/19/2016		9/19/2016		9/19/2016		9/19/2016		9/19/2016	
Metals (mg/kg)																																	
Antimony	3.13E+01	(1)	1.42E+02	(5)	9.68E+01	(8)	u	< 7.3205	u	< 6.8	u	< 7.3	u	< 2.9	u	< 2.2222	u	< 1.1461	u	1.1	J	< 1.2345	u	< 2.4091	u	2.1	J	< 1.1611	u	< 2.4915	u	1.6	J
Arsenic	4.25E+00	(1)	2.15E+01	(4)	4.41E+00	(8)	v	1.8	J	3.3	v	2.4	J	2.6	J	< 1.9626	u	1	J	< 0.9076	u	< 1.0903	u	< 2.1276	u	< 1.0181	u	< 1.0254	u	< 2.2003	u	< 1.0232	u
Barium	1.56E+04	(1)	4.35E+03	(5)	3.98E+04	(8)	v	220	v	1000	v	290	v	350	v	220	v	730	v	190	v	120	v	130	v	510	v	96	v	190	v	460	v
Beryllium	1.56E+02	(1)	1.48E+02	(5)	2.89E+03	(8)	v	1.3	v	0.91	v	0.89	v	0.97	v	1.1	v	0.82	v	0.6	v	0.99	v	1.3	v	0.95	v	0.58	v	1.4	v	0.86	v
Cadmium	7.05E+01	(1)	7.21E+01	(5)	1.38E+02	(8)	u	< 0.0783	u	< 0.0725	u	< 0.0782	u	< 0.0768	u	< 0.14	u	< 0.0722	u	< 0.0648	u	< 0.0778	u	< 0.1518	u	< 0.0726	u	< 0.0732	u	< 0.157	u	< 0.073	u
Chromium	9.66E+01	(1)	1.34E+02	(5)	2.97E+06	(8)	v	11	v	12	v	12	v	13	v	14	v	13	v	6.3	v	12	v	15	v	15	v	7.2	v	16	v	15	v
Hexavalent Chromium	3.05E+00	(1)	6.69E+01	(5)	1.43E+00	(8)	u	< 0.64	u	< 0.64	u	< 0.64	u	< 0.64	u	<0.1	u	<0.1	u	<0.1	u	<0.1	u	<0.1	u	<0.1	u	<0.1	u	<0.1	u	<0.1	u
Cobalt	2.30E+01	(2)	3.50E+02	(6)	7.97E+01	(9)	v	5.6	v	8.8	v	4.9	v	7.8	v	< 0.047	u	0.071	J	0.12	J	0.19	J	0.15	J	< 0.049	u	0.12	J	0.34	v	0.076	J
Cyanide	1.12E+01	(1)	1.21E+01	(5)	7.70E-02	(8)	v	0.048	J	0.044	J	0.04	J	< 0.039	u	0.46	J	0.28	J	0.56	J	0.51	J	0.54	J	0.2	J	0.3	J	0.45	J	0.2	J
Iron	5.50E+04	(2)	8.20E+05	(6)	1.03E+05	(9)	v	20000	v	18000	v	14000	v	17000	v	19000	v	19000	v	11000	v	18000	v	20000	v	20000	v	12000	v	23000	v	18000	v
Lead	4.00E+02	(1)	8.00E+02	(4)	4.13E+03	(10)	v	5.1	v	2.6	v	4.3	v	3.2	v	2.6	v	0.95	v	2.3	v	3.9	v	1.5	v	1.1	v	2.1	v	2.9	v	< 0.2001	u
Manganese	1.80E+03	(2)	2.60E+04	(6)	8.26E+03	(9)	v	240	v	1800	v	570	v	520	v	450	v	850	v	370	v	200	v	290	v	1400	v	500	v	300	v	1100	v
Mercury	2.38E+01	(1)	2.07E+01	(5)	9.64E+00	(8)	v	0.0043	J	< 0.0006	u	0.044	v	< 0.0007	u	0.0072	J	0.0026	J	0.0041	J	0.0023	J	0.0028	J	0.0011	J	0.0031	J	0.0014	J	0.0014	J
Nickel	1.56E+03	(1)	6.19E+03	(5)	7.15E+03	(8)	v	11	v	15	v	8.6	v	15	v	12	v	13	v	5.7	v	9.9	v	12	v	16	v	5.7	v	14	v	15	v
Selenium	3.91E+02	(1)	1.75E+03	(5)	1.51E+02	(8)	u	< 1.3487	u	< 1.2475	u	< 1.346	u	< 1.3228	u	< 4.0179	u	< 2.0723	u	< 1.858	u	< 2.2321	u	< 4.3557	u	< 2.0843	u	< 2.0993	u	< 4.5047	u	< 2.0948	u
Silver	3.91E+02	(1)	1.77E+03	(5)	2.03E+02	(8)	u	< 0.0392	u	< 0.0363	u	< 0.0391	u	< 0.0385	u	< 0.1383	u	< 0.0713	u	< 0.0639	u	< 0.0768	u	< 0.1499	u	< 0.0717	u	< 0.0722	u	< 0.155	u	< 0.0721	u
Vanadium	3.94E+02	(1)	6.14E+02	(5)	1.86E+04	(8)	v	21	v	17	v	18	v	17	v	23	v	13	v	12	v	19	v	23	v	21	v	15	v	25	v	18	v
Zinc	2.35E+04	(1)	1.06E+05	(5)	1.09E+05	(8)	v	20	v	27	v	20	v	23	v	21	v	25	v	11	v	18	v	22	v	26	v	11	v	26	v	27	v
Volatiles (mg/kg)																																	
1,1,1,2-Tetrachloroethane	2.81E+01	(1)	1.37E+02	(4)	5.30E-01	(8)	u	< 0.0019	u	< 0.0018	u	< 0.0017	u	< 0.0022	u	< 0.002	u	< 0.0021	u	< 0.0017	u	< 0.07	u	< 0.032	u	< 0.0022	u	< 0.2042	u	< 0.0016	u	< 0.0019	u
1,1,1-Trichloroethane	1.44E+04	(1)	1.36E+04	(5)	7.53E+02	(8)	u	< 0.0019	u	< 0.0018	u	< 0.0017	u	< 0.0022	u	< 0.002	u	< 0.0021	u	< 0.0017	u	< 0.045	u	< 0.02	u	< 0.0022	u	< 0.1302	u	< 0.0016	u	< 0.0019	u
1,1,2,2-Tetrachloroethane	7.98E+00	(1)	3.94E+01	(4)	7.09E-02	(8)	u	< 0.0019	u	< 0.0018	u	< 0.0017	u	< 0.0022	u	< 0.002	u	< 0.0021	u	< 0.0017	u	< 0.12	u	< 0.054	u	< 0.0022	u	< 0.3458	u	< 0.0016	u	< 0.0019	u
1,1,2-Trichloroethane	2.61E+00	(1)	2.30E+00	(5)	3.28E-02	(8)	u	< 0.0019	u	< 0.0018	u	< 0.0017	u	< 0.0022	u	< 0.002	u	< 0.0021	u	< 0.0017	u	< 0.086	u	< 0.039	u	< 0.0022	u	< 0.2515	u	< 0.0016	u	< 0.0019	u
1,1-Dichloroethane	7.86E+01	(1)	3.83E+02	(4)	2.00E+00	(8)	u	< 0.0019	u	< 0.0018	u	< 0.0017	u	< 0.0022	u	< 0.002	u	< 0.0021	u	< 0.0017	u	< 0.039	u	< 0.018	u	< 0.0022	u	< 0.1153	u	< 0.0016	u	< 0.0019	u
1,1-Dichloroethene	4.40E+02	(1)	4.24E+02	(5)	2.87E+01	(8)	u	< 0.0003	u	< 0.0003	u	< 0.0003	u	< 0.0004	u	< 0.0003	u	< 0.0003	u	< 0.0003	u	< 0.24	u	< 0.11	u	< 0.0004	u	< 0.6989	u	< 0.0003	u	< 0.0003	u
1,1-Dichloropropene	-	-	-	-	-	-	u	< 0.0019	u	< 0.0018	u	< 0.0017	u	< 0.0022	u	< 0.002	u	< 0.0021	u	< 0.0017	u	< 0.058	u	< 0.026	u	< 0.0022	u	< 0.1693	u	< 0.0016	u	< 0.0019	u
1,2,3-Trichlorobenzene	6.30E+01	(2)	9.30E+02	(6)	6.20E+00	(9)	u	< 0.0005	u	< 0.0004	u	< 0.0004	u	< 0.0005	u	< 0.0005	u	< 0.0005	u	< 0.0004	u	< 0.11	u	< 0.05	u	< 0.0005	u	< 0.3193	u	< 0.0004	u	< 0.0005	u
1,2,3-Trichloropropane	5.10E-02	(1)	1.21E+00	(4)	7.68E-04	(8)	u	< 0.0019	u	< 0.0018	u	< 0.0017	u	< 0.0022	u	< 0.002	u	< 0.0021	u	< 0.0017	u	< 0.13	u	< 0.058	u	< 0.0022	u	< 0.3691	u	< 0.0016	u	< 0.0019	u
1,2,4-Trichlorobenzene	8.29E+01	(1)	7.91E+01	(5)	2.60E+00	(8)	u	< 0.0006	u	< 0.0005	u	< 0.0005	u	< 0.0007	u	< 0.0006	u	< 0.0006	u	< 0.0005	u	< 0.078	u	< 0.036	u	< 0.0007	u	< 0.2282	u	< 0.0005	u	< 0.0006	u
1,2,4-Trimethylbenzene	5.80E+01	(2)	2.40E+02	(6)	6.20E+00	(9)	J	0.0003	J	0.001	J	0.0003	J	0.0011	J	0.0004	J	0.0016	J	0.0004	J	5.3	v	1.2	v	0.0015	J	5.8	v	0.0146	v	0.0015	J
1,2-Dibromo-3-chloropropane	8.58E-02	(1)	1.18E+00	(4)	3.45E-04	(8)	u	< 0.0002	u	< 0.0002	u	< 0.0002	u	< 0.0002	u	< 0.0002	u	< 0.0002	u	< 0.0002	u	< 0.22	u	< 0.1	u	< 0.0002	u	< 0.6536	u	< 0.0002	u	< 0.0002	u
1,2-Dibromoethane (EDB)	6.72E-01	(1)	3.31E+00	(4)	5.19E-03	(8)	u	< 0.0019	u	< 0.0018	u	< 0.0017	u	< 0.0022	u	< 0.002	u	< 0.0021	u	< 0.0017	u	< 0.052	u	< 0.024	u	< 0.0022	u	< 0.1518	u	< 0.0016	u	< 0.0019	u
1,2-Dichlorobenzene	2.15E+03	(1)	2.50E+03	(5)	6.75E+01	(8)	u	< 0.0003	u	< 0.0003	u	< 0.0002	u	< 0.0003	u	< 0.0003	u	< 0.0003	u	< 0.0002	u	< 0.064	u	< 0.029	u	< 0.0003	u	< 0.1862	u	< 0.0002	u	< 0.0003	u
1,2-Dichloroethane (EDC)	8.32E+00	(1)	4.07E+01	(4)	1.20E-01	(8)	u	< 0.0019	u	< 0.0018	u	< 0.0017	u	< 0.0022	u	< 0.002	u	< 0.0021	u	< 0.0017	u	< 0.19	u	< 0.087	u	< 0.0022	u	< 0.5564	u	< 0.0016	u	< 0.0019	u
1,2-Dichloropropane	1.78E+01	(1)	2.54E+01	(5)	3.58E-01	(8)	u	< 0.0019	u	< 0.0018	u	< 0.0017	u	< 0.0022	u	< 0.002	u	< 0.0021	u	< 0.0017	u	< 0.061	u	< 0.028	u	< 0.0022	u	< 0.179	u	< 0.0016	u	< 0.0019	u
1,3,5-Trimethylbenzene	7.80E+02	(2)	1.20E+04	(6)	5.02E+01	(9)	J	< 0.0003	u	0.0007	J	< 0.0003	u	0.0007	J	0.0004	J	0.0011	J	0.0003	J	1.9	v	0.43	v	0.0011	J	2.6	v	0.0046	v	0.0011	J
1,3-Dichlorobenzene	-	-	-	-	-	-	u	< 0.0003	u	< 0.0003	u	< 0.0003	u	< 0.0004	u	< 0.0004	u	< 0.0004	u	< 0.0003	u	< 0.06	u	< 0.027	u	< 0.0004	u	< 0.175	u	< 0.0003	u	< 0.0004	u
1,3-Dichloropropane	1.60E+03	(2)	2.30E+04	(6)	3.84E+01	(9)	u	< 0.0019	u	< 0.0018	u	< 0.0017	u	< 0.0022	u	< 0.002	u	< 0.0021	u	< 0.0017	u	< 0.083	u	< 0.038	u	< 0.0022	u	< 0.2421	u	< 0.0016	u	< 0.0019	u
1,4-Dichlorobenzene	3.28E+01	(1)	1.59E+02	(4)	1.06E+00	(8)	u	< 0.0004	u	< 0.0003	u	< 0.0003	u	< 0.0004	u	< 0.0004	u	< 0.0004	u	< 0.0003	u	< 0.09	u	< 0.041	u	< 0.0004	u	< 0.2644	u	< 0.0003	u	< 0.0004	u
1-Methylnaphthalene	1.80E+02	(3)	7.30E+02	(7)	1.71E+00	(9)	J	< 0.0002	u	0.0002	J	< 0.0002	u	< 0.0003	u	< 0.0002	u	0.0004	J	< 0.0002	u	8.1	v	1.6	v	0.0008	J	13	v	0.0099	v	0.0006	J
2,2-Dichloropropane	-	-	-	-	-	-	u	< 0.0002	u	< 0.0002	u	< 0.0002	u	< 0.0003	u	< 0.0003	u	< 0.0003	u	< 0.0002	u	< 0.042	u	< 0.019	u	< 0.0003	u	< 0.1222	u	< 0.0002	u	< 0.0002	u
2-Butanone	3.74E+04	(1)	9.17E+04	(5)	2.96E+02	(8)	u	< 0.0007	u	< 0.0006	u	< 0.0006	u	< 0.0008	u	< 0.0007	u	< 0.0008	u	< 0.0006	u	< 0.42	u	< 0.19	u	< 0.0008	u	< 1.2194	u	0.0033	J	0.0036	J
2-Chlorotoluene	1.56E+03	(1)	7.08E+03	(5)	5.26E+01	(8)	u	< 0.0003	u	< 0.0003	u	< 0.0003	u	< 0.0004	u	< 0.0003	u	< 0.0004	u	< 0.0003	u	< 0.054	u	< 0.025	u	< 0.0004	u	< 0.1574	u	< 0.0003	u	< 0.0003	u
2-Hexanone	2.00E+02	(2)	1.30E+03	(6)	2.60E+00	(9)	u	< 0.0005	u	< 0.0004	u	< 0.0004	u	< 0.0006	u	< 0.0005	u	< 0.0005	u	< 0.0004	u	< 0.4	u	< 0.18	u	< 0.0005	u	< 1.1611	u	< 0.0004	u	< 0.0005	u
2-Methylnaphthalene	2.40E+02	(2)	3.00E+03	(6)	5.61E+01	(9)	u	< 0.0005	u	< 0.0005	u	< 0.0004	u	< 0.0006	u	< 0.0005	u	0.0006	J	< 0.0004	u	14	v	2.8	v	0.0011	J	16	v	0.0086	v	0.0008	J
4-Chlorotoluene	1.60E+03	(2)	2.30E+04	(6)	7.08E+01	(9)	u	< 0.0003	u	< 0.0003	u	< 0.0003	u	< 0.0004	u	< 0.0003	u	< 0.0004	u	< 0.0003	u	< 0.064	u	< 0.03	u	< 0.0004	u	< 0.1887	u	< 0.0003	u	< 0.0003	u
4-Isopropyltoluene	-	-	-	-	-	-	u	< 0.0004	u	< 0.0003	u	< 0.0003	u	< 0.0004	u	< 0.0004	u	< 0.0004	u	< 0.0003	u	0.38	J	0.11	J	< 0.0004	u	0.61	J	0.0006	J	< 0.0004	u
4-Methyl-2-pentanone	5.81E+03	(1)	2.02E+04	(5)	7.07E+01	(8)	u	< 0.0037	u	< 0.0035	u	< 0.0033	u	< 0.0044	u	< 0.0041	u	< 0.0043	u	< 0.0034	u	< 0.21	u	< 0.097	u	< 0.0044	u	< 0.6219	u	< 0.0032	u	< 0.0038	u
Acetone	6.63E+04	(1)	2.42E+05	(5)	7.35E+02	(8)	v	0.0058	J	0.0063	J	0.0117	v	0.0029	J	0.0071	J	0.0045	J	0.0192	v	< 0.94	u	< 0.43	u	0.0046	J	< 2.7608	u	0.0088	v	0.0043	J
Benzene	1.78E+01	(1)	8.72E+01	(4)	5.60E-01	(8)	u	0.0019	v	0.0085	v	< 0.0017	u	0.0095	v	< 0.002	u	0.0103	v	< 0.0017	u	< 0.29	u	0.26	v	0.01	v	< 0.8538	u	0.0266	v	0.0095	v
Bromobenzene	2.90E+02	(2)	1.80E+03	(6)	1.24E+01	(9)	u	< 0.0002	u	< 0.0002	u	< 0.0002	u	< 0.0002	u	< 0.0002	u	< 0.0002	u	< 0.0002	u	< 0.059	u	< 0.027	u	< 0.0002	u	< 0.172	u	< 0.0002	u	< 0.0002	u
Bromodichloromethane	6.19E+00	(1)	3.02E+01	(4)	9.15E-02	(8)	u	< 0.0019	u	< 0.0018	u	< 0.0017	u	< 0.0022	u	< 0.002	u	< 0.0021	u	< 0.0017	u	< 0.042	u	< 0.019	u	< 0.0022	u	< 0.1243	u	< 0.0016	u	< 0.0019	u
Bromoform	6.74E+02	(1)	3.25E+03	(4)	6.06E+00	(8)	u	< 0.0019	u	< 0.0018	u	< 0.0017	u	< 0.0022	u	< 0.002	u	< 0.0021	u	< 0.0017	u	< 0.089	u	< 0.041	u	< 0.0022	u	< 0.2599	u	< 0.0016	u	< 0.0019	u
Bromomethane	1.77E+01	(1)	1.79E+01	(5)	5.06E-01	(8)	u	< 0.0003	u	< 0.0003	u	< 0.0003	u	< 0.0004	u	< 0.0004	u	< 0.0004	u	0.0005	J	0.32	J	0.15	J	< 0.0004	u	< 0.7861	u	< 0.0003	u	< 0.0003	u
Carbon disulfide	1.55E+03	(1)	1.62E+03	(5)	6.52E+01	(8)	u	< 0.0007	u	< 0.0006	u	< 0.0006	u	< 0.0008	u	< 0.0008	u	< 0.0008	u	< 0.0006	u	< 0.24	u	< 0.11	u	< 0.0008	u	< 0.7045	u	< 0.0006	u	< 0.0007	u
Carbon tetrachloride	1.07E+01	(1)	5.25E+01	(4)	4.91E-01	(8)	u	< 0.0019	u	< 0.0018	u	< 0.0017	u	< 0.0022	u	< 0.002	u	< 0.0021	u	< 0.0017	u	< 0.048	u	< 0.022	u	< 0.0022	u	< 0.1401	u	< 0.0016	u	< 0.0019	u
Chlorobenzene	3.78E+02	(1)	4.12E+02	(5)	1.23E+01	(8)	u	< 0.0002	u	< 0.0002	u	< 0.0002	u	< 0.0003	u	< 0.0002	u	< 0.0002	u	< 0.0002	u	< 0.059	u	< 0.027	u	< 0.0002	u	< 0.1737	u	< 0.0002	u	< 0.0002	u
Chloroethane	1.90E+04	(1)	1.66E+04	(5)	1.58E+03	(8)	u	< 0.0003	u	< 0.0003	u	< 0.0003	u	< 0.0004	u	< 0.0004	u	< 0.0004	u	< 0.0003	u	< 0.15	u	< 0.067	u	< 0.0004	u	< 0.4259	u	< 0.0003	u	< 0.0004	u
Chloroform	5.90E+00	(1)	2.87E+01	(4)	1.61E-01	(8)	u	< 0.0019	u	< 0.0018	u	< 0.0017	u	< 0.0022	u	< 0.002	u	< 0.0021	u	< 0.0017	u	< 0.055	u	< 0.025	u	< 0.0022	u	< 0.161	u	< 0.0016	u	< 0.0019	u
Chloromethane	4.11E+01	(1)	2.01E+02	(4)	1.40E+00	(8)	u	< 0.0005	u	< 0.0004	u	< 0.0004	u	< 0.0006	u	< 0.0005	u	< 0.0005	u	< 0.0004	u	< 0.065	u	< 0.03	u	< 0.0006	u	< 0.1899	u	< 0.0004	u	< 0.0005	u
cis-1,2-DCE	1.56E+02	(1)	7.08E+02	(5)	2.71E+00	(8)	u	< 0.0019	u	< 0.0018	u	< 0.0017	u	< 0.0022	u	< 0.002	u	< 0.0021	u	< 0.0017	u	< 0.042	u	< 0.019	u	< 0.0022	u	< 0.1241	u	< 0.0016	u	< 0.0019	u
cis-1,3-Dichloropropene	2.93E+01	(1)	1.30E+02	(5)	4.13E-01	(8)	u	< 0.0019	u	< 0.0018	u	< 0.0017	u	< 0.0022	u	< 0.002	u	< 0.0021	u	< 0.0017	u	< 0.067	u	< 0.031	u	< 0.0022	u	< 0.1967	u	< 0.0016	u	< 0.0019	u
Dibromochloromethane	1.39E+01	(1)	6.74E+01	(4)	1.11E-01	(8)	u	< 0.0019	u	< 0.0018	u	< 0.0017	u	< 0.0022	u	< 0.002	u	< 0.0021	u	< 0.0017	u	< 0.066	u	< 0.03	u	< 0.0022	u	< 0.1928	u	< 0.0016	u	< 0.0019	u
Dibromomethane	2.30E+01	(2)	9.80E+01	(6)	5.90E-01	(9)	u	< 0.0019	u	< 0.0018	u	< 0.0017	u	< 0.0022	u	< 0.002	u	< 0.0021	u	< 0.0017	u	< 0.063	u	< 0.029	u	< 0.0022	u	< 0.1848	u	< 0.0016	u	< 0.0019	u
Dichlorodifluoromethane	1.82E+02	(1)	1.61E+02	(5)	1.07E+02	(8)	u	< 0.0011	u	< 0.001	u	< 0.001	u	< 0.0013	u	< 0.0012	u	< 0.0012	u	< 0.001	u	< 0.23	u	< 0.1	u	< 0.0013	u	< 0.6602	u	< 0.0009	u	< 0.0011	u

Table 7
SWMU 10 Soil Analytical Results Summary
Western Refining Southwest, Inc. - Gallup Refinery
Gallup, New Mexico

	Residential Soil Screening Level	Source	Non-Residential Soil Screening Level	Source	Leachate DAF (295) (mg/kg) SoilGW	Source		SWMU 10-21 (12-14')		SWMU 10-21 (20-22')		SWMU 10-22 (2-2.5')		SWMU 10-22 (8-9')		SWMU 10-23 (2-2.5')		SWMU 10-23 (15-16')		SWMU 10-24 (2-2.5')		SWMU 10-24 (6-8')		SWMU 10-24 (8-10')		SWMU 10-24 (15-16')		SWMU 10-25 (2-2.5')		SWMU 10-25 (10-12')		SWMU 10-25 (16.5-18')	
							01	1605943-002		1605943-003		1605943-004		1605943-005		1609B57-001		1609B57-002		1609B57-003		1609B57-004		1609B57-005		1609B57-006		1609B57-007		1609B57-008		1609B57-009	
							6	5/18/2016		5/18/2016		5/18/2016		5/18/2016		9/19/2016		9/19/2016		9/19/2016		9/19/2016		9/19/2016		9/19/2016		9/19/2016		9/19/2016		9/19/2016	
Ethylbenzene	7.51E+01	(1)	3.68E+02	(4)	3.87E+00	(8)	J	< 0.0003	u	0.0013	J	< 0.0002	u	0.0014	J	0.0004	J	0.0018	J	0.0004	J	0.69	J	0.41	v	0.0018	J	1	J	0.0141	v	0.0018	J
Hexachlorobutadiene	6.16E+01	(1)	2.69E+02	(5)	1.30E+00	(8)	u	< 0.0004	u	< 0.0004	u	< 0.0004	u	< 0.0005	u	< 0.0005	u	< 0.0005	u	< 0.0004	u	< 0.089	u	< 0.041	u	< 0.0005	u	< 0.2609	u	< 0.0004	u	< 0.0004	u
Isopropylbenzene	2.36E+03	(1)	2.74E+03	(5)	1.68E+02	(8)	u	< 0.0002	u	< 0.0002	u	< 0.0002	u	< 0.0003	u	0.0003	J	0.0005	J	0.0002	J	0.24	J	0.14	J	0.0005	J	0.54	J	0.0019	v	0.0004	J
Methyl tert-butyl ether (MTBE)	9.75E+02	(1)	4.82E+03	(4)	8.16E+00	(8)	u	< 0.0003	u	< 0.0003	u	< 0.0003	u	< 0.0004	u	< 0.0003	u	< 0.0004	u	< 0.0003	u	< 0.23	u	< 0.1	u	< 0.0004	u	< 0.6706	u	0.0009	J	< 0.0003	u
Methylene chloride	4.09E+02	(1)	1.21E+03	(5)	6.94E+00	(8)	u	< 0.0019	u	< 0.0018	u	< 0.0017	u	< 0.0022	u	< 0.002	u	< 0.0021	u	< 0.0017	u	< 0.21	u	< 0.096	u	< 0.0022	u	< 0.6153	u	< 0.0016	u	< 0.0019	u
Naphthalene	4.97E+01	(1)	1.59E+02	(5)	1.21E+00	(8)	u	< 0.0019	u	< 0.0018	u	< 0.0017	u	< 0.0022	u	< 0.002	u	< 0.0021	u	< 0.0017	u	3.7	v	0.85	v	< 0.0022	u	3.8	J	0.0063	v	< 0.0019	u
n-Butylbenzene	3.90E+03	(2)	5.80E+04	(6)	9.44E+02	(9)	u	< 0.0005	u	< 0.0004	u	< 0.0004	u	< 0.0005	u	< 0.0005	u	< 0.0005	u	< 0.0004	u	0.5	J	0.18	J	< 0.0005	u	0.95	J	0.0008	J	< 0.0005	u
n-Propylbenzene	3.80E+03	(2)	2.40E+04	(6)	3.54E+02	(9)	u	< 0.0003	u	< 0.0003	u	< 0.0003	u	< 0.0004	u	0.0004	J	0.0006	J	0.0003	J	0.39	J	0.24	J	0.0006	J	0.93	J	0.0029	v	0.0006	J
sec-Butylbenzene	7.80E+03	(2)	1.20E+05	(6)	1.74E+03	(9)	u	< 0.0003	u	< 0.0003	u	< 0.0003	u	< 0.0004	u	< 0.0004	u	< 0.0004	u	< 0.0003	u	0.34	J	0.14	J	< 0.0004	u	0.74	J	0.0006	J	< 0.0003	u
Styrene	7.26E+03	(1)	1.02E+04	(5)	3.04E+02	(8)	u	< 0.0002	u	< 0.0002	u	< 0.0002	u	< 0.0003	u	< 0.0003	u	< 0.0003	u	< 0.0002	u	< 0.065	u	< 0.03	u	< 0.0003	u	< 0.1905	u	< 0.0002	u	< 0.0002	u
tert-Butylbenzene	7.80E+03	(2)	1.20E+05	(6)	4.72E+02	(9)	u	< 0.0003	u	< 0.0003	u	< 0.0002	u	< 0.0003	u	< 0.0003	u	< 0.0003	u	< 0.0002	u	< 0.06	u	< 0.028	u	< 0.0003	u	< 0.1769	u	< 0.0002	u	< 0.0003	u
Tetrachloroethene (PCE)	1.11E+02	(1)	1.20E+02	(5)	4.73E+00	(8)	u	< 0.0002	u	< 0.0002	u	< 0.0002	u	< 0.0003	u	< 0.0003	u	< 0.0003	u	< 0.0002	u	< 0.06	u	< 0.028	u	< 0.0003	u	< 0.177	u	< 0.0002	u	< 0.0003	u
Toluene	5.23E+03	(1)	1.40E+04	(5)	1.79E+02	(8)	v	0.0015	J	0.0062	v	0.0012	J	0.007	v	0.0012	J	0.0074	v	0.0014	J	0.25	J	0.49	v	0.0068	v	0.29	J	0.0031	v	0.0069	v
trans-1,2-DCE	2.95E+02	(1)	3.05E+02	(5)	6.92E+00	(8)	u	< 0.0002	u	< 0.0002	u	< 0.0002	u	< 0.0002	u	< 0.0002	u	< 0.0002	u	< 0.0002	u	< 0.2	u	< 0.093	u	< 0.0002	u	< 0.5973	u	< 0.0002	u	< 0.0002	u
trans-1,3-Dichloropropene	2.93E+01	(1)	1.30E+02	(5)	4.13E-01	(8)	u	< 0.0002	u	< 0.0002	u	< 0.0002	u	< 0.0003	u	< 0.0002	u	< 0.0003	u	< 0.0002	u	< 0.11	u	< 0.049	u	< 0.0003	u	< 0.3123	u	< 0.0002	u	< 0.0002	u
Trichloroethene (TCE)	6.77E+00	(1)	6.90E+00	(5)	2.58E-01	(8)	u	< 0.0019	u	< 0.0018	u	< 0.0017	u	< 0.0022	u	< 0.002	u	< 0.0021	u	< 0.0017	u	< 0.078	u	< 0.036	u	< 0.0022	u	< 0.2288	u	< 0.0016	u	< 0.0019	u
Trichlorofluoromethane	1.23E+03	(1)	1.13E+03	(5)	2.31E+02	(8)	u	< 0.0002	u	< 0.0002	u	< 0.0002	u	< 0.0003	u	< 0.0003	u	< 0.0003	u	< 0.0002	u	< 0.055	u	< 0.025	u	< 0.0003	u	< 0.1596	u	< 0.0002	u	< 0.0002	u
Vinyl chloride	7.42E-01	(1)	2.84E+01	(4)	1.99E-02	(8)	u	< 0.0005	u	< 0.0005	u	< 0.0004	u	< 0.0006	u	< 0.0005	u	< 0.0006	u	< 0.0004	u	< 0.06	u	< 0.027	u	< 0.0006	u	< 0.1745	u	< 0.0004	u	< 0.0005	u
Xylenes, Total	8.71E+02	(1)	7.98E+02	(5)	4.39E+01	(8)	v	0.0009	J	0.0039	v	< 0.0007	u	0.0042	v	0.0014	J	0.0055	v	0.0013	J	12	v	3.4	v	0.0053	v	10	v	0.0317	v	0.0051	v
Semi-volatiles (mg/kg)																																	
1,2,4-Trichlorobenzene	8.29E+01	(1)	7.91E+01	(5)	2.60E+00	(8)	u	< 0.13	u	< 0.12	u	< 0.13	u	< 0.13	u	< 0.12	u	< 0.123	u	< 0.1099	u	< 1.3468	u	< 0.1276	u	< 0.1216	u	< 0.1232	u	< 0.1294	u	< 0.1232	u
1,2-Dichlorobenzene	2.15E+03	(1)	2.50E+03	(5)	6.75E+01	(8)	u	< 0.094	u	< 0.086	u	< 0.094	u	< 0.092	u	< 0.0849	u	< 0.0871	u	< 0.0778	u	< 0.9536	u	< 0.0904	u	< 0.0861	u	< 0.0872	u	< 0.0916	u	< 0.0872	u
1,3-Dichlorobenzene	-	-	-	-	-	-	u	< 0.095	u	< 0.087	u	< 0.095	u	< 0.093	u	< 0.0857	u	< 0.0879	u	< 0.0785	u	< 0.9623	u	< 0.0912	u	< 0.0869	u	< 0.088	u	< 0.0925	u	< 0.088	u
1,4-Dichlorobenzene	3.28E+01	(1)	1.59E+02	(4)	1.06E+00	(8)	u	< 0.1	u	< 0.095	u	< 0.1	u	< 0.1	u	< 0.0938	u	< 0.0962	u	< 0.0859	u	< 1.0526	u	< 0.0998	u	< 0.095	u	< 0.0963	u	< 0.1011	u	< 0.0963	u
1-Methylnaphthalene	1.80E+02	(3)	7.30E+02	(7)	1.71E+00	(9)	u	< 0.12	u	< 0.11	u	< 0.12	u	< 0.12	u	< 0.1114	u	< 0.1143	u	< 0.102	u	5	v	1.1	v	< 0.1129	u	0.82	v	0.76	v	< 0.1144	u
2,4,5-Trichlorophenol	6.16E+03	(1)	2.69E+04	(5)	9.76E+02	(8)	u	< 0.12	u	< 0.11	u	< 0.12	u	< 0.12	u	< 0.111	u	< 0.1138	u	< 0.1016	u	< 1.246	u	< 0.1181	u	< 0.1125	u	< 0.114	u	< 0.1197	u	< 0.114	u
2,4,6-Trichlorophenol	6.16E+01	(1)	2.69E+02	(5)	9.95E+00	(8)	u	< 0.1	u	< 0.093	u	< 0.1	u	< 0.099	u	< 0.092	u	< 0.0944	u	< 0.0843	u	< 1.033	u	< 0.0979	u	< 0.0932	u	< 0.0945	u	< 0.0992	u	< 0.0945	u
2,4-Dichlorophenol	1.85E+02	(1)	8.07E+02	(5)	1.22E+01	(8)	u	< 0.12	u	< 0.1	u	< 0.11	u	< 0.11	u	< 0.1034	u	< 0.1061	u	< 0.0947	u	< 1.1615	u	< 0.1101	u	< 0.1048	u	< 0.1063	u	< 0.1116	u	< 0.1062	u
2,4-Dimethylphenol	1.23E+03	(1)	5.38E+03	(5)	9.51E+01	(8)	u	< 0.13	u	< 0.12	u	< 0.13	u	< 0.13	u	< 0.1204	u	< 0.1235	u	< 0.1103	u	1.5	J	0.46	v	< 0.122	u	0.17	J	< 0.1299	u	< 0.1237	u
2,4-Dinitrophenol	1.23E+02	(1)	5.38E+02	(5)	9.89E+00	(8)	u	< 0.082	u	< 0.074	u	< 0.081	u	< 0.079	u	< 0.0735	u	< 0.0754	u	< 0.0674	u	< 0.8258	u	< 0.0783	u	< 0.0745	u	< 0.0755	u	< 0.0793	u	< 0.0755	u
2,4-Dinitrotoluene	1.71E+01	(1)	8.23E+01	(4)	7.25E-01	(8)	u	< 0.11	u	< 0.1	u	< 0.11	u	< 0.11	u	< 0.099	u	< 0.1016	u	< 0.0907	u	< 1.1119	u	< 0.1054	u	< 0.1004	u	< 0.1017	u	< 0.1068	u	< 0.1017	u
2,6-Dinitrotoluene	3.56E+00	(1)	1.72E+01	(4)	1.51E-01	(8)	u	< 0.13	u	< 0.12	u	< 0.13	u	< 0.13	u	< 0.1173	u	< 0.1203	u	< 0.1075	u	< 1.3174	u	< 0.1249	u	< 0.1189	u	< 0.1205	u	< 0.1266	u	< 0.1205	u
2-Chloronaphthalene	6.26E+03	(1)	2.83E+04	(5)	8.41E+02	(8)	u	< 0.097	u	< 0.088	u	< 0.097	u	< 0.094	u	< 0.0873	u	< 0.0895	u	< 0.0799	u	< 0.9802	u	< 0.0929	u	< 0.0885	u	< 0.0897	u	< 0.0942	u	< 0.0897	u
2-Chlorophenol	3.91E+02	(1)	1.77E+03	(5)	1.70E+01	(8)	u	< 0.097	u	< 0.088	u	< 0.097	u	< 0.094	u	< 0.0874	u	< 0.0897	u	< 0.0801	u	< 0.9815	u	< 0.093	u	< 0.0886	u	< 0.0898	u	< 0.0943	u	< 0.0898	u
2-Methylnaphthalene	2.40E+02	(2)	3.00E+03	(6)	5.61E+01	(9)	u	< 0.15	u	< 0.13	u	< 0.15	u	< 0.14	u	< 0.1316	u	< 0.135	u	< 0.1205	u	8.5	v	1.9	v	< 0.1333	u	1.4	v	1.3	v	< 0.1351	u
´2-Methylphenol (cresol,o-)	3.20E+03	(2)	4.10E+04	(6)	2.21E+02	(9)	u	< 0.1	u	< 0.094	u	< 0.1	u	< 0.1	u	< 0.0927	u	< 0.0951	u	< 0.0849	u	4.7	J	2.7	v	< 0.0939	u	0.53	v	0.17	J	< 0.0952	u
2-Nitroaniline	6.30E+02	(2)	8.00E+03	(6)	2.36E+01	(9)	u	< 0.13	u	< 0.12	u	< 0.13	u	< 0.13	u	< 0.1195	u	< 0.1226	u	< 0.1095	u	< 1.3419	u	< 0.1272	u	< 0.1211	u	< 0.1228	u	< 0.1289	u	< 0.1227	u
2-Nitrophenol	-	-	-	-	-	-	u	< 0.12	u	< 0.11	u	< 0.12	u	< 0.12	u	< 0.11	u	< 0.1128	u	< 0.1007	u	< 1.2352	u	< 0.1171	u	< 0.1115	u	< 0.113	u	< 0.1187	u	< 0.113	u
3,3´-Dichlorobenzidine	1.18E+01	(1)	5.70E+01	(4)	1.81E+00	(8)	u	< 0.091	u	< 0.083	u	< 0.09	u	< 0.088	u	< 0.0816	u	< 0.0837	u	< 0.0748	u	< 0.9167	u	< 0.0869	u	< 0.0827	u	< 0.0839	u	< 0.0881	u	< 0.0839	u
3+4-Methylphenol	-	-	-	-	-	-	u	< 0.089	u	< 0.081	u	< 0.089	u	< 0.087	u	< 0.0803	u	< 0.0823	u	< 0.0735	u	< 0.9014	u	3	v	< 0.0814	u	< 0.0825	u	< 0.0866	u	< 0.0824	u
3-Nitroaniline	-	-	-	-	-	-	u	< 0.11	u	< 0.099	u	< 0.11	u	< 0.11	u	< 0.0977	u	< 0.1003	u	< 0.0895	u	< 1.0975	u	< 0.104	u	< 0.0991	u	< 0.1004	u	< 0.1055	u	< 0.1004	u
4,6-Dinitro-2-methylphenol	4.93E+00	(1)	2.15E+01	(5)	5.81E-01	(8)	u	< 0.075	u	< 0.068	u	< 0.074	u	< 0.072	u	< 0.0671	u	< 0.0688	u	< 0.0614	u	< 0.7529	u	< 0.0714	u	< 0.068	u	< 0.0689	u	< 0.0723	u	< 0.0689	u
4-Bromophenyl phenyl ether	-	-	-	-	-	-	u	< 0.12	u	< 0.11	u	< 0.12	u	< 0.11	u	< 0.106	u	< 0.1087	u	< 0.0971	u	< 1.1903	u	< 0.1128	u	< 0.1074	u	< 0.1089	u	< 0.1144	u	< 0.1089	u
4-Chloro-3-methylphenol	-	-	-	-	-	-	u	< 0.15	u	< 0.13	u	< 0.15	u	< 0.14	u	< 0.1323	u	< 0.1357	u	< 0.1212	u	< 1.4854	u	< 0.1408	u	< 0.1341	u	< 0.1359	u	< 0.1427	u	< 0.1359	u
4-Chloroaniline	2.70E+01	(3)	1.10E+02	(7)	4.72E-02	(9)	u	< 0.13	u	< 0.12	u	< 0.13	u	< 0.13	u	< 0.1205	u	< 0.1236	u	< 0.1104	u	< 1.3535	u	< 0.1283	u	< 0.1222	u	< 0.1238	u	< 0.13	u	< 0.1238	u
4-Chlorophenyl phenyl ether	-	-	-	-	-	-	u	< 0.14	u	< 0.13	u	< 0.14	u	< 0.14	u	< 0.1267	u	< 0.1299	u	< 0.116	u	< 1.4225	u	< 0.1348	u	< 0.1284	u	< 0.1301	u	< 0.1367	u	< 0.1301	u
4-Nitroaniline	2.70E+02	(3)	1.10E+03	(7)	4.72E-01	(9)	u	< 0.087	u	< 0.079	u	< 0.086	u	< 0.084	u	< 0.0782	u	< 0.0802	u	< 0.0716	u	< 0.8779	u	< 0.0832	u	< 0.0792	u	< 0.0803	u	< 0.0843	u	< 0.0803	u
4-Nitrophenol	-	-	-	-	-	-	u	< 0.094	u	< 0.085	u	< 0.093	u	< 0.091	u	< 0.0845	u	< 0.0866	u	< 0.0774	u	< 0.9484	u	< 0.0899	u	< 0.0856	u	< 0.0868	u	< 0.0911	u	< 0.0868	u
Acenaphthene	3.48E+03	(1)	1.51E+04	(5)	1.22E+03	(8)	u	< 0.11	u	< 0.096	u	< 0.11	u	< 0.1	u	< 0.0951	u	< 0.0975	u	< 0.0871	u	< 1.0676	u	< 0.1012	u	< 0.0964	u	< 0.0977	u	< 0.1026	u	< 0.0977	u
Acenaphthylene	-	-	-	-	-	-	u	< 0.1	u	< 0.091	u	< 0.1	u	< 0.097	u	< 0.0902	u	< 0.0925	u	< 0.0826	u	< 1.0132	u	< 0.096	u	< 0.0915	u	< 0.0927	u	< 0.0973	u	< 0.0927	u
Aniline	9.50E+02	(3)	4.00E+03	(7)	1.36E+00	(9)	u	< 0.12	u	< 0.11	u	< 0.12	u	< 0.11	u	< 0.1048	u	< 0.1075	u	< 0.0959	u	< 1.1764	u	< 0.1115	u	< 0.1062	u	< 0.1076	u	< 0.113	u	< 0.1076	u
Anthracene	1.74E+04	(1)	7.53E+04	(5)	1.25E+04	(8)	u	< 0.082	u	< 0.074	u	< 0.081	u	< 0.079	u	< 0.0736	u	< 0.0755	u	< 0.0674	u	< 0.8264	u	< 0.0783	u	< 0.0746	u	< 0.0756	u	< 0.0794	u	< 0.0756	u
Azobenzene	5.60E+01	(3)	2.60E+02	(7)	2.71E+07	(9)	u	< 0.15	u	< 0.14	u	< 0.15	u	< 0.15	u	< 0.1351	u	< 0.1386	u	< 0.1237	u	< 1.5172	u	< 0.1438	u	< 0.1369	u	< 0.1388	u	< 0.1458	u	< 0.1388	u
Benz(a)anthracene	1.53E+00	(1)	3.23E+01	(4)	2.69E+01	(8)	u	< 0.11	u	< 0.096	u	< 0.11	u	< 0.1	u	< 0.0955	u	< 0.0979	u	< 0.0874	u	< 1.0718	u	< 0.1016	u	< 0.0967	u	< 0.0981	u	< 0.103	u	< 0.098	u
Benzo(a)pyrene	1.53E-01	(1)	3.23E+00	(4)	8.92E+00	(8)	u	< 0.093	u	< 0.085	u	< 0.093	u	< 0.091	u	< 0.084	u	< 0.0861	u	< 0.0769	u	< 0.9427	u	< 0.0893	u	< 0.0851	u	< 0.0862	u	< 0.0906	u	< 0.0862	u
Benzo(b)fluoranthene	1.53E+00	(1)	3.23E+01	(4)	9.10E+01	(8)	u	< 0.11	u	< 0.1	u	< 0.11	u	< 0.11	u	< 0.1001	u	< 0.1027	u	< 0.0917	u	< 1.1244	u	< 0.1066	u	< 0.1015	u	< 0.1029	u	< 0.108	u	< 0.1028	u
Benzo(g,h,i)perylene	-	-	-	-	-	-	u	< 0.11	u	< 0.099	u	< 0.11	u	< 0.11	u	< 0.0978	u	< 0.1003	u	< 0.0895	u	< 1.0978	u	< 0.104	u	< 0.0991	u	< 0.1004	u	< 0.1055	u	< 0.1004	u
Benzo(k)fluoranthene	1.53E+01	(1)	3.23E+02	(4)	8.92E+02	(8)	u	< 0.11	u	< 0.099	u	< 0.11	u	< 0.11	u	< 0.0977	u	< 0.1002	u	< 0.0895	u	< 1.0968	u	< 0.1039	u	< 0.099	u	< 0.1003	u	< 0.1054	u	< 0.1003	u
Benzoic acid	2.50E+05	(2)	3.30E+06	(6)	5.31E+03	(9)	u	< 0.1	u	< 0.093	u	< 0.1	u	< 0.099	u	< 0.0919	u	< 0.0943	u	< 0.0842	u	1.6	J	0.23	J	< 0.0932	u	0.21	J	0.21	J	< 0.0944	u
Benzyl alcohol	6.30E+03	(2)	8.20E+04	(6)	1.42E+02	(9)	u	< 0.097	u	< 0.088	u	< 0.096	u	< 0.094	u	< 0.0868	u	< 0.089	u	< 0.0795	u	< 0.9746	u	< 0.0924	u	< 0.088	u	< 0.0892	u	< 0.0936	u	< 0.0891	u
Bis(2-chloroethoxy)methane	1.90E+02	(2)	2.50E+03	(6)	3.84E+00	(9)	u	< 0.13	u	< 0.12	u	< 0.13	u	< 0.13	u	< 0.1203	u	< 0.1234	u	< 0.1102	u	< 1.3509	u	< 0.128	u	< 0.1219	u	< 0.1236	u	< 0.1298	u	< 0.1236	u
Bis(2-chloroethyl)ether	3.11E+00	(1)	1.95E+00	(5)	8.93E-03	(8)	u	< 0.091	u	< 0.082	u	< 0.09	u	< 0.088	u	< 0.0815	u	< 0.0836	u	< 0.0746	u	< 0.9148	u	< 0.0867	u	< 0.0826	u	< 0.0837	u	< 0.0879	u	< 0.0837	u
Bis(2-chloroisopropyl)ether	9.93E+01	(1)	5.19E+02	(4)	6.98E-01	(8)	u	< 0.11	u	< 0.1	u	< 0.11	u	< 0.11	u	< 0.099	u	< 0.1015	u	< 0.0907	u	< 1.1116	u	< 0.1054	u	< 0.1003	u	< 0.1017	u	< 0.1068	u	< 0.1017	u
Bis(2-ethylhexyl)phthalate	3.80E+02	(1)	1.83E+03	(4)	2.95E+03	(8)	J	0.14	J	0.12	J	0.19	J	0.17	J	0.15	J	0.17	J	0.16	J	< 1.0143	u	0.23	J	0.16	J	0.22	J	0.16	J	0.17	J
Butyl benzyl phthalate	2.90E+03	(3)	1.20E+04	(7)	6.79E+01	(9)	u	< 0.11	u	< 0.099	u	< 0.11	u	< 0.11	u	< 0.0982	u	< 0.1007	u	< 0.0899	u	< 1.1022	u	< 0.1045	u	< 0.0995	u	< 0.1008	u	< 0.1059	u	< 0.1008	u
Carbazole	-	-	-	-	-	-	u	< 0.083	u	< 0.076	u	< 0.083	u	< 0.081	u	< 0.0749	u	< 0.0768	u	< 0.0686	u	< 0.8407	u	< 0.0797	u	< 0.0759	u	< 0.0769	u	< 0.0808	u	< 0.0769	u

Table 7
SWMU 10 Soil Analytical Results Summary
Western Refining Southwest, Inc. - Gallup Refinery
Gallup, New Mexico

	Residential Soil Screening Level	Source	Non-Residential Soil Screening Level	Source	Leachate DAF (295) (mg/kg) SoilGW	Source		SWMU 10-21 (12-14')		SWMU 10-21 (20-22')		SWMU 10-22 (2-2.5')		SWMU 10-22 (8-9')		SWMU 10-23 (2-2.5')		SWMU 10-23 (15-16')		SWMU 10-24 (2-2.5')		SWMU 10-24 (6-8')		SWMU 10-24 (8-10')		SWMU 10-24 (15-16')		SWMU 10-25 (2-2.5')		SWMU 10-25 (10-12')		SWMU 10-25 (16.5-18')	
							01	1605943-002		1605943-003		1605943-004		1605943-005		1609B57-001		1609B57-002		1609B57-003		1609B57-004		1609B57-005		1609B57-006		1609B57-007		1609B57-008		1609B57-009	
							6	5/18/2016		5/18/2016		5/18/2016		5/18/2016		9/19/2016		9/19/2016		9/19/2016		9/19/2016		9/19/2016		9/19/2016		9/19/2016		9/19/2016		9/19/2016	
Chrysene	1.53E+02	(1)	3.23E+03	(4)	2.74E+03	(8)	u	< 0.11	u	< 0.095	u	< 0.1	u	< 0.1	u	< 0.0944	u	< 0.0968	u	< 0.0865	u	< 1.0601	u	< 0.1005	u	< 0.0957	u	< 0.097	u	< 0.1019	u	< 0.097	u
Dibenz(a,h)anthracene	1.53E-01	(1)	3.23E+00	(4)	9.01E+01	(8)	u	< 0.1	u	< 0.091	u	< 0.099	u	< 0.097	u	< 0.0897	u	< 0.092	u	< 0.0821	u	< 1.0067	u	< 0.0954	u	< 0.0909	u	< 0.0921	u	< 0.0967	u	< 0.0921	u
Dibenzofuran	-	-	-	-	-	-	u	< 0.12	u	< 0.11	u	< 0.12	u	< 0.12	u	< 0.1115	u	< 0.1144	u	< 0.1021	u	< 1.2522	u	< 0.1187	u	< 0.113	u	< 0.1146	u	< 0.1203	u	< 0.1145	u
Diethyl phthalate	4.93E+04	(1)	2.15E+05	(5)	1.44E+03	(8)	u	< 0.13	u	< 0.11	u	< 0.12	u	< 0.12	u	0.22	J	0.22	J	0.2	v	< 1.2625	u	0.23	J	0.18	J	0.28	v	0.21	J	0.24	v
Dimethyl phthalate	6.11E+05	(1)	2.38E+06	(5)	2.38E+04	(8)	u	< 0.12	u	< 0.11	u	< 0.12	u	< 0.12	u	< 0.1085	u	< 0.1112	u	< 0.0993	u	< 1.2179	u	< 0.1154	u	< 0.1099	u	< 0.1114	u	< 0.117	u	< 0.1114	u
Di-n-butyl phthalate	6.16E+03	(1)	2.69E+04	(5)	4.98E+02	(8)	u	0.11	J	< 0.084	u	0.12	J	0.11	J	0.22	J	0.25	J	0.22	J	< 0.931	u	0.28	J	0.15	J	0.35	J	0.22	J	0.35	J
Di-n-octyl phthalate	-	-	-	-	-	-	u	< 0.11	u	< 0.096	u	< 0.1	u	< 0.1	u	< 0.0946	u	< 0.097	u	< 0.0866	u	< 1.062	u	< 0.1007	u	< 0.0959	u	< 0.0972	u	< 0.102	u	< 0.0971	u
Fluoranthene	2.32E+03	(1)	1.00E+04	(5)	1.97E+04	(8)	u	< 0.071	u	< 0.065	u	< 0.071	u	< 0.069	u	< 0.0639	u	< 0.0655	u	< 0.0585	u	< 0.7171	u	< 0.068	u	< 0.0647	u	< 0.0656	u	< 0.0689	u	< 0.0656	u
Fluorene	2.32E+03	(1)	1.00E+04	(5)	1.18E+03	(8)	u	< 0.11	u	< 0.1	u	< 0.11	u	< 0.11	u	< 0.1015	u	< 0.1041	u	< 0.0929	u	< 1.1396	u	0.16	J	< 0.1029	u	0.19	J	0.15	J	< 0.1042	u
Hexachlorobenzene	3.33E+00	(1)	1.60E+01	(4)	1.36E+00	(8)	u	< 0.097	u	< 0.088	u	< 0.097	u	< 0.094	u	< 0.0874	u	< 0.0897	u	< 0.0801	u	< 0.9817	u	< 0.093	u	< 0.0886	u	< 0.0898	u	< 0.0943	u	< 0.0898	u
Hexachlorobutadiene	6.16E+01	(1)	2.69E+02	(5)	1.30E+00	(8)	u	< 0.14	u	< 0.13	u	< 0.14	u	< 0.13	u	< 0.125	u	< 0.1282	u	< 0.1144	u	< 1.403	u	< 0.133	u	< 0.1266	u	< 0.1284	u	< 0.1348	u	< 0.1283	u
Hexachlorocyclopentadiene	3.70E+02	(1)	8.67E+02	(5)	1.97E+01	(8)	u	< 0.14	u	< 0.13	u	< 0.14	u	< 0.14	u	< 0.1268	u	< 0.13	u	< 0.1161	u	< 1.4234	u	< 0.1349	u	< 0.1285	u	< 0.1302	u	< 0.1368	u	< 0.1302	u
Hexachloroethane	4.31E+01	(1)	1.88E+02	(5)	9.77E-01	(8)	u	< 0.11	u	< 0.096	u	< 0.11	u	< 0.1	u	< 0.0953	u	< 0.0977	u	< 0.0872	u	< 1.0696	u	< 0.1014	u	< 0.0965	u	< 0.0979	u	< 0.1028	u	< 0.0978	u
Indeno(1,2,3-cd)pyrene	1.53E+00	(1)	3.23E+01	(4)	2.96E+02	(8)	u	< 0.096	u	< 0.087	u	< 0.096	u	< 0.093	u	< 0.0866	u	< 0.0888	u	< 0.0793	u	< 0.9722	u	< 0.0921	u	< 0.0878	u	< 0.0889	u	< 0.0934	u	< 0.0889	u
Naphthalene	4.97E+01	(1)	1.59E+02	(5)	1.21E+00	(8)	u	< 0.12	u	< 0.11	u	< 0.12	u	< 0.11	u	< 0.1064	u	< 0.1092	u	< 0.0975	u	1.9	J	0.39	v	< 0.1079	u	0.28	v	0.28	v	< 0.1093	u
Nitrobenzene	6.04E+01	(1)	2.93E+02	(4)	2.12E-01	(8)	u	< 0.13	u	< 0.12	u	< 0.13	u	< 0.12	u	< 0.1144	u	< 0.1174	u	< 0.1048	u	< 1.2848	u	< 0.1218	u	< 0.116	u	< 0.1175	u	< 0.1234	u	< 0.1175	u
N-Nitrosodi-n-propylamine	7.80E-01	(3)	3.30E+00	(7)	2.39E-03	(9)	u	< 0.12	u	< 0.11	u	< 0.12	u	< 0.12	u	< 0.1066	u	< 0.1093	u	< 0.0976	u	< 1.1965	u	< 0.1134	u	< 0.108	u	< 0.1095	u	< 0.115	u	< 0.1094	u
N-Nitrosodiphenylamine	7.94E-03	(1)	1.71E-01	(4)	1.45E-04	(8)	u	< 0.12	u	< 0.11	u	< 0.12	u	< 0.12	u	< 0.1083	u	< 0.1111	u	< 0.0992	u	< 1.2158	u	< 0.1152	u	< 0.1097	u	< 0.1112	u	< 0.1168	u	< 0.1112	u
Pentachlorophenol	9.85E+00	(1)	4.45E+01	(4)	8.97E-01	(8)	u	< 0.079	u	< 0.072	u	< 0.079	u	< 0.077	u	< 0.0713	u	< 0.0731	u	< 0.0653	u	< 0.8002	u	< 0.0758	u	< 0.0722	u	< 0.0732	u	< 0.0769	u	< 0.0732	u
Phenanthrene	1.74E+03	(1)	7.53E+03	(5)	1.27E+03	(8)	u	< 0.084	u	< 0.076	u	< 0.083	u	< 0.081	u	< 0.0753	u	< 0.0773	u	< 0.069	u	1.4	J	0.32	v	< 0.0763	u	0.39	v	0.29	v	< 0.0774	u
Phenol	1.83E+04	(1)	7.74E+04	(5)	7.72E+02	(8)	u	< 0.093	u	< 0.084	u	< 0.092	u	< 0.09	u	< 0.0835	u	< 0.0857	u	< 0.0765	u	< 0.9377	u	1.4	v	< 0.0846	u	< 0.0858	u	< 0.0901	u	< 0.0858	u
Pyrene	1.74E+03	(1)	7.53E+03	(5)	2.83E+03	(8)	u	< 0.093	u	< 0.085	u	< 0.093	u	< 0.09	u	< 0.0838	u	< 0.0859	u	< 0.0767	u	< 0.9408	u	< 0.0892	u	< 0.0849	u	< 0.0861	u	< 0.0904	u	< 0.0861	u
Pyridine	7.80E+01	(2)	1.20E+03	(6)	2.01E+00	(9)	u	< 0.098	u	< 0.089	u	< 0.097	u	< 0.095	u	< 0.0879	u	< 0.0901	u	< 0.0805	u	< 0.9869	u	< 0.0935	u	< 0.0891	u	< 0.0903	u	< 0.0948	u	< 0.0903	u
Total Petroleum Hydrocarbons (mg/kg)																																	
Gasoline Range Organics (GRO)	-		-		-		J	0.6	J	0.76	J	0.6	J	0.73	J	< 0.55	u	< 0.51	u	< 0.47	u	360	v	110	v	< 0.57	u	730	v	15	v	1.5	J
Diesel Range Organics (DRO)	1.00E+03	(11)	3.80E+03	(11)	-		v	< 4.5	u	< 3.8	u	< 4.5	u	< 4.1	u	< 2.1	u	< 2	u	< 1.8	u	650	v	190	v	2.9	J	790	v	96	v	4.5	J
Motor Oil Range Organics (MRO)	1.00E+03	(11)	3.80E+03	(11)	-		u	< 62	u	< 53	u	< 62	u	< 57	u	< 56	u	< 55	u	< 50	u	69	v	< 60	u	< 53	u	100	v	< 57	u	< 56	u

- No screening level or analytical result available
NMED - Risk Assessment Guidance for Site Investigations and Remediation (July 2015)
EPA - Regional Screening Levels (Nov 2015)
(1) NMED Residential Screening Level
(2) EPA Residential Screening Level
(3) EPA Residential - Screening Levels (June 2015) multiplied by 10 pursuant to Section IV.D.2 of the Oct. 31, 2013 RCRA Post-Closure Permit because the constituent is listed as carcinogenic
(4) NMED Industrial Occupational Screening Level
(5) NMED Construction Worker Screening Level
(6) EPA Industrial - Screening Levels (June 2015)
(7) EPA Industrial - Screening Levels June 2015) multiplied by 10 pursuant to Section IV.D.2 of the Oct. 31, 2013 RCRA Post-Clousre Permit because the constituent is listed as carcinogenic
(8) SoilGW NMED Dilution Attenuation Factor (DAF) = 20
(9) SoilGW Risk-based EPA DAF = 20
(10) SoilGW MCL-based EPA DAF = 20
(11) NMED Table 6-2 TPH Soil Screening Levels "uknown oil" with DAF = 1.0 - see report Section 5 for use of screening levels

Bold represents value above Non-Residential Screening Level
yellow highlight represents value above Leachate (DAF) Screening Level
Bold with yellow highlight value exceeds Non-Residential Screening Level and DAF

* - sample reanalyzed for hexavalent chromium, see amended lab report #1505223
** - sample reanalyzed for hexavalent chromium, see lab report #1505003
v = reportable detection above the Practical quantitation limit (PQL)
u - result is not detected at method detection limit (MDL)
j - estimated result at concentration above MDL but less than PQL

Table 8
SWMU 10 Groundwater Analytical Results Summary
Western Refining Southwest, Inc. - Gallup Refinery
Gallup, New Mexico

	Screening Levels	Source	SWMU 10-1-GW		SWMU 10-3-GW		SWMU 10-5-GW		SWMU 10-11-GW		SWMU 10-12-GW		SWMU 10-14-GW		SWMU 10-15-GW		SWMU 10-16-GW		SWMU 10-20-GW		SWMU 10-21-GW		SWMU 10-25-GW	
Lab ID			1505001-001		1505005-001		1505218-001		1505698-001		1505700-001		1505701-001		1505708-001		1505710-001		1605998-001		1605998-003		1609C66-001	
Sample Date			4/29/2015		4/29/2015		5/4/2015		5/14/2015		5/14/2015		5/14/2015		5/14/2015		5/14/2015		5/20/2016		5/20/2016		9/21/2016	
Metals (mg/l) TOTAL																								
Antimony	0.006	(2)	0.0011	v	0.0013	J	0.0008	J	< 0.002	u	< 0.002	u	< 0.002	u	< 0.002	u	NA		< 0.002	u	NA		0.00056	J
Arsenic	0.01	(2)	0.008	J	< 0.022	u	< 0.015	u	**0.016**	Z	**0.023**	Z	**0.029**	Z	**0.012**	Z	NA		**0.026**	Z	NA		**0.017**	Z
Barium	2	(2)	0.74	v	0.28	v	0.57	v	**5.3**	Z	**7.3**	Z	**7**	Z	0.37	v	NA		0.26	v	NA		1.1	v
Beryllium	0.004	(2)	0.0024	v	0.00091	J	0.0011	J	**0.017**	Z	**0.037**	Z	**0.035**	Z	0.0015	J	NA		0.0011	J	NA		0.00043	J
Cadmium	0.005	(2)	< 0.001	u	< 0.001	u	< 0.001	u	< 0.001	u	< 0.005	u	< 0.005	u	< 0.001	u	NA		< 0.001	u	NA		< 0.001	u
Chromium	0.05	(3)	0.013	v	< 0.002	u	0.0051	J	**0.073**	v	**0.17**	Z	**0.15**	Z	0.0062	v	NA		0.03	v	NA		< 0.003	u
Hexavalent Chromium	0.000252	(4)	< 0.001	u	< 0.001	u	< 0.001	u	< 0.001	u	< 0.001	u	< 0.001	u	< 0.001	u	NA		**0.0005**	v	NA		< 0.00015	u
Cobalt	0.006	(1)	**0.012**	v	0.0059	J	0.0056	J	**0.077**	v	**0.14**	v	**0.13**	v	**0.025**	v	NA		**0.011**	v	NA		0.0033	J
Cyanide	0.2	(3)	0.046	v	0.14	v	0.013	v	< 0.005	u	< 0.005	u	< 0.005	u	0.055	v	NA		**1.05**	v	NA		0.143	v
Iron	13.800	(4)	**16**	Z	2.6	Z	5.7	Z	**86**	Z	**140**	Z	**130**	Z	9.4	Z	NA		7.1	Z	NA		1.9	Z
Lead	0.015	(2)	**0.017**	Z	0.0024	J	0.0064	v	**0.18**	Z	**0.28**	Z	**0.24**	Z	0.014	v	NA		0.011	v	NA		0.0021	v
Manganese	2.020	(4)	1.2	Z	0.52	Z	0.69	Z	**13**	Z	**18**	Z	**22**	Z	**2.9**	Z	NA		1.4	Z	NA		**2.1**	Z
Mercury	0.002	(3)	<0.000059	u	<0.000059	u	<0.000059	u	0.00075	v	0.00039	v	0.00021	v	<0.000059	u	NA		0.00016	J	NA		0.000085	J
Nickel	0.372	(4)	0.19	Z	0.0067	J	0.0044	J	0.13	Z	0.26	Z	0.25	Z	**0.64**	Z	NA		0.026	v	NA		0.059	v
Selenium	0.05	(3)	0.021	J	0.036	J	0.036	J	0.0099	J	0.008	J	0.01	J	0.019	v	NA		0.04	v	NA		0.041	J
Silver	0.05	(3)	< 0.002	u	< 0.002	u	< 0.002	u	< 0.002	u	< 0.011	u	< 0.011	u	< 0.002	u	NA		< 0.003	u	NA		< 0.003	u
Vanadium	0.0631	(4)	0.028	J	0.01	J	0.013	J	**0.12**	v	**0.17**	J	**0.16**	J	0.019	J	NA		0.024	J	NA		0.0068	J
Zinc	10	(3)	0.071	v	0.023	v	0.034	v	0.19	v	0.45	v	0.36	v	0.046	v	NA		0.043	v	NA		0.0097	J
Chloride	250	(3)	**3600**	v	**7100**	v	**2800**	v	**2000**	v	**330**	v	**370**	v	**2300**	v	NA		**1600**	v	NA		**1800**	v
Fluoride	1.6	(3)	< 0.58	u	< 0.29	u	< 0.029	u	< 0.145	u	1.2	v	1.3	v	0.55	v	NA		< 0.113	u	NA		< 0.25	u
Sulfate	600	(3)	340	v	**1100**	v	310	v	380	v	370	v	370	v	440	v	NA		260	v	NA		110	v
Metals (mg/l) DISSOLVED																								
Antimony (D)	0.006	(2)	0.00093	J	0.00074	J	< 0.001	u	< 0.001	u	0.00023	J	<0.00014	u	< 0.001	u	NA		< 0.002	u	NA		< 0.002	u
Arsenic (D)	0.01	(2)	0.01	J	**0.011**	J	**0.012**	J	0.0039	J	0.0025	v	0.003	v	**0.011**	J	NA		< 0.05	u	NA		**0.017**	Z
Barium (D)	1	(3)	0.45	v	0.23	v	0.32	v	0.24	v	0.085	v	0.18	v	0.22	v	NA		0.11	v	NA		**1.4**	v
Beryllium (D)	0.004	(2)	0.00052	J	0.0004	J	0.00042	J	<0.00031	u	<0.00031	u	0.0009	J	<0.00031	u	NA		< 0.0003	u	NA		< 0.0003	u
Cadmium (D)	0.005	(2)	< 0.001	u	< 0.001	u	< 0.001	u	< 0.001	u	< 0.001	u	< 0.001	u	< 0.001	u	NA		< 0.001	u	NA		< 0.001	u
Chromium (D)	0.05	(3)	0.0045	J	0.0056	J	0.0039	J	0.0054	J	0.008	v	0.0075	v	0.0094	v	NA		< 0.002	u	NA		< 0.002	u
Cobalt (D)	0.05	(3)	0.0084	v	0.0081	v	0.0035	J	0.01	v	0.0044	J	0.0051	J	0.023	v	NA		0.0074	v	NA		0.0049	J
Iron (D)	1	(3)	0.58	Z	0.068	v	0.011	J	0.78	Z	**2.6**	Z	**3.9**	Z	0.61	Z	NA		0.42	Z	NA		0.23	v
Lead (D)	0.015	(2)	0.001	J	<0.00013	u	<0.00013	u	0.00074	J	0.0014	v	0.0068	v	0.0026	J	NA		< 0.001	u	NA		< 0.0002	u
Manganese (D)	0.2	(3)	**0.93**	Z	**0.45**	Z	**0.27**	Z	**3.9**	Z	**0.91**	Z	**1.1**	Z	**2.4**	Z	NA		**1.2**	Z	NA		**2.1**	Z
Nickel (D)	0.372	(4)	0.21	Z	0.0053	J	0.0028	J	0.024	v	0.012	v	0.011	v	**0.65**	Z	NA		0.019	v	NA		0.076	v
Selenium (D)	0.05	(3)	0.03	v	0.041	J	0.036	J	0.0076	J	0.003	v	0.0031	v	0.02	v	NA		0.038	J	NA		0.039	v
Silver (D)	0.05	(3)	< 0.001	u	< 0.001	u	< 0.001	u	< 0.001	u	< 0.001	u	< 0.001	u	< 0.001	u	NA		< 0.003	u	NA		< 0.003	u
Vanadium (D)	0.0631	(4)	0.0045	J	0.0048	J	0.002	J	0.0052	J	0.011	J	0.016	J	0.0057	J	NA		0.01	J	NA		0.003	J
Zinc (D)	10	(3)	0.029	v	0.033	v	0.038	v	0.049	v	0.062	v	0.014	v	0.15	v	NA		0.046	v	NA		0.0049	J
Volatiles (ug/l)																								
1,1,1,2-Tetrachloroethane	5.72	(4)	< 0.11	u	< 0.11	u	< 0.11	u	< 0.221	u	< 0.221	u	< 0.221	u	< 0.221	u	< 0.11	u	< 1.115	u	< 0.111	u	< 5.573	u
1,1,1-Trichloroethane	60	(3)	< 0.078	u	< 0.078	u	< 0.078	u	< 0.155	u	< 0.155	u	< 0.155	u	< 0.155	u	< 0.078	u	< 0.915	u	< 0.091	u	< 4.575	u
1,1,2,2-Tetrachloroethane	10	(3)	< 0.18	u	< 0.18	u	< 0.18	u	< 0.359	u	< 0.359	u	< 0.359	u	< 0.359	u	< 0.18	u	< 1.282	u	< 0.128	u	< 6.412	u
1,1,2-Trichloroethane	5	(2)	< 0.079	u	< 0.079	u	< 0.079	u	< 0.158	u	< 0.158	u	< 0.158	u	< 0.158	u	< 0.079	u	< 1.273	u	< 0.127	u	< 6.366	u
1,1-Dichloroethane	25	(3)	< 0.4	u	< 0.4	u	< 0.4	u	0.93	J	< 0.8	u	< 0.8	u	< 0.8	u	3.1	v	6.1	J	< 0.108	u	< 5.403	u
1,1-Dichloroethene	5	(3)	< 0.099	u	< 0.099	u	0.12	J	< 0.199	u	< 0.199	u	< 0.199	u	< 0.199	u	0.73	J	< 1.072	u	< 0.107	u	< 5.361	u
1,1-Dichloropropene	-		< 0.115	u	< 0.115	u	< 0.115	u	< 0.23	u	< 0.23	u	< 0.23	u	< 0.23	u	< 0.115	u	< 1.331	u	< 0.133	u	< 6.656	u
1,2,3-Trichlorobenzene	-		< 0.266	u	< 0.266	u	< 0.266	u	< 0.533	u	< 0.533	u	< 0.533	u	< 0.533	u	< 0.266	u	< 1.129	u	< 0.113	u	< 5.643	u
1,2,3-Trichloropropane	0.00747	(4)	< 0.158	u	< 0.158	u	< 0.158	u	< 0.317	u	< 0.317	u	< 0.317	u	< 0.317	u	< 0.158	u	< 2.02	u	< 0.202	u	< 10.1	u
1,2,4-Trichlorobenzene (V)	70	(2)	< 0.283	u	< 0.283	u	< 0.283	u	< 0.565	u	< 0.565	u	< 0.565	u	< 0.565	u	< 0.283	u	< 1.328	u	< 0.133	u	< 6.639	u
1,2,4-Trimethylbenzene	15	(1)	< 0.159	u	< 0.159	u	3.7	v	**64**	v	0.66	J	0.44	J	< 0.319	u	0.18	J	**220**	v	0.5	J	**170**	v
1,2-Dibromo-3-chloropropane	0.2	(2)	< 0.136	u	< 0.136	u	< 0.136	u	< 0.272	u	< 0.272	u	< 0.272	u	< 0.272	u	< 0.136	u	< 2.343	u	< 0.234	u	< 11.717	u

Table 8
SWMU 10 Groundwater Analytical Results Summary
Western Refining Southwest, Inc. - Gallup Refinery
Gallup, New Mexico

	Screening Levels	Source	SWMU 10-1-GW		SWMU 10-3-GW		SWMU 10-5-GW		SWMU 10-11-GW		SWMU 10-12-GW		SWMU 10-14-GW		SWMU 10-15-GW		SWMU 10-16-GW		SWMU 10-20-GW		SWMU 10-21-GW		SWMU 10-25-GW	
Lab ID			1505001-001		1505005-001		1505218-001		1505698-001		1505700-001		1505701-001		1505708-001		1505710-001		1605998-001		1605998-003		1609C66-001	
Sample Date			4/29/2015		4/29/2015		5/4/2015		5/14/2015		5/14/2015		5/14/2015		5/14/2015		5/14/2015		5/20/2016		5/20/2016		9/21/2016	
1,2-Dibromoethane (EDB)	0.05	(2)	< 0.134	u	< 0.134	u	< 0.134	u	< 0.267	u	< 0.267	u	< 0.267	u	< 0.267	u	< 0.134	u	< 1.118	u	< 0.112	u	< 5.589	u
1,2-Dichlorobenzene (V)	600	(2)	< 0.118	u	< 0.118	u	< 0.118	u	< 0.237	u	< 0.237	u	< 0.237	u	< 0.237	u	< 0.118	u	< 4	u	< 0.4	u	< 20	u
1,2-Dichloroethane (EDC)	5	(2)	< 0.176	u	0.48	J	0.32	J	< 0.353	u	< 0.353	u	< 0.353	u	< 0.353	u	0.47	J	< 1.15	u	< 0.115	u	< 5.751	u
1,2-Dichloropropane	5	(2)	< 0.151	u	< 0.151	u	< 0.151	u	< 0.302	u	< 0.302	u	< 0.302	u	< 0.302	u	< 0.151	u	< 1.098	u	< 0.11	u	< 5.491	u
1,3,5-Trimethylbenzene	12	(1)	< 0.123	u	< 0.123	u	3.9	v	**22**	v	< 0.246	u	< 0.246	u	< 0.246	u	< 0.123	u	**64**	v	< 0.115	u	**46**	J
1,3-Dichlorobenzene (V)	-		< 0.093	u	< 0.093	u	< 0.093	u	< 0.187	u	< 0.187	u	< 0.187	u	< 0.187	u	< 0.093	u	< 1.432	u	< 0.143	u	< 7.159	u
1,3-Dichloropropane	370	(1)	< 0.172	u	< 0.172	u	< 0.172	u	< 0.344	u	< 0.344	u	< 0.344	u	< 0.344	u	< 0.172	u	< 1.557	u	< 0.156	u	< 7.786	u
1,4-Dichlorobenzene (V)	75	(2)	< 0.166	u	< 0.166	u	< 0.166	u	< 0.332	u	< 0.332	u	< 0.332	u	< 0.332	u	< 0.166	u	< 1.427	u	< 0.143	u	< 7.133	u
1-Methylnaphthalene (V)	11	(5)	< 0.538	u	< 0.538	u	3.1	J	**70**	v	< 1.077	u	< 1.077	u	< 1.077	u	< 0.538	u	**140**	v	3.9	J	**110**	J
2,2-Dichloropropane	-		< 0.152	u	< 0.152	u	< 0.152	u	< 0.303	u	< 0.303	u	< 0.303	u	< 0.303	u	< 0.152	u	< 1.666	u	< 0.167	u	< 8.332	u
2-Butanone	5560	(4)	< 0.363	u	1.4	J	< 0.363	u	< 0.725	u	< 0.725	u	< 0.725	u	2.9	J	< 0.363	u	630	v	5.7	J	< 36.85	u
2-Chlorotoluene	240	(1)	< 0.079	u	< 0.079	u	< 0.079	u	< 0.158	u	< 0.158	u	< 0.158	u	< 0.158	u	< 0.079	u	< 4	u	< 0.4	u	< 20	u
2-Hexanone	-		< 0.477	u	< 0.477	u	< 0.477	u	< 0.953	u	< 0.953	u	< 0.953	u	< 0.953	u	< 0.477	u	69	J	3.2	J	< 41.993	u
2-Methylnaphthalene (V)	36	(1)	< 0.594	u	< 0.594	u	3.8	J	**98**	v	1.5	J	< 1.189	u	< 1.189	u	< 0.594	u	**210**	v	4.9	v	**140**	J
4-Chlorotoluene	250	(1)	< 0.149	u	< 0.149	u	< 0.149	u	< 0.299	u	< 0.299	u	< 0.299	u	< 0.299	u	< 0.149	u	< 1.281	u	< 0.128	u	< 6.407	u
4-Isopropyltoluene	-		< 0.189	u	< 0.189	u	0.92	J	2.7	v	< 0.377	u	< 0.377	u	< 0.377	u	< 0.189	u	2.5	J	< 0.141	u	< 7.031	u
4-Methyl-2-pentanone	-		< 0.257	u	< 0.257	u	0.61	J	< 0.513	u	< 0.513	u	< 0.513	u	< 0.513	u	< 0.257	u	63	J	2.4	J	< 21.382	u
Acetone	14100	(4)	< 0.936	u	< 0.936	u	< 0.936	u	8.8	J	3.4	J	2.7	J	9.7	J	1.6	J	1400	v	20	v	< 245.437	u
Benzene	5	(2)	4.7	v	2.9	v	**27**	v	2.5	v	0.47	J	0.47	J	0.51	J	0.24	J	**1600**	v	0.15	J	**320**	v
Bromobenzene	62	(1)	< 0.108	u	< 0.108	u	< 0.108	u	< 0.216	u	< 0.216	u	< 0.216	u	< 0.216	u	< 0.108	u	< 0.977	u	< 0.098	u	< 4.885	u
Bromodichloromethane	1.34	(4)	< 0.09	u	< 0.09	u	< 0.09	u	< 0.179	u	< 0.179	u	< 0.179	u	< 0.179	u	< 0.09	u	< 1.398	u	**1.8**	v	< 6.989	u
Bromoform	33	(5)	< 0.162	u	< 0.162	u	< 0.162	u	< 0.325	u	< 0.325	u	< 0.325	u	< 0.325	u	< 0.162	u	< 1.021	u	0.16	J	< 5.107	u
Bromomethane	7.54	(4)	< 1.161	u	< 1.161	u	< 1.161	u	< 2.322	u	< 2.322	u	< 2.322	u	< 2.322	u	< 1.161	u	< 7.799	u	< 0.78	u	< 38.994	u
Carbon disulfide	810	(4)	< 0.673	u	< 0.673	u	< 0.673	u	< 1.346	u	< 1.346	u	< 1.346	u	< 1.346	u	< 0.673	u	< 5.975	u	< 0.597	u	< 29.874	u
Carbon Tetrachloride	5	(2)	< 0.078	u	< 0.078	u	< 0.078	u	< 0.156	u	< 0.156	u	< 0.156	u	< 0.156	u	< 0.078	u	< 1.082	u	< 0.108	u	< 5.41	u
Chlorobenzene	100	(2)	< 0.093	u	< 0.093	u	< 0.093	u	< 0.187	u	< 0.187	u	< 0.187	u	< 0.187	u	< 0.093	u	< 1.145	u	< 0.114	u	< 5.723	u
Chloroethane	20900	(4)	< 0.105	u	< 0.105	u	< 0.105	u	< 0.209	u	< 0.209	u	< 0.209	u	< 0.209	u	< 0.105	u	< 1.91	u	< 0.191	u	< 9.551	u
Chloroform	100	(3)	< 0.215	u	< 0.215	u	< 0.215	u	< 0.43	u	< 0.43	u	< 0.43	u	< 0.43	u	< 0.215	u	< 0.888	u	3.4	v	< 4.439	u
Chloromethane	20.3	(4)	< 0.174	u	< 0.174	u	< 0.174	u	< 0.347	u	< 0.347	u	< 0.347	u	< 0.347	u	< 0.174	u	< 2.128	u	< 0.213	u	< 10.64	u
cis-1,2-DCE	70	(2)	< 0.081	u	< 0.081	u	< 0.081	u	< 0.161	u	< 0.161	u	< 0.161	u	< 0.161	u	0.39	J	< 1.242	u	< 0.124	u	< 6.208	u
cis-1,3-Dichloropropene	4.7	(4)	< 0.133	u	< 0.133	u	< 0.133	u	< 0.266	u	< 0.266	u	< 0.266	u	< 0.266	u	< 0.133	u	< 1.065	u	< 0.107	u	< 5.327	u
Dibromochloromethane	1.68	(4)	< 0.097	u	< 0.097	u	< 0.097	u	< 0.194	u	< 0.194	u	< 0.194	u	< 0.194	u	< 0.097	u	< 0.867	u	1.3	v	< 4.337	u
Dibromomethane	8.3	(1)	< 0.234	u	< 0.234	u	< 0.234	u	< 0.469	u	< 0.469	u	< 0.469	u	< 0.469	u	< 0.234	u	< 1.191	u	< 0.119	u	< 5.957	u
Dichlorodifluoromethane	197	(4)	< 0.692	u	< 0.692	u	< 0.692	u	< 1.385	u	< 1.385	u	< 1.385	u	< 1.385	u	< 0.692	u	< 3.573	u	< 0.357	u	< 17.866	u
Ethylbenzene	700	(2)	< 0.101	u	< 0.101	u	1.6	v	40	v	< 0.202	u	< 0.202	u	< 0.202	u	< 0.101	u	290	v	< 0.112	u	200	v
Hexachlorobutadiene (V)	2.95	(4)	< 0.251	u	< 0.251	u	< 0.251	u	< 0.503	u	< 0.503	u	< 0.503	u	< 0.503	u	< 0.251	u	< 1.986	u	< 0.199	u	< 9.93	u
Isopropylbenzene	447	(4)	< 0.152	u	< 0.152	u	1.2	v	8.5	v	< 0.304	u	< 0.304	u	< 0.304	u	< 0.152	u	20	v	< 0.105	u	24	J
Methyl tert-butyl ether (MTBE)	143	(4)	6.1	v	5.5	v	< 0.174	u	14	v	13	v	16	v	**150**	v	19	v	3.8	J	0.8	J	17	J
Methylene Chloride	5	(2)	< 0.36	u	< 0.36	u	< 0.36	u	< 0.721	u	< 0.721	u	< 0.721	u	< 0.721	u	< 0.36	u	3.4	J	< 0.187	u	< 9.371	u
Naphthalene (V)	1.65	(4)	< 0.218	u	< 0.218	u	< 0.218	u	**45**	v	0.52	J	< 0.436	u	< 0.436	u	< 0.218	u	**310**	v	1.3	J	**200**	v
n-Butylbenzene	-		< 0.245	u	< 0.245	u	0.4	J	3.4	J	< 0.491	u	< 0.491	u	< 0.491	u	< 0.245	u	4	J	< 0.16	u	< 8.02	u
n-Propylbenzene	-		< 0.163	u	0.31	J	0.64	J	11	v	< 0.326	u	< 0.326	u	< 0.326	u	< 0.163	u	30	v	< 0.132	u	30	J
sec-Butylbenzene	-		< 0.229	u	< 0.229	u	0.6	J	2.2	v	< 0.457	u	< 0.457	u	< 0.457	u	< 0.229	u	1.7	J	< 0.123	u	12	J
Styrene	100	(2)	< 0.106	u	< 0.106	u	< 0.106	u	< 0.211	u	< 0.211	u	< 0.211	u	< 0.211	u	< 0.106	u	< 1.1	u	< 0.11	u	< 5.5	u
tert-Butylbenzene	-		< 0.129	u	< 0.129	u	< 0.129	u	< 0.259	u	< 0.259	u	< 0.259	u	< 0.259	u	< 0.129	u	< 1.15	u	< 0.115	u	< 5.75	u
Tetrachloroethene (PCE)	5	(2)	< 0.16	u	< 0.16	u	< 0.16	u	< 0.321	u	< 0.321	u	< 0.321	u	< 0.321	u	< 0.16	u	< 1.52	u	< 0.152	u	< 7.601	u
Toluene	750	(3)	< 0.108	u	< 0.108	u	2.7	v	6	v	< 0.217	u	0.3	J	< 0.217	u	< 0.108	u	**4000**	v	0.3	J	140	v
trans-1,2-DCE	100	(2)	< 0.094	u	< 0.094	u	< 0.094	u	< 0.188	u	< 0.188	u	< 0.188	u	< 0.188	u	< 0.094	u	< 4	u	< 0.4	u	< 20	u
trans-1,3-Dichloropropene	4.7	(4)	< 0.113	u	< 0.113	u	< 0.113	u	< 0.226	u	< 0.226	u	< 0.226	u	< 0.226	u	< 0.113	u	< 1.033	u	< 0.103	u	< 5.163	u
Trichloroethene (TCE)	5	(2)	< 0.163	u	< 0.163	u	< 0.163	u	< 0.327	u	< 0.327	u	< 0.327	u	< 0.327	u	0.77	J	< 1.751	u	< 0.175	u	< 8.755	u
Trichlorofluoromethane	1140	(4)	< 0.127	u	< 0.127	u	< 0.127	u	< 0.254	u	< 0.254	u	< 0.254	u	< 0.254	u	< 0.127	u	< 2.044	u	< 0.204	u	< 10.218	u

Table 8
SWMU 10 Groundwater Analytical Results Summary
Western Refining Southwest, Inc. - Gallup Refinery
Gallup, New Mexico

	Screening Levels	Source	SWMU 10-1-GW		SWMU 10-3-GW		SWMU 10-5-GW		SWMU 10-11-GW		SWMU 10-12-GW		SWMU 10-14-GW		SWMU 10-15-GW		SWMU 10-16-GW		SWMU 10-20-GW		SWMU 10-21-GW		SWMU 10-25-GW	
Lab ID			1505001-001		1505005-001		1505218-001		1505698-001		1505700-001		1505701-001		1505708-001		1505710-001		1605998-001		1605998-003		1609C66-001	
Sample Date			4/29/2015		4/29/2015		5/4/2015		5/14/2015		5/14/2015		5/14/2015		5/14/2015		5/14/2015		5/20/2016		5/20/2016		9/21/2016	
Vinyl chloride	1	(3)	< 0.125	u	< 0.125	u	< 0.125	u	< 0.251	u	< 0.251	u	< 0.251	u	< 0.251	u	0.47	J	< 1.954	u	< 0.195	u	< 9.769	u
Xylenes, Total	620	(3)	< 0.282	u	< 0.282	u	13	v	230	v	< 0.565	u	< 0.565	u	< 0.565	u	0.35	J	**1900**	v	0.72	J	**1200**	v
Semivolatiles (ug/l)																								
1,2,4-Trichlorobenzene	70	(2)	< 1.993	u	< 1.993	u	< 1.993	u	< 3.987	u	< 3.987	u	< 3.987	u	< 1.993	u	< 1.993	u	< 130.984	u	< 13.098	u	< 2.62	u
1,2-Dichlorobenzene	600	(2)	< 1.899	u	< 1.899	u	< 1.899	u	< 3.798	u	< 3.798	u	< 3.798	u	< 1.899	u	< 1.899	u	< 114.254	u	< 11.425	u	< 2.285	u
1,3-Dichlorobenzene	-		< 1.69	u	< 1.69	u	< 1.69	u	< 3.381	u	< 3.381	u	< 3.381	u	< 1.69	u	< 1.69	u	< 112.848	u	< 11.285	u	< 2.257	u
1,4-Dichlorobenzene	75	(2)	< 1.234	u	< 1.234	u	< 1.234	u	< 2.468	u	< 2.468	u	< 2.468	u	< 1.234	u	< 1.234	u	< 119.407	u	< 11.941	u	< 2.388	u
1-Methylnaphthalene	11	(5)	< 1.801	u	< 1.801	u	< 1.801	u	**20**	J	< 3.603	u	< 3.603	u	< 1.801	u	< 1.801	u	**170**	J	< 14.589	u	**120**	v
2,4,5-Trichlorophenol	1170	(4)	< 1.617	u	< 1.617	u	< 1.617	u	< 3.233	u	< 3.233	u	< 3.233	u	< 1.617	u	< 1.617	u	< 108.993	u	< 10.899	u	< 2.18	u
2,4,6-Trichlorophenol	11.9	(4)	< 1.258	u	< 1.258	u	< 1.258	u	< 2.517	u	< 2.517	u	< 2.517	u	< 1.258	u	< 1.258	u	< 122.288	u	< 12.229	u	< 2.446	u
2,4-Dichlorophenol	45.3	(4)	< 1.395	u	< 1.395	u	< 1.395	u	< 2.79	u	< 2.79	u	< 2.79	u	< 1.395	u	< 1.395	u	< 116.521	u	< 11.652	u	< 2.33	u
2,4-Dimethylphenol	354	(4)	< 1.854	u	< 1.854	u	< 1.854	u	< 3.708	u	< 3.708	u	< 3.708	u	< 1.854	u	< 1.854	u	**62000**	v	< 15.048	u	**1100**	v
2,4-Dinitrophenol	38.8	(4)	< 1.07	u	< 1.07	u	< 1.07	u	< 2.139	u	< 2.139	u	< 2.139	u	< 1.07	u	< 1.07	u	< 137.673	u	< 13.767	u	< 2.753	u
2,4-Dinitrotoluene	2.37	(4)	< 1.434	u	< 1.434	u	< 1.434	u	< 2.868	u	< 2.868	u	< 2.868	u	< 1.434	u	< 1.434	u	< 156.474	u	< 15.647	u	< 3.129	u
2,6-Dinitrotoluene	0.484	(4)	< 1.49	u	< 1.49	u	< 1.49	u	< 2.981	u	< 2.981	u	< 2.981	u	< 1.49	u	< 1.49	u	< 136.691	u	< 13.669	u	< 2.734	u
2-Chloronaphthalene	733	(4)	< 1.716	u	< 1.716	u	< 1.716	u	< 3.431	u	< 3.431	u	< 3.431	u	< 1.716	u	< 1.716	u	< 112.551	u	< 11.255	u	< 2.251	u
2-Chlorophenol	91	(4)	< 1.204	u	< 1.204	u	< 1.204	u	< 2.408	u	< 2.408	u	< 2.408	u	< 1.204	u	< 1.204	u	< 109.186	u	< 10.919	u	< 2.184	u
2-Methylnaphthalene	36	(1)	< 2.246	u	< 2.246	u	< 2.246	u	16	J	< 4.492	u	< 4.492	u	< 2.246	u	< 2.246	u	**240**	J	< 14.451	u	**180**	v
2-Methylphenol	930	(1)	< 1.246	u	< 1.246	u	< 1.246	u	< 2.491	u	< 2.491	u	< 2.491	u	< 1.246	u	< 1.246	u	**130000**	v	< 12.696	u	**2600**	v
2-Nitroaniline	190	(1)	< 1.795	u	< 1.795	u	< 1.795	u	< 3.589	u	< 3.589	u	< 3.589	u	< 1.795	u	< 1.795	u	< 137.909	u	< 13.791	u	< 2.758	u
2-Nitrophenol	-		< 1.231	u	< 1.231	u	< 1.231	u	< 2.463	u	< 2.463	u	< 2.463	u	< 1.231	u	< 1.231	u	< 118.918	u	< 11.892	u	< 2.378	u
3,3´-Dichlorobenzidine	1.24	(4)	< 2.608	u	< 2.608	u	< 2.608	u	< 5.217	u	< 5.217	u	< 5.217	u	< 2.608	u	< 2.608	u	< 119.787	u	< 11.979	u	< 2.396	u
3+4-Methylphenol	930	(1)	< 1.475	u	< 1.475	u	< 1.475	u	< 2.951	u	< 2.951	u	< 2.951	u	< 1.475	u	< 1.475	u	**190000**	v	< 11.489	u	6.2	J
3-Nitroaniline	-		< 1.48	u	< 1.48	u	< 1.48	u	< 2.96	u	< 2.96	u	< 2.96	u	< 1.48	u	< 1.48	u	< 147.393	u	< 14.739	u	< 2.948	u
4,6-Dinitro-2-methylphenol	1.51	(4)	< 1.368	u	< 1.368	u	< 1.368	u	< 2.736	u	< 2.736	u	< 2.736	u	< 1.368	u	< 1.368	u	< 89.83	u	< 8.983	u	< 1.797	u
4-Bromophenyl phenyl ether	-		< 1.409	u	< 1.409	u	< 1.409	u	< 2.817	u	< 2.817	u	< 2.817	u	< 1.409	u	< 1.409	u	< 131.835	u	< 13.183	u	< 2.637	u
4-Chloro-3-methylphenol	-		< 1.351	u	< 1.351	u	< 1.351	u	< 2.701	u	< 2.701	u	< 2.701	u	< 1.351	u	< 1.351	u	< 127.938	u	< 12.794	u	< 2.559	u
4-Chloroaniline	3.7	(5)	< 1.874	u	< 1.874	u	< 1.874	u	< 3.748	u	< 3.748	u	< 3.748	u	< 1.874	u	< 1.874	u	< 135.609	u	< 13.561	u	< 2.712	u
4-Chlorophenyl phenyl ether	-		< 2.013	u	< 2.013	u	< 2.013	u	< 4.026	u	< 4.026	u	< 4.026	u	< 2.013	u	< 2.013	u	< 127.781	u	< 12.778	u	< 2.556	u
4-Nitroaniline	38	(5)	< 1.242	u	< 1.242	u	< 1.242	u	< 2.483	u	< 2.483	u	< 2.483	u	< 1.242	u	< 1.242	u	< 127.946	u	< 12.795	u	< 2.559	u
4-Nitrophenol	-		< 1.405	u	< 1.405	u	< 1.405	u	< 2.81	u	< 2.81	u	< 2.81	u	< 1.405	u	< 1.405	u	< 127.659	u	< 12.766	u	< 2.553	u
Acenaphthene	535	(4)	< 1.885	u	< 1.885	u	< 1.885	u	< 3.769	u	< 3.769	u	< 3.769	u	< 1.885	u	< 1.885	u	< 127.645	u	< 12.765	u	6.5	J
Acenaphthylene	-		< 1.866	u	< 1.866	u	< 1.866	u	< 3.732	u	< 3.732	u	< 3.732	u	< 1.866	u	< 1.866	u	< 117.837	u	< 11.784	u	< 2.357	u
Aniline	130	(5)	< 1.546	u	< 1.546	u	< 1.546	u	< 3.092	u	< 3.092	u	< 3.092	u	< 1.546	u	< 1.546	u	< 122.03	u	< 12.203	u	< 2.441	u
Anthracene	1720	(4)	< 1.605	u	< 1.605	u	< 1.605	u	< 3.21	u	< 3.21	u	< 3.21	u	< 1.605	u	< 1.605	u	< 124.299	u	< 12.43	u	< 2.486	u
Azobenzene	1.2	(5)	< 2.005	u	< 2.005	u	< 2.005	u	< 4.011	u	< 4.011	u	< 4.011	u	< 2.005	u	< 2.005	u	< 133.416	u	< 13.342	u	< 2.668	u
Benz(a)anthracene	0.343	(4)	< 2.506	u	< 2.506	u	< 2.506	u	< 5.013	u	< 5.013	u	< 5.013	u	< 2.506	u	< 2.506	u	< 131.964	u	< 13.196	u	< 2.639	u
Benzo(a)pyrene	0.2	(2)	< 2.724	u	< 2.724	u	< 2.724	u	< 5.448	u	< 5.448	u	< 5.448	u	< 2.724	u	< 2.724	u	< 135.887	u	< 13.589	u	< 2.718	u
Benzo(b)fluoranthene	0.343	(4)	< 2.403	u	< 2.403	u	< 2.403	u	< 4.806	u	< 4.806	u	< 4.806	u	< 2.403	u	< 2.403	u	< 144.006	u	< 14.401	u	< 2.88	u
Benzo(g,h,i)perylene	-		< 3.125	u	< 3.125	u	< 3.125	u	< 6.25	u	< 6.25	u	< 6.25	u	< 3.125	u	< 3.125	u	< 132.174	u	< 13.217	u	< 2.643	u
Benzo(k)fluoranthene	3.43	(4)	< 2.515	u	< 2.515	u	< 2.515	u	< 5.03	u	< 5.03	u	< 5.03	u	< 2.515	u	< 2.515	u	< 149.877	u	< 14.988	u	< 2.998	u
Benzoic acid	75000	(1)	< 1.026	u	< 1.026	u	< 1.026	u	< 2.051	u	< 2.051	u	< 2.051	u	< 1.026	u	7.1	J	< 130.301	u	< 13.03	u	< 2.606	u
Benzyl alcohol	2000	(1)	< 1.172	u	< 1.172	u	< 1.172	u	< 2.344	u	< 2.344	u	< 2.344	u	< 1.172	u	< 1.172	u	< 150.605	u	< 15.061	u	< 3.012	u
Bis(2-chloroethoxy)methane	59	(1)	< 1.805	u	< 1.805	u	< 1.805	u	< 3.61	u	< 3.61	u	< 3.61	u	< 1.805	u	< 1.805	u	< 140.68	u	< 14.068	u	< 2.814	u
Bis(2-chloroethyl)ether	9.76	(4)	< 1.774	u	< 1.774	u	< 1.774	u	< 3.547	u	< 3.547	u	< 3.547	u	< 1.774	u	< 1.774	u	< 133.677	u	< 13.368	u	< 2.674	u
Bis(2-chloroisopropyl)ether	9.76	(4)	< 2.059	u	< 2.059	u	< 2.059	u	< 4.119	u	< 4.119	u	< 4.119	u	< 2.059	u	< 2.059	u	< 95.445	u	< 9.545	u	< 1.909	u
Bis(2-ethylhexyl)phthalate	6	(2)	< 3.326	u	< 3.326	u	< 3.326	u	< 6.651	u	< 6.651	u	< 6.651	u	< 3.326	u	< 3.326	u	< 130.781	u	< 13.078	u	2.8	J
Butyl benzyl phthalate	160	(5)	< 2.37	u	< 2.37	u	< 2.37	u	< 4.74	u	< 4.74	u	< 4.74	u	< 2.37	u	< 2.37	u	< 123.904	u	< 12.39	u	< 2.478	u
Carbazole	-		< 1.49	u	< 1.49	u	< 1.49	u	< 2.98	u	< 2.98	u	< 2.98	u	< 1.49	u	< 1.49	u	< 114.364	u	< 11.436	u	3.2	J
Chrysene	34.3	(4)	< 2.154	u	< 2.154	u	< 2.154	u	< 4.309	u	< 4.309	u	< 4.309	u	< 2.154	u	< 2.154	u	< 138.94	u	< 13.894	u	< 2.779	u
Dibenz(a,h)anthracene	0.106	(4)	< 3.268	u	< 3.268	u	< 3.268	u	< 6.537	u	< 6.537	u	< 6.537	u	< 3.268	u	< 3.268	u	< 133.056	u	< 13.306	u	< 2.661	u

Table 8
SWMU 10 Groundwater Analytical Results Summary
Western Refining Southwest, Inc. - Gallup Refinery
Gallup, New Mexico

	Screening Levels	Source	SWMU 10-1-GW		SWMU 10-3-GW		SWMU 10-5-GW		SWMU 10-11-GW		SWMU 10-12-GW		SWMU 10-14-GW		SWMU 10-15-GW		SWMU 10-16-GW		SWMU 10-20-GW		SWMU 10-21-GW		SWMU 10-25-GW	
Lab ID			1505001-001		1505005-001		1505218-001		1505698-001		1505700-001		1505701-001		1505708-001		1505710-001		1605998-001		1605998-003		1609C66-001	
Sample Date			4/29/2015		4/29/2015		5/4/2015		5/14/2015		5/14/2015		5/14/2015		5/14/2015		5/14/2015		5/20/2016		5/20/2016		9/21/2016	
Dibenzofuran	-		< 1.902	u	< 1.902	u	< 1.902	u	< 3.804	u	< 3.804	u	< 3.804	u	< 1.902	u	< 1.902	u	< 124.667	u	< 12.467	u	< 2.493	u
Diethyl phthalate	14800	(4)	< 1.673	u	< 1.673	u	< 1.673	u	< 3.347	u	< 3.347	u	< 3.347	u	< 1.673	u	< 1.673	u	< 135.726	u	< 13.573	u	< 2.715	u
Dimethyl phthalate	-		< 1.995	u	< 1.995	u	< 1.995	u	< 3.99	u	< 3.99	u	< 3.99	u	< 1.995	u	< 1.995	u	< 121.461	u	< 12.146	u	< 2.429	u
Di-n-butyl phthalate	885	(4)	< 2.103	u	< 2.103	u	< 2.103	u	< 4.206	u	< 4.206	u	< 4.206	u	< 2.103	u	< 2.103	u	< 122.177	u	< 12.218	u	< 2.444	u
Di-n-octyl phthalate	-		< 1.939	u	< 1.939	u	< 1.939	u	< 3.879	u	< 3.879	u	< 3.879	u	< 1.939	u	< 1.939	u	< 99.139	u	< 9.914	u	< 1.983	u
Fluoranthene	802	(4)	< 1.476	u	< 1.476	u	< 1.476	u	< 2.951	u	< 2.951	u	< 2.951	u	< 1.476	u	< 1.476	u	< 130.365	u	< 13.036	u	< 2.607	u
Fluorene	288	(4)	< 1.672	u	< 1.672	u	< 1.672	u	< 3.344	u	< 3.344	u	< 3.344	u	< 1.672	u	< 1.672	u	< 136.178	u	< 13.618	u	8.7	J
Hexachlorobenzene	1	(2)	< 2.022	u	< 2.022	u	< 2.022	u	< 4.045	u	< 4.045	u	< 4.045	u	< 2.022	u	< 2.022	u	< 131.654	u	< 13.165	u	< 2.633	u
Hexachlorobutadiene	2.95	(4)	< 1.949	u	< 1.949	u	< 1.949	u	< 3.898	u	< 3.898	u	< 3.898	u	< 1.949	u	< 1.949	u	< 109.224	u	< 10.922	u	< 2.184	u
Hexachlorocyclopentadiene	50	(2)	< 1.471	u	< 1.471	u	< 1.471	u	< 2.942	u	< 2.942	u	< 2.942	u	< 1.471	u	< 1.471	u	< 114.217	u	< 11.422	u	< 2.284	u
Hexachloroethane	6.8	(4)	< 1.612	u	< 1.612	u	< 1.612	u	< 3.224	u	< 3.224	u	< 3.224	u	< 1.612	u	< 1.612	u	< 118.423	u	< 11.842	u	< 2.368	u
Indeno(1,2,3-cd)pyrene	0.343	(4)	< 2.46	u	< 2.46	u	< 2.46	u	< 4.919	u	< 4.919	u	< 4.919	u	< 2.46	u	< 2.46	u	< 148.194	u	< 14.819	u	< 2.964	u
Isophorone	779	(4)	< 1.952	u	< 1.952	u	< 1.952	u	< 3.905	u	< 3.905	u	< 3.905	u	< 1.952	u	< 1.952	u	< 130.754	u	< 13.075	u	< 2.615	u
Naphthalene	1.65	(4)	< 1.834	u	< 1.834	u	< 1.834	u	**4.4**	J	< 3.667	u	< 3.667	u	< 1.834	u	< 1.834	u	**240**	J	< 12.988	u	**170**	v
Nitrobenzene	1.4	(4)	< 1.494	u	< 1.494	u	< 1.494	u	< 2.988	u	< 2.988	u	< 2.988	u	< 1.494	u	< 1.494	u	< 137.669	u	< 13.767	u	< 2.753	u
N-Nitrosodimethylamine	0.00165	(4)	< 1.417	u	< 1.417	u	< 1.417	u	< 2.834	u	< 2.834	u	< 2.834	u	< 1.417	u	< 1.417	u	< 107.9	u	< 10.79	u	< 2.158	u
N-Nitrosodi-n-propylamine	0.11	(5)	< 2.036	u	< 2.036	u	< 2.036	u	< 4.073	u	< 4.073	u	< 4.073	u	< 2.036	u	< 2.036	u	< 119.451	u	< 11.945	u	< 2.389	u
N-Nitrosodiphenylamine	0.0049	(4)	< 2.467	u	< 2.467	u	< 2.467	u	< 4.934	u	< 4.934	u	< 4.934	u	< 2.467	u	< 2.467	u	< 115.994	u	< 11.599	u	< 2.32	u
Phenanthrene	170	(4)	< 1.997	u	< 1.997	u	< 1.997	u	< 3.993	u	< 3.993	u	< 3.993	u	< 1.997	u	< 1.997	u	< 129.337	u	< 12.934	u	5.7	J
Pentachlorophenol	1	(2)	< 1.137	u	< 1.137	u	< 1.137	u	< 2.275	u	< 2.275	u	< 2.275	u	< 1.137	u	< 1.137	u	< 117.119	u	< 11.712	u	< 2.342	u
Phenol	5760	(4)	< 1.085	u	< 1.085	u	< 1.085	u	< 2.171	u	< 2.171	u	< 2.171	u	< 1.085	u	< 1.085	u	**89000**	v	< 9.926	u	< 1.985	u
Pyrene	117	(4)	< 2.318	u	< 2.318	u	< 2.318	u	< 4.636	u	< 4.636	u	< 4.636	u	< 2.318	u	< 2.318	u	< 154.722	u	< 15.472	u	< 3.094	u
Pyridine	20	(1)	< 1.674	u	< 1.674	u	< 1.674	u	< 3.348	u	< 3.348	u	< 3.348	u	< 1.674	u	< 1.674	u	< 108.027	u	< 10.803	u	< 2.161	u
TPH (mg/l)																								
Gasoline Range Organics (GRO)	-		0.028	J	0.033	J	0.21	v	1.5	v	< 0.08	u	< 0.08	u	0.78	v	< 0.04	u	25	v	0.047	J	8.6	v
Diesel Range Organics (DRO)	-		< 0.91	u	< 0.91	u	3.1	v	5.5	v	< 0.91	u	< 0.91	u	1	v	< 0.91	u	440	v	NA		20	v
Motor Oil Range Organics (MRO)	-		< 5	u	< 5	u	< 5	u	< 5	u	< 5	u	< 5	u	< 5	u	< 5	u	< 50	u	NA		< 5	u

- No screening level or analytical result available

450 - bolded value exceeds screening level

(1) EPA - Regional Screening Levels (Nov. 2015) -Tap Water

(2) EPA - Regional Screening Levels (Nov. 2015) - MCL

(3) NMED WQCC standards - Title 20 Chapter 6, Part 2, - 20.6.2.3101 Standards for Ground Water of 10,000 mg/l TDS Concentration or less

(4) NMED Tap Water Screening Level - Risk Assessment Guidance for Site Investigations and Remediation (Dec. 2014)

(5) EPA Screening Level - Tap Water x 10 for carcinogenic compounds

v = reportable detection above the Practical quantitation limit (PQL)
u - result is not detected at method detection limit (MDL)
j - estimated result at concentration above MDL but less than PQL
z - concentration exceeds MCL
NA - not analyzed

Table 9
Soil Cumulative Risk and Hazard Index Evaluation
Western Refining Southwest, Inc. - Gallup Refinery
Gallup, New Mexico

	Residential Soil Screening Level	Source	Non-Residential Soil Screening Level	Source	Maximum Concentration	Maximum Concentration divided by Residential Soil Screening Level	Maximum Concentration divided by Non-Residential Soil Screening Level
CARCINOGENIC CONSTITUENTS							
Metals (mg/kg)							
Arsenic	4.25E+00	(1)	2.15E+01	(4)	5.40E+00	1.27E+00	2.51E-01
Volatiles (mg/kg)							
1,1-Dichloroethane	7.86E+01	(1)	3.83E+02	(4)	4.73E-04	6.02E-06	1.23E-06
Benzene	1.78E+01	(1)	8.72E+01	(4)	8.00E+00	4.50E-01	9.17E-02
Ethylbenzene	7.51E+01	(1)	3.68E+02	(4)	1.40E+01	1.86E-01	3.81E-02
Methyl tert-butyl ether (MTBE)	9.75E+02	(1)	4.82E+03	(4)	9.36E-03	9.60E-06	1.94E-06
Methylene chloride	4.09E+02	(1)	1.21E+03	(5)	5.10E-01	1.25E-03	4.23E-04
Naphthalene	4.97E+01	(1)	1.59E+02	(5)	2.60E+01	5.24E-01	1.64E-01
Semi-volatiles (mg/kg)							
1-Methylnaphthalene	1.80E+02	(3)	7.30E+02	(7)	7.60E+01	4.22E-01	1.04E-01
Bis(2-ethylhexyl)phthalate	3.80E+02	(1)	1.83E+03	(4)	1.50E+00	3.94E-03	8.19E-04
Carcinogenic Constituents Cumulative Risk x 10^{-5}						**2.86E+00**	**6.50E-01**
NON-CARCINOGENIC CONSTITUENTS							
Metals (mg/kg)							
Antimony	3.13E+01	(1)	1.42E+02	(5)	4.00E+00	1.28E-01	2.83E-02
Barium	1.56E+04	(1)	4.35E+03	(5)	2.90E+03	1.86E-01	6.66E-01
Beryllium	1.56E+02	(1)	1.48E+02	(5)	1.80E+00	1.15E-02	1.22E-02
Cadmium	7.05E+01	(1)	7.21E+01	(5)	6.20E-02	8.79E-04	8.59E-04
Chromium	9.66E+01	(1)	1.34E+02	(5)	1.50E+02	1.55E+00	1.12E+00
Cobalt	2.30E+01	(2)	3.50E+02	(6)	9.10E+00	3.96E-01	2.60E-02
Cyanide	1.12E+01	(1)	1.21E+01	(5)	3.90E+00	3.50E-01	3.23E-01
Iron	5.50E+04	(2)	8.20E+05	(6)	2.40E+04	4.36E-01	2.93E-02
Lead	4.00E+02	(1)	8.00E+02	(4)	2.10E+01	5.25E-02	2.63E-02
Manganese	1.80E+03	(2)	2.60E+04	(6)	1.80E+03	1.00E+00	6.92E-02
Mercury	2.38E+01	(1)	2.07E+01	(5)	2.00E+00	8.41E-02	9.67E-02
Nickel	1.56E+03	(1)	6.19E+03	(5)	1.70E+01	1.09E-02	2.74E-03
Vanadium	3.94E+02	(1)	6.14E+02	(5)	4.90E+01	1.24E-01	7.98E-02
Zinc	2.35E+04	(1)	1.06E+05	(5)	3.90E+02	1.66E-02	3.67E-03
Volatiles (mg/kg)							
1,2,4-Trimethylbenzene	5.80E+01	(2)	2.40E+02	(6)	2.70E+01	4.66E-01	1.13E-01
1,3,5-Trimethylbenzene	7.80E+02	(2)	1.20E+04	(6)	1.00E+01	1.28E-02	8.33E-04
2-Butanone	3.74E+04	(1)	9.17E+04	(5)	4.24E-03	1.13E-07	4.63E-08
2-Hexanone	2.00E+02	(2)	1.30E+03	(6)	9.62E-04	4.81E-06	7.40E-07
4-Methyl-2-pentanone	5.81E+03	(1)	2.02E+04	(5)	0.00E+00	0.00E+00	0.00E+00
Acetone	6.63E+04	(1)	2.42E+05	(5)	1.50E-01	2.26E-06	6.21E-07
Bromomethane	1.77E+01	(1)	1.79E+01	(5)	3.20E-01	1.81E-02	1.79E-02
Carbon disulfide	1.55E+03	(1)	1.62E+03	(5)	9.68E-04	6.23E-07	5.97E-07

Table 9
Soil Cumulative Risk and Hazard Index Evaluation
Western Refining Southwest, Inc. - Gallup Refinery
Gallup, New Mexico

	Residential Soil Screening Level	Source	Non-Residential Soil Screening Level	Source	Maximum Concentration	Maximum Concentration divided by Residential Soil Screening Level	Maximum Concentration divided by Non-Residential Soil Screening Level
Isopropylbenzene	2.36E+03	(1)	2.74E+03	(5)	3.10E+00	1.31E-03	1.13E-03
n-Butylbenzene	3.90E+03	(2)	5.80E+04	(6)	2.80E+00	7.18E-04	4.83E-05
n-Propylbenzene	3.80E+03	(2)	2.40E+04	(6)	5.20E+00	1.37E-03	2.17E-04
sec-Butylbenzene	7.80E+03	(2)	1.20E+05	(6)	1.80E+00	2.31E-04	1.50E-05
Toluene	5.23E+03	(1)	1.40E+04	(5)	3.60E+01	6.89E-03	2.56E-03
Xylenes, Total	8.71E+02	(1)	7.98E+02	(5)	8.60E+01	9.88E-02	1.08E-01
Semi-volatiles (mg/kg)							
2,4-Dimethylphenol	1.23E+03	(1)	5.38E+03	(5)	3.60E+01	2.92E-02	6.69E-03
2-Methylnaphthalene	2.40E+02	(2)	3.00E+03	(6)	1.30E+02	5.42E-01	4.33E-02
'2-Methylphenol (cresol,o-)	3.20E+03	(2)	4.10E+04	(6)	5.60E+01	1.75E-02	1.37E-03
Benzoic acid	2.50E+05	(2)	3.30E+06	(6)	1.60E+00	6.40E-06	4.85E-07
Diethyl phthalate	4.93E+04	(1)	2.15E+05	(5)	2.80E-01	5.68E-06	1.30E-06
Di-n-butyl phthalate	6.16E+03	(1)	2.69E+04	(5)	3.50E-01	5.68E-06	1.30E-06
Fluorene	2.32E+03	(1)	1.00E+04	(5)	8.10E+00	3.49E-03	8.07E-04
Phenanthrene	1.74E+03	(1)	7.53E+03	(5)	1.50E+01	8.63E-03	1.99E-03
Phenol	1.83E+04	(1)	7.74E+04	(5)	5.20E+01	2.84E-03	6.72E-04
Pyrene	1.74E+03	(1)	7.53E+03	(5)	3.30E-01	1.90E-04	4.38E-05
Non-Carcinogenic Constituents Hazard Index						**5.56E+00**	**2.78E+00**

NMED - Risk Assessment Guidance for Site Investigations and Remediation (July 2015)

EPA - Regional Screening Levels (Nov 2015)

(1) NMED Residential Screening Level

(2) EPA Residential Screening Level

(3) EPA Residential - Screening Levels (June 2015) multiplied by 10 pursuant to Section IV.D.2 of the Oct. 31, 2013 RCRA Post-Closure Permit because the constituent is listed as carcinogenic

(4) NMED Industrial Occupational Screening Level

(5) NMED Construction Worker Screening Level

(6) EPA Industrial - Screening Levels (June 2015)

(7) EPA Industrial - Screening Levels June 2015) multiplied by 10 pursuant to Section IV.D.2 of the Oct. 31, 2013 RCRA Post-Clousre Permit because the constituent is listed as carcinogenic

Table 10
Groundwater Cumulative Risk and Hazard Index Evaluation
Western Refining Southwest, Inc. - Gallup Refinery
Gallup, New Mexico

	Screening Levels	Source	Maximum Concentration	Maximum Concentration divided by Residential Groundwater Screening Level
CARCINOGENIC CONSTITUENTS				
Metals (mg/l) DISSOLVED				
Arsenic (D)	1.00E-02	(2)	1.70E-02	1.70E+00
Chromium (D)	5.00E-02	(3)	9.40E-03	1.88E-01
Hexavalent Chromium	2.52E-04	(4)	5.00E-04	1.98E+00
Volatiles (ug/l)				
1,1-Dichloroethane	2.50E+01	(3)	6.10E+00	2.44E-01
1,2-Dichloroethane (EDC)	5.00E+00	(2)	4.80E-01	9.60E-02
Benzene	5.00E+00	(2)	1.60E+03	3.20E+02
Bromodichloromethane	1.34E+00	(4)	1.80E+00	1.34E+00
Bromoform	3.30E+01	(5)	1.60E-01	4.85E-03
Chloroform	1.00E+02	(3)	3.40E+00	3.40E-02
Dibromochloromethane	1.68E+00	(4)	1.30E+00	7.74E-01
Ethylbenzene	7.00E+02	(2)	2.90E+02	4.14E-01
Methyl tert-butyl ether (MTBE)	1.43E+02	(4)	1.50E+02	1.05E+00
Methylene Chloride	5.00E+00	(2)	3.40E+00	6.80E-01
Naphthalene	1.65E+00	(4)	3.10E+02	1.88E+02
Trichloroethene (TCE)	5.00E+00	(2)	7.70E-01	1.54E-01
Vinyl chloride	1.00E+00	(3)	4.70E-01	4.70E-01
Semivolatiles (ug/l)				
1-Methylnaphthalene	1.10E+01	(5)	1.70E+02	1.55E+01
Bis(2-ethylhexyl)phthalate	6.00E+00	(2)	2.80E+00	4.67E-01
Carcinogenic Constituents Cumulative Risk x 10^{-5}				**5.33E+02**
NON-CARCINOGENIC CONSTITUENTS				
Metals TOTAL & Water Quality Parameters (mg/l)				
Cyanide	2.00E-01	(3)	1.40E-01	7.00E-01
Mercury	2.00E-03	(3)	7.50E-04	3.75E-01
Chloride	2.50E+02	(3)	7.10E+03	2.84E+01
Fluoride	1.60E+00	(3)	1.30E+00	8.13E-01
Sulfate	6.00E+02	(3)	1.10E+03	1.83E+00
Metals (mg/l) DISSOLVED				
Antimony (D)	6.00E-03	(2)	9.30E-04	1.55E-01
Barium (D)	1.00E+00	(3)	1.40E+00	1.40E+00
Beryllium (D)	4.00E-03	(2)	9.00E-04	2.25E-01
Cobalt (D)	5.00E-02	(3)	2.30E-02	4.60E-01
Iron (D)	1.00E+00	(3)	3.90E+00	3.90E+00
Lead (D)	1.50E-02	(2)	6.80E-03	4.53E-01
Manganese (D)	2.00E-01	(3)	3.90E+00	1.95E+01
Nickel (D)	3.72E-01	(4)	6.50E-01	1.75E+00
Selenium (D)	5.00E-02	(3)	4.10E-02	8.20E-01
Vanadium (D)	6.31E-02	(4)	1.60E-02	2.54E-01
Zinc (D)	1.00E+01	(3)	1.50E-01	1.50E-02
Volatiles (ug/l)				
1,1-Dichloroethene	5.00E+00	(3)	6.10E+00	1.22E+00
cis-1,2-DCE	7.00E+01	(2)	3.90E-01	5.57E-03
1,2,4-Trimethylbenzene	1.50E+01	(1)	2.20E+02	1.47E+01
1,3,5-Trimethylbenzene	1.20E+01	(1)	6.40E+01	5.33E+00
2-Butanone	5.56E+03	(4)	6.30E+02	1.13E-01
Acetone	1.41E+04	(4)	1.40E+03	9.93E-02
Isopropylbenzene	4.47E+02	(4)	2.40E+01	5.37E-02
Toluene	7.50E+02	(3)	4.00E+03	5.33E+00
Xylenes, Total	6.20E+02	(3)	1.90E+03	3.06E+00
Semivolatiles (ug/l)				
2-Methylnaphthalene	3.60E+01	(1)	2.40E+02	6.67E+00
2-Methylphenol	9.30E+02	(1)	1.30E+05	1.40E+02
3+4-Methylphenol	9.30E+02	(1)	1.90E+05	2.04E+02
Acenaphthene	5.35E+02	(4)	6.50E+00	1.21E-02
Benzoic acid	7.50E+04	(1)	7.10E+00	9.47E-05
Fluorene	2.88E+02	(4)	8.70E+00	3.02E-02
Phenanthrene	1.70E+02	(4)	5.70E+00	3.35E-02
Phenol	5.76E+03	(4)	8.90E+04	1.55E+01
Non-Carcinogenic Constituents Hazard Index				**4.57E+02**

(1) EPA - Regional Screening Levels (Nov. 2015) -Tap Water

(2) EPA - Regional Screening Levels (Nov. 2015) - MCL

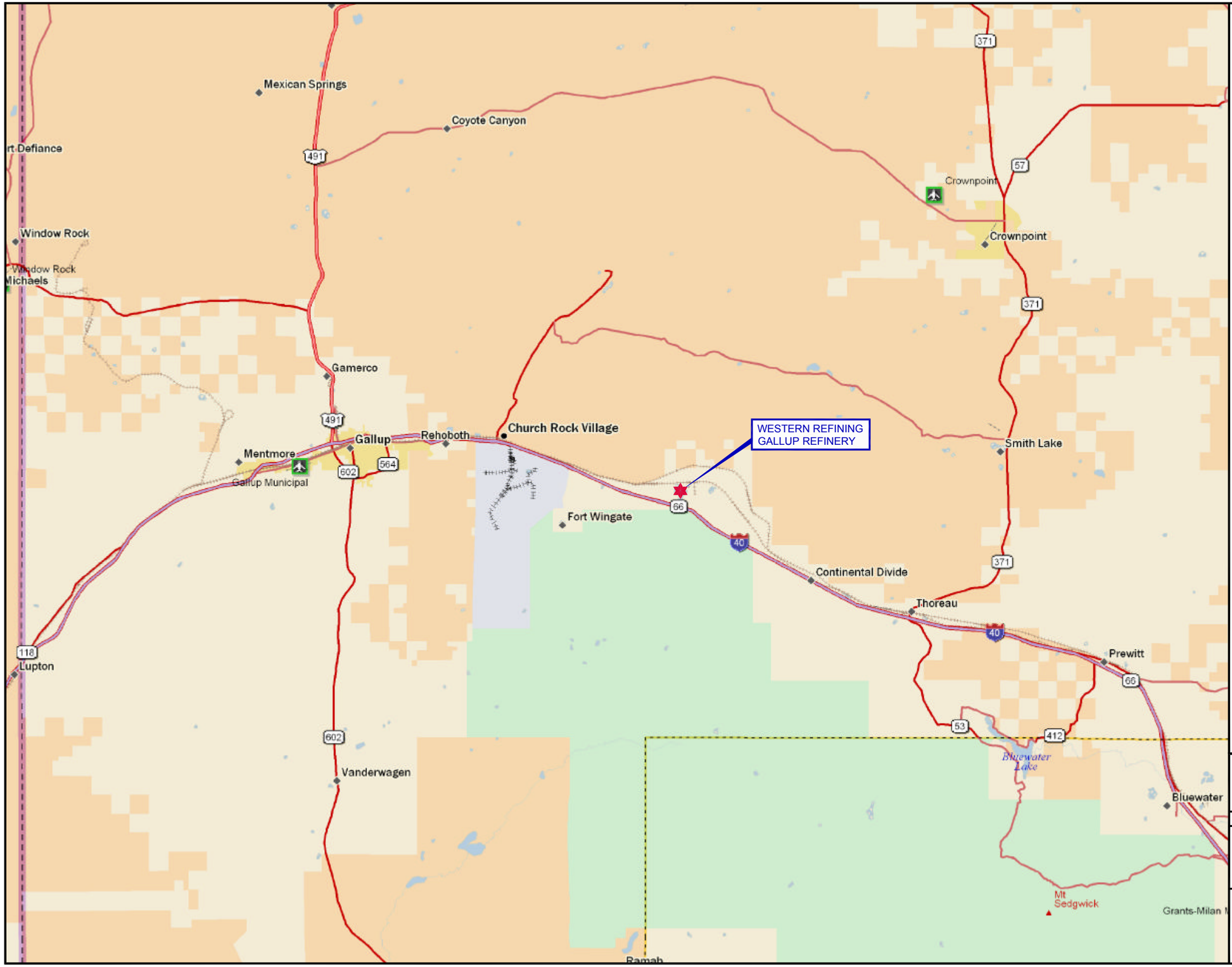
(3) NMED WQCC standards - Title 20 Chapter 6, Part 2, - 20.6.2.3101 Standards for Ground Water of 10,000 mg/l TDS Concentration or less

(4) NMED Tap Water Screening Level - Risk Assessment Guidance for Site Investigations and Remediation (Dec. 201

(5) EPA Screening Level - Tap Water x 10 for carcinogenic compounds

Figures

Map Source: DeLorme Street Atlas USA 2007 Plus.



0 5
SCALE IN MILES

Western Refining
GALLUP REFINERY

PROJ. NO.: Western Refining | DATE:07/13/14 | FILE:WestRef-B198

FIGURE 1
SITE LOCATION MAP
GALLUP REFINERY

DiSorbo
Environmental Consulting Firm
8501 N. MoPac Expy.
Suite 300
Austin, Texas 78759

Aerial Map Source: Google Map, 02/19/2014.

N

0 100
SCALE IN FEET

LEGEND

SWMU No. 10 LOCATION

NEW MEXICO

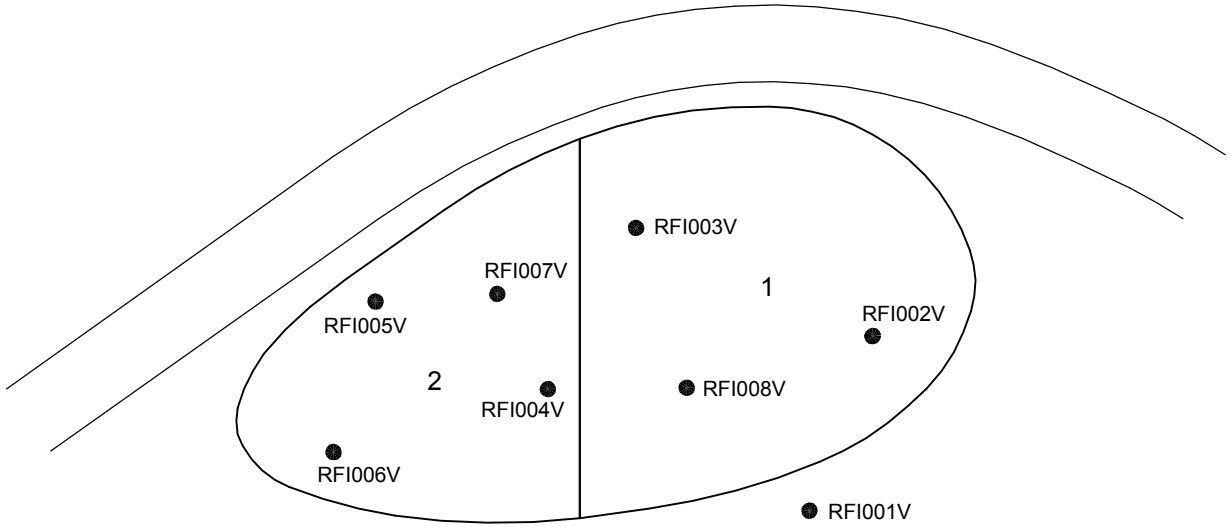
GALLUP SITE LOCATION

Western Refining
GALLUP REFINERY

PROJ. NO.: Western Refining | DATE:09/09/14 | FILE:WestRef-dB05

FIGURE 2
SWMU No. 10 LOCATION MAP

DiSorbo
Environmental Consulting Firm
8501 N. MoPac Expy.
Suite 300
Austin, Texas 78759



N

0 50
SCALE IN FEET

LEGEND

RFI002V ● 1990 RFI SOIL BORING LOCATION AND IDENTIFICATION NUMBER

Western Refining
GALLUP REFINERY

PROJ. NO.:Western Refining | DATE:09/07/14 | FILE:WestRef-dA02

FIGURE 3
SWMU No. 10
1990 RFI SAMPLE LOCATIONS
GALLUP REFINERY

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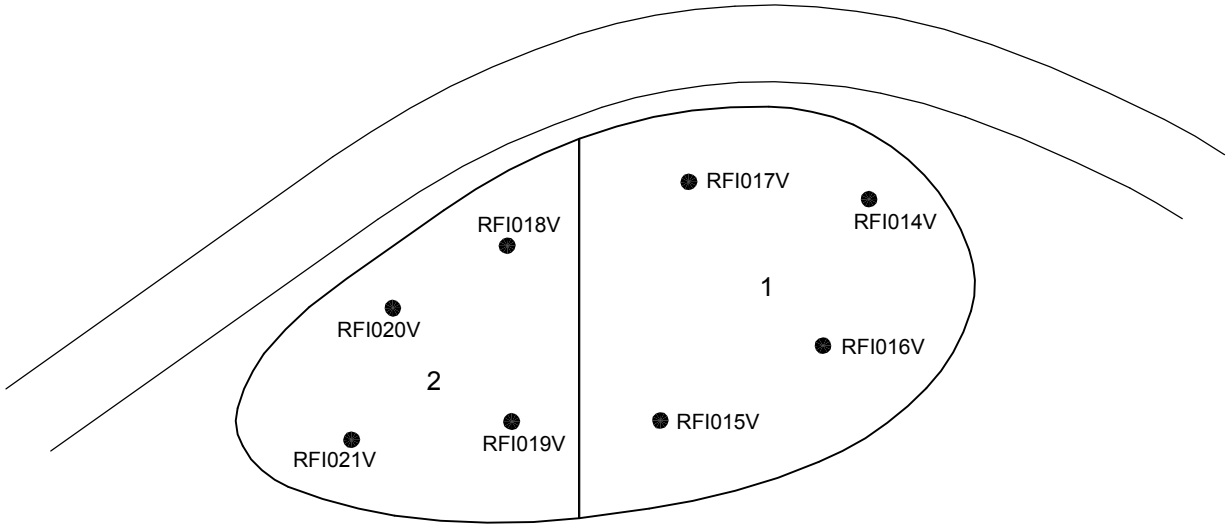

N

0 50
SCALE IN FEET

LEGEND

RFI014V ● 1994 RFI SOIL BORING LOCATION AND IDENTIFICATION NUMBER

Western Refining
GALLUP REFINERY

PROJ. NO.:Western Refining	DATE:09/07/14	FILE:WestRef-dA03

FIGURE 4
SWMU No. 10
1994 RFI SAMPLE LOCATIONS
GALLUP REFINERY

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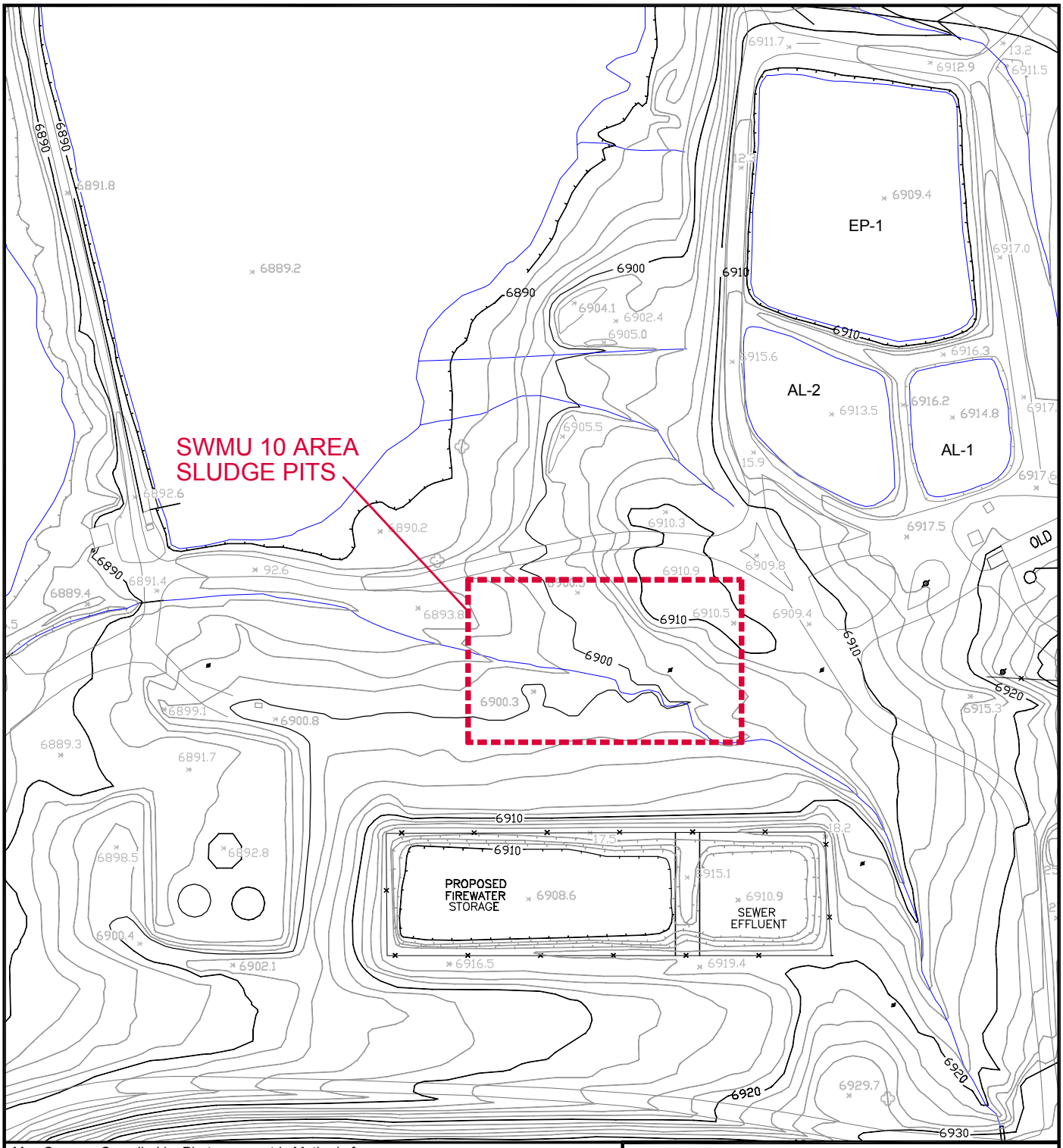

Map Source: Compiled by Photogrammetric Methods from Photography Acquired on March 1, 1998.

N

0 150

SCALE IN FEET

NEW MEXICO

QUADRANGLE LOCATION

Western Refining

GALLUP REFINERY

PROJ. NO.:Western Refining	DATE:02/17/16	FILE:WestRef-dA40

FIGURE 5
TOPOGRAPHIC MAP
GALLUP REFINERY

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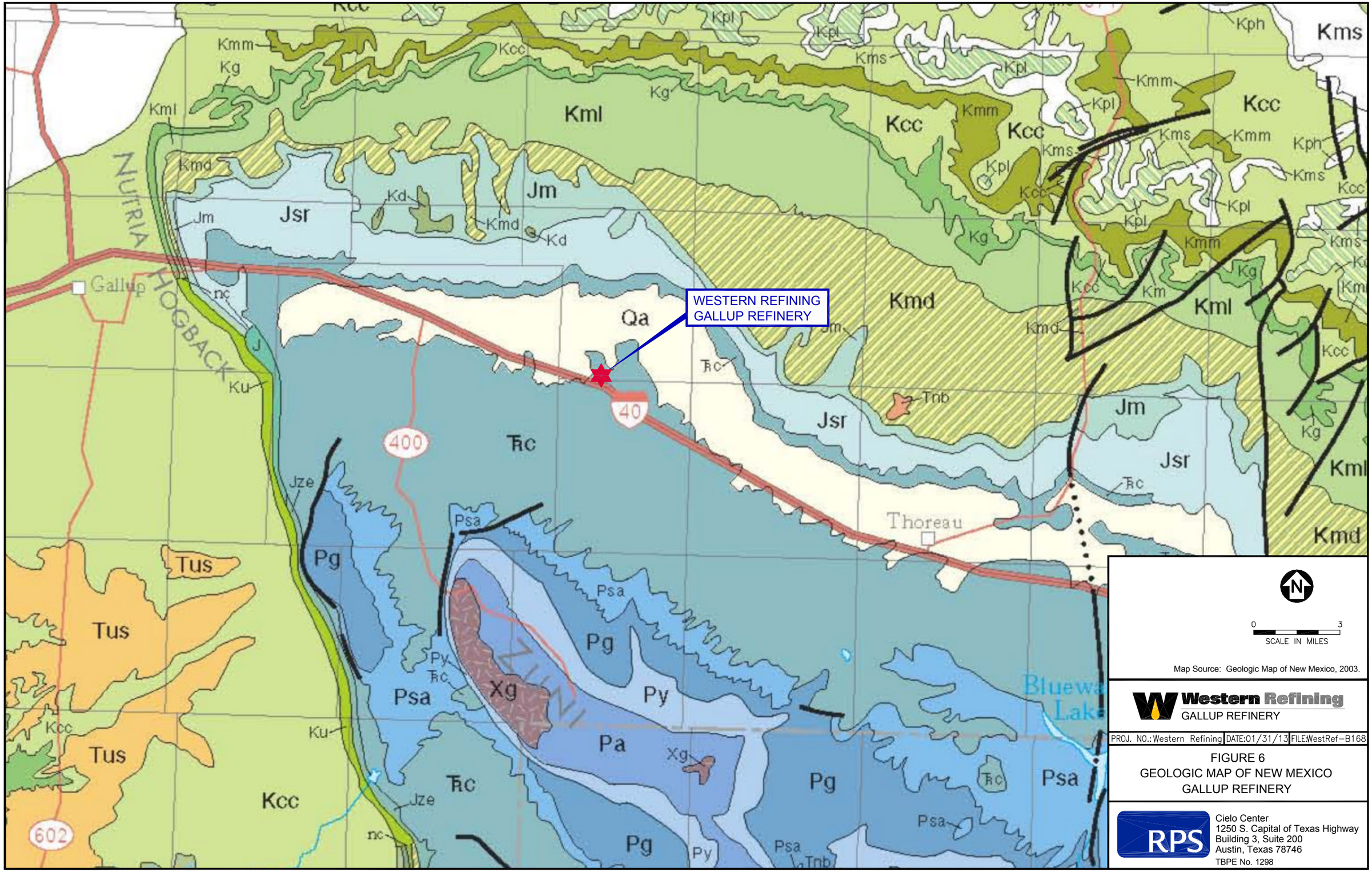


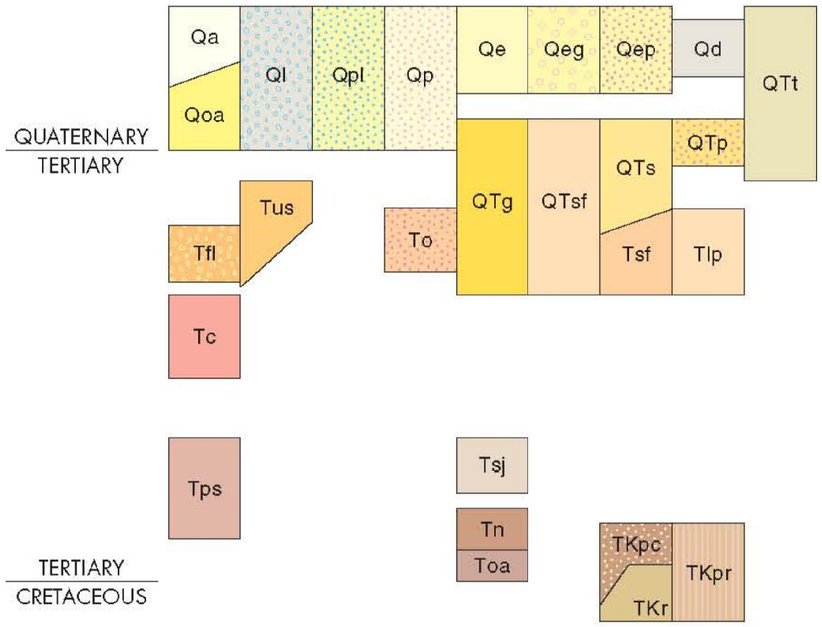
Western Refining
GALLUP REFINERY

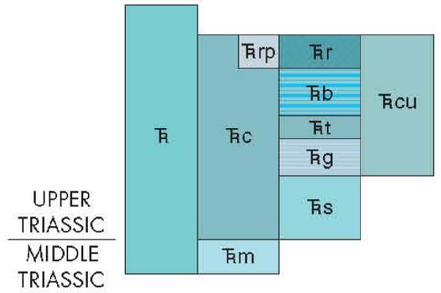
PROJ. NO.: Western Refining | DATE:01/31/13 | FILE:WestRef-B168

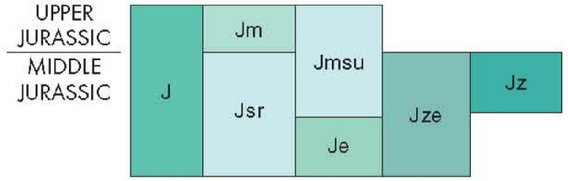
FIGURE 6
GEOLOGIC MAP OF NEW MEXICO
GALLUP REFINERY

RPS
Cielo Center
1250 S. Capital of Texas Highway
Building 3, Suite 200
Austin, Texas 78746
TBPE No. 1298

Sedimentary







DESCRIPTION OF MAP UNITS

QUATERNARY

Qa Alluvium (Holocene to upper Pleistocene)

Ql Landslide deposits and colluvium (Holocene to Pleistocene)—Landslide deposits on western flanks of Socorro Mountains not shown for clarity

Qpl Lacustrine and playa deposits (Holocene)—Includes associated alluvial and eolian deposits of major lake basins

Qp Piedmont alluvial deposits (Holocene to lower Pleistocene)—Includes deposits of higher gradient tributaries bordering major stream valleys, alluvial veneers of the piedmont slope, and alluvial fans. May locally include uppermost Pliocene deposits

TRIASSIC

Chinle Formation of previous workers (e.g., Stewart et al., 1972) is used here as Chinle Group, following Lucas (1993)

Ṯr **Triassic rocks, undivided**—Continental red beds

Ṯrp **Rock Point Formation of Chinle Group** (Upper Triassic)—May locally include Wingate Sandstone (Triassic)

Ṯc **Chinle Group** (Upper Triassic)—Map unit includes Moenkopi Formation (Middle Triassic) at base in many areas; in eastern part of state the following five formations are mapped:

Ṯrr **Redonda Formation** (Upper Triassic)

Ṯrb **Bull Canyon Formation** (Norian)

Ṯrt **Trujillo Formation** (Norian)

Ṯrg **Garita Creek Formation** (Carnian)

Ṯrs **Santa Rosa Formation** (Carnian)—Includes Moenkopi Formation (Middle Triassic) at base in most areas

Ṯrcu **Upper Chinle Group, Garita Creek through Redonda Formations, undivided**

Ṯrm **Moenkopi Formation** (Middle Triassic)

JURASSIC

To compare this map nomenclature to the USGS nomenclature, see the diagram included on this sheet (at right)

J **Upper and Middle Jurassic rocks, undivided.** In southwest includes the basalt-bearing Broken Jug Formation

Jm **Morrison Formation**—Upper Jurassic nonmarine rocks

Jmsu **Morrison Formation and upper San Rafael Group** (lowermost Cretaceous?-upper Jurassic)

Jz **Zuni Sandstone** (Callovian)—Consists of undivided equivalents of the Summerville Formation and Bluff Sandstone; restricted to Zuni Basin area

Jze **Zuni and Entrada Sandstones, undivided**

Je **Entrada Sandstone** (Middle Jurassic)

Jsr **San Rafael Group** (Middle Jurassic)—Consists of Entrada Sandstone, Todilto and Summerville Formations, Bluff Sandstone, and locally Zuni Sandstone (or only Acoma Tongue of Zuni)

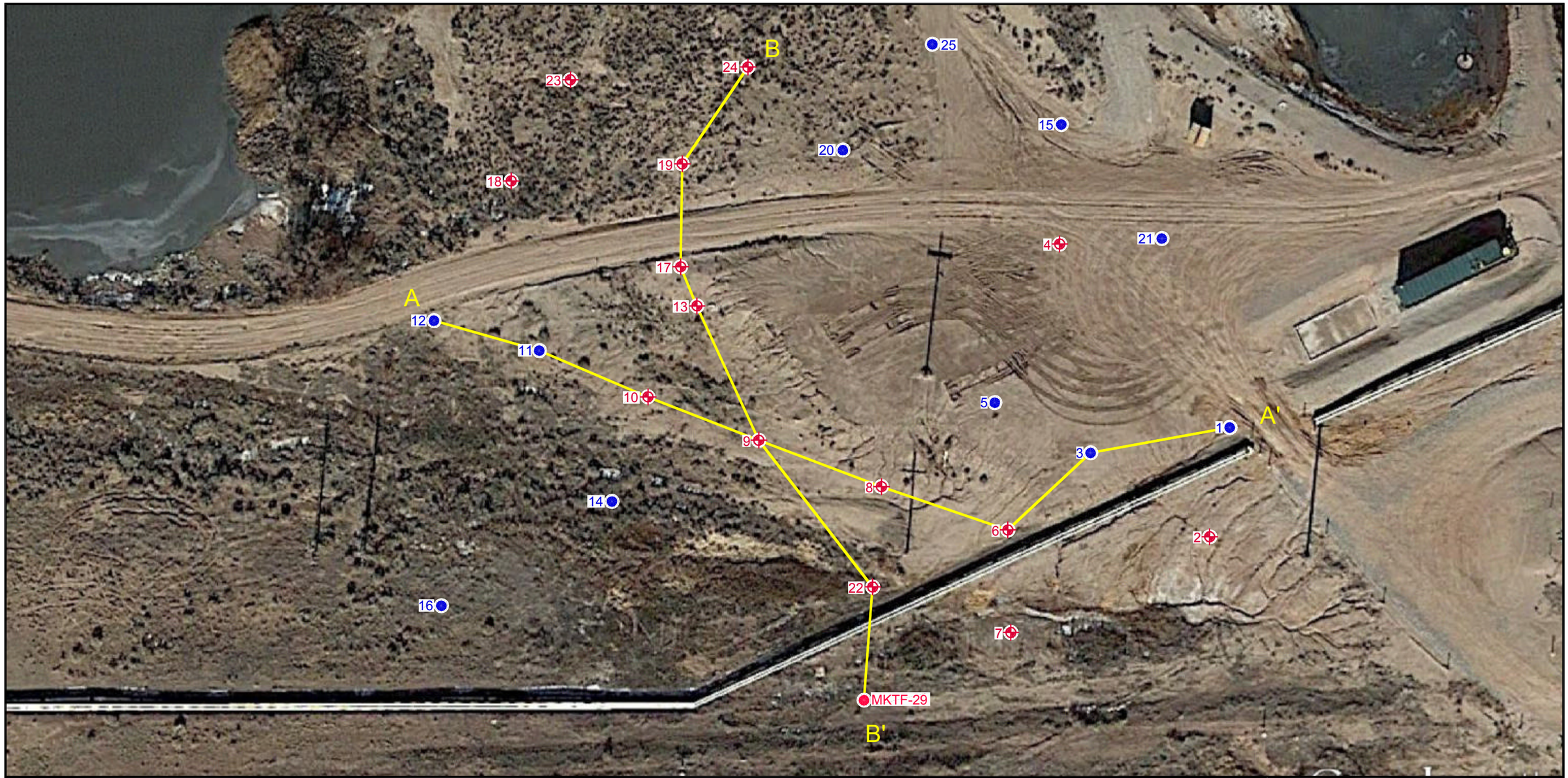
Map Source: Geologic Map of New Mexico, 2003.

Western Refining
GALLUP REFINERY

PROJ. NO.: Western Refining	DATE: 01/31/13	FILE: WestRef-B168

FIGURE 6
GEOLOGIC MAP OF NEW MEXICO
GALLUP REFINERY

RPS
Cielo Center
1250 S. Capital of Texas Highway
Building 3, Suite 200
Austin, Texas 78746
TBPE No. 1298



Aerial Map Source: Google Map, 01/05/2014.

LEGEND

- 2 — SOIL BORING LOCATION AND IDENTIFICATION NUMBER
- 1 — SOIL BORING / TEMPORARY WELL LOCATION AND IDENTIFICATION NUMBER
- MKTF-29 — MONITORING WELL LOCATION (PERMANENT WELL) AND IDENTIFICATION NUMBER
- A——A' — LINE OF CROSS-SECTION

N

0 40
SCALE IN FEET

NEW MEXICO
GALLUP SITE LOCATION

Western Refining
GALLUP REFINERY

PROJ. NO.: Western Refining | DATE:07/24/16 | FILE:WestRef-dB93

FIGURE 7
CROSS SECTION LOCATION MAP
SWMU No. 10

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WEST
A

EAST
A'

ELEVATION (FT MSL)

6915
6910
6905
6900
6895
6890
6885
6880
6875
6870

SWMU10-12
SWMU10-11
SWMU10-10
SWMU10-9
SWMU10-8
SWMU10-6
SWMU10-3
SWMU10-1

CLAY, SILTY
CLAY
SAND, CLAYEY
SAND, CLAYEY
CLAY, SILTY
SANDY
CLAYSTONE
CLAY, SANDY
CLAYSTONE
CLAY, SILTY, SANDY
CLAYSTONE, MUDSTONE
CLAY, SILTY
STIFF
CLAY, SILTY
SANDY
CLAYSTONE
SILTY, CLAY
SANDY
CLAYSTONE
SAND, CLAYEY
SANDY CLAY, CLAYEY SAND
SILTY
CLAY, SANDY
GRAVELLY
CLAY, SANDY
GRAVELLY
CLAYSTONE
CLAYSTONE

EXPLANATION

SWMU10-1 — WELL IDENTIFICATION

WELL

SOIL SAMPLE INTERVAL

WELL SCREEN INTERVAL

LITHOLOGIC CONTACTS

DEPTH OF SATURATION

POTENTIOMETRIC SURFACE MEASURED 4-29-2015

5
0
25

SCALE IN FEET
VERTICAL EXAGGERATION = 5X

Western Refining
GALLUP REFINERY

PROJ. NO.:Western Refining | DATE:02/16/16 | FILE:WestRef-dB92

FIGURE 8
CROSS SECTION A-A'
WEST TO EAST
GALLUP REFINERY

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NORTH
B

SOUTH
B'

ELEVATION (FT MSL)

6910
6905
6900
6895
6890
6885
6880

SWMU10-24
SWMU10-19
SWMU10-17
SWMU10-13
SWMU10-9
SWMU 10-22
MKTF-29

SILT
CLAY, SILTY
CLAY
SILTY
CLAYSTONE
SAND, CLAYEY
TRACE SAND, GRAVELLY
SANDY

EXPLANATION

MKTF-29 — WELL IDENTIFICATION
WELL
SOIL SAMPLE INTERVAL
WELL SCREEN INTERVAL
LITHOLOGIC CONTACTS
DEPTH OF SATURATION
POTENTIOMETRIC SURFACE MEASURED 6-10-2015

5
0
25
SCALE IN FEET
VERTICAL EXAGGERATION = 5X

Western Refining
GALLUP REFINERY

PROJ. NO.:Western Refining | DATE:02/16/16 | FILE:WestRef-dB92

FIGURE 9
CROSS SECTION B-B'
NORTH TO SOUTH
GALLUP REFINERY

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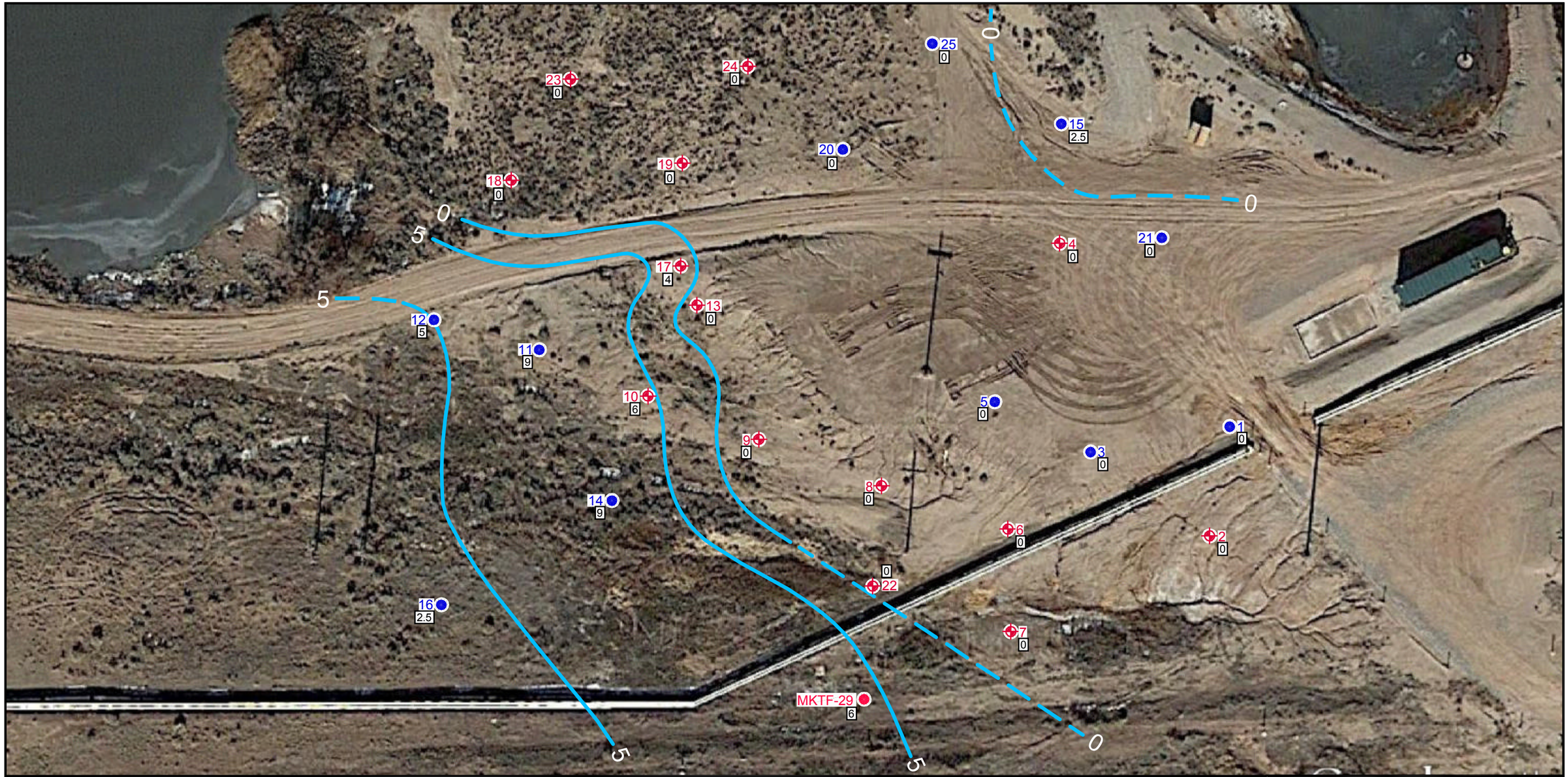

Aerial Map Source: Google Map, 01/05/2014.

LEGEND

2	SOIL BORING LOCATION AND IDENTIFICATION NUMBER
1	SOIL BORING / TEMPORARY WELL LOCATION AND IDENTIFICATION NUMBER
MKTF-29	MONITORING WELL LOCATION (PERMANENT WELL) AND IDENTIFICATION NUMBER
5	CONTOUR LINE OF SAND THICKNESS (FT)
2.5	SAND THICKNESS (FT)

N

0 40
SCALE IN FEET

NEW MEXICO

GALLUP SITE LOCATION

Western Refining
GALLUP REFINERY

PROJ. NO.: Western Refining | DATE: 02/18/16 | FILE: WestRef-dB94

FIGURE 10

SAND ISOPACH MAP
SWMU No. 10

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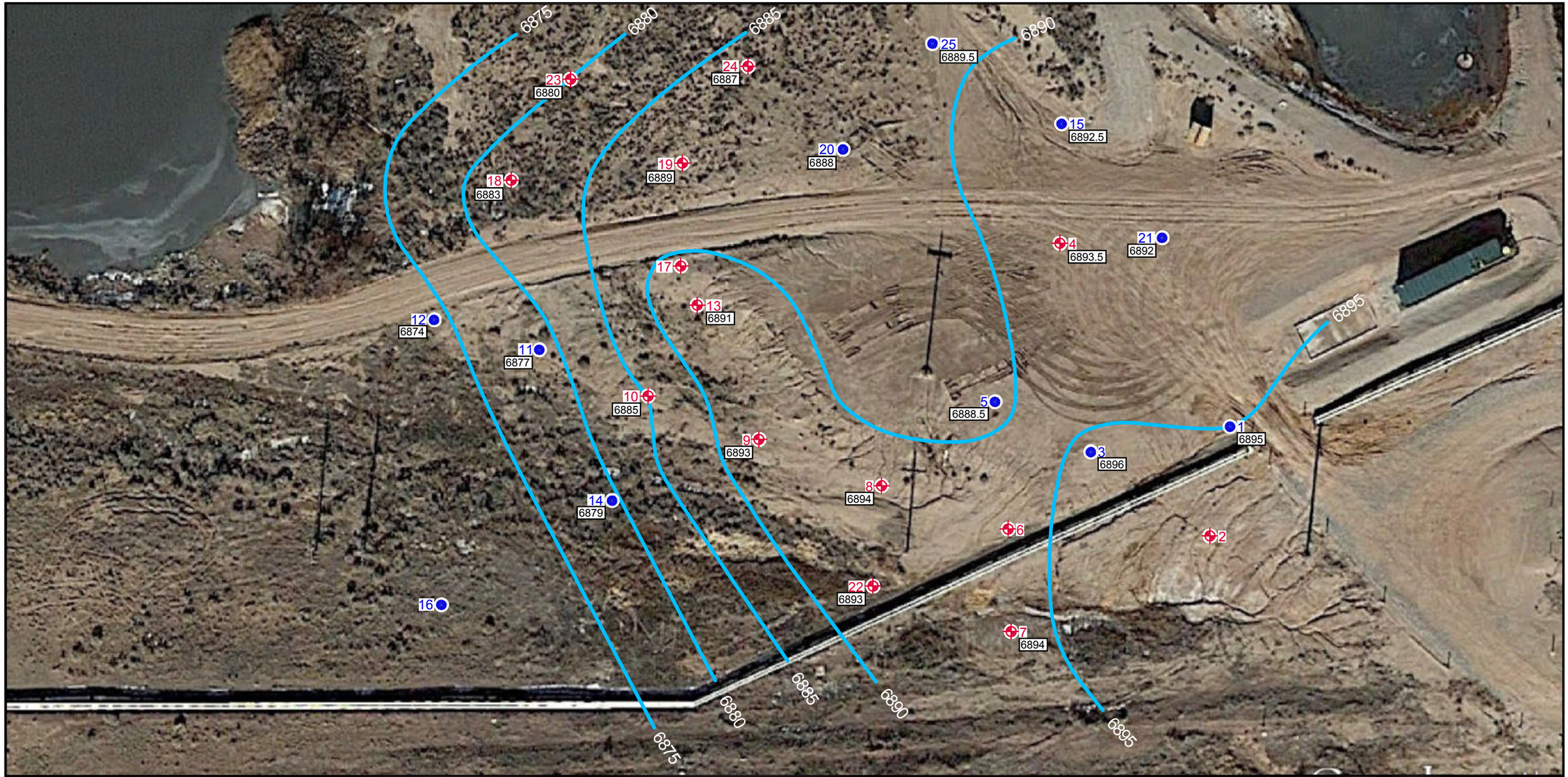

Aerial Map Source: Google Map, 01/05/2014.

N

0 40
SCALE IN FEET

LEGEND

2	SOIL BORING LOCATION AND IDENTIFICATION NUMBER
1	SOIL BORING / TEMPORARY WELL LOCATION AND IDENTIFICATION NUMBER
6880	CONTOUR LINE ESTIMATED ELEVATION ON TOP OF BEDROCK (ABOVE MSL)
6893	ESTIMATED ELEVATION ON TOP OF BEDROCK (ABOVE MSL)

GALLUP SITE LOCATION

Western Refining
GALLUP REFINERY

PROJ. NO.: Western Refining | DATE: 02/18/16 | FILE: WestRef-dB95

FIGURE 11
ESTIMATED ELEVATION
ON TOP OF BEDROCK
SWMU No. 10

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Austin, Texas 78759

Aerial Map Source: Google Map, 01/05/2014.

LEGEND

- 2 — SOIL BORING LOCATION AND IDENTIFICATION NUMBER
- 1 — SOIL BORING / TEMPORARY WELL LOCATION AND IDENTIFICATION NUMBER
- MKTF-29 — MONITORING WELL LOCATION AND IDENTIFICATION NUMBER
- 6900 — CONTOUR OF GROUNDWATER ELEVATION (FT MSL)
- 6905.34 — GROUNDWATER ELEVATION (FEET MSL)
- * — MEASURED NOVEMBER 2014
- GROUNDWATER FLOW DIRECTION

N

0 100
SCALE IN FEET

NEW MEXICO
GALLUP SITE LOCATION

Western Refining
GALLUP REFINERY

PROJ. NO.: Western Refining | DATE: 02/18/16 | FILE: WestRef-dB96

FIGURE 12
POTENTIOMETRIC SURFACE MAP
MARCH 2015
SWMU No. 10

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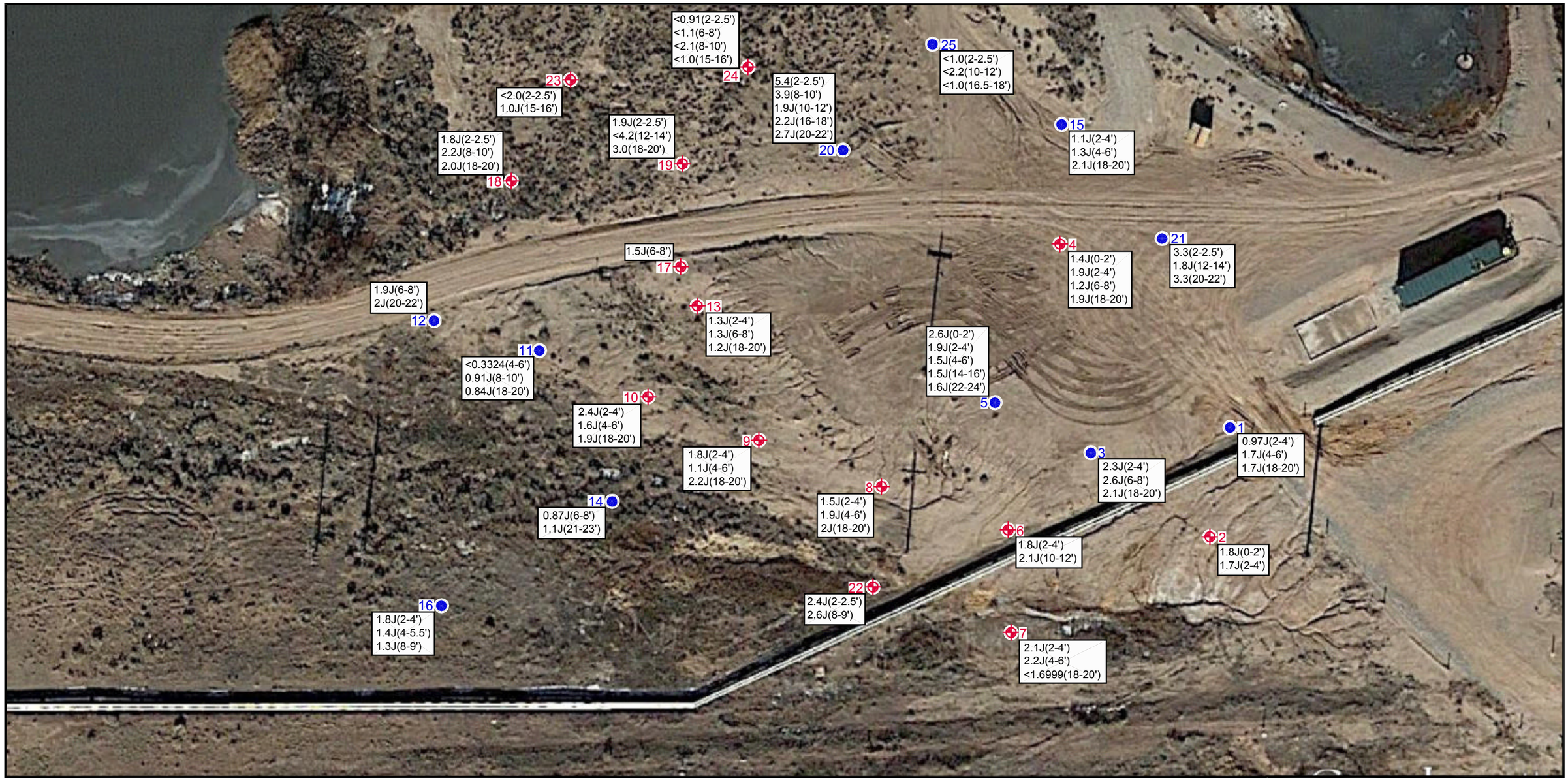

Aerial Map Source: Google Map, 01/05/2014.

0 40
SCALE IN FEET

LEGEND

2	SOIL BORING LOCATION AND IDENTIFICATION NUMBER
1	SOIL BORING / TEMPORARY WELL LOCATION AND IDENTIFICATION NUMBER
2.4J(0-2')	ARSENIC CONCENTRATION, mg/kg (SAMPLE DEPTH-FT)
4.25	UNDERLINED CONCENTRATION VALUE EXCEEDS SCREENING LEVEL

NEW MEXICO

GALLUP SITE LOCATION

Western Refining
GALLUP REFINERY

PROJ. NO.: Western Refining | DATE: 07/23/16 | FILE: WestRef-dB75

FIGURE 13
ARSENIC
SOILS CONCENTRATION MAP
SWMU No. 10

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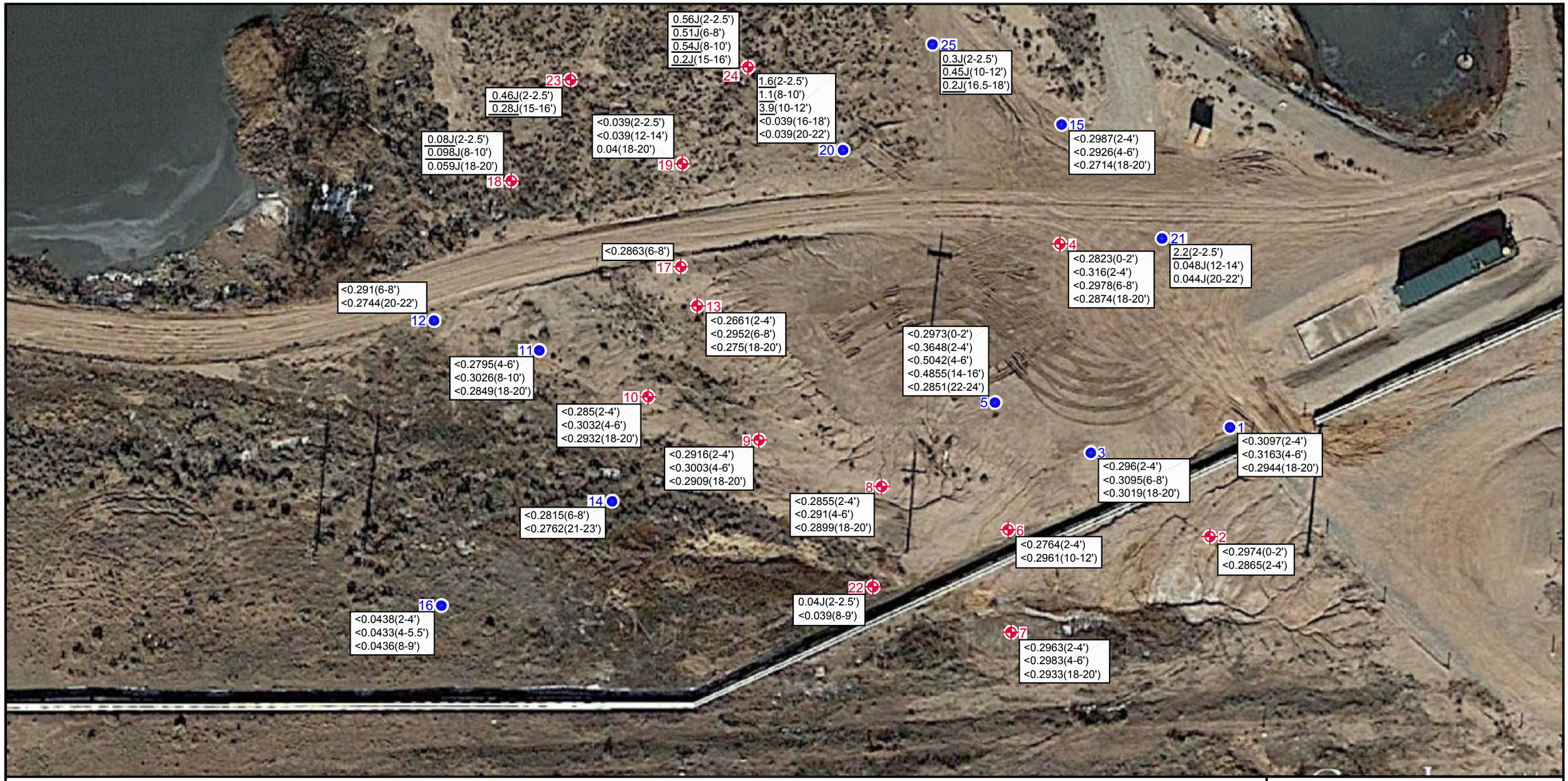

Aerial Map Source: Google Map, 01/05/2014.

N

0 40

SCALE IN FEET

LEGEND

2	SOIL BORING LOCATION AND IDENTIFICATION NUMBER
1	SOIL BORING / TEMPORARY WELL LOCATION AND IDENTIFICATION NUMBER
0.054J(0-2')	1,2,4- TRIMETHYLBENZENE CONCENTRATION, mg/kg (SAMPLE DEPTH-FT)
0.077	UNDERLINED CONCENTRATION VALUE EXCEEDS SCREENING LEVEL

GALLUP SITE LOCATION

Western Refining
GALLUP REFINERY

PROJ. NO.:Western Refining | DATE:11/16/16 | FILE:WestRef-dB115

FIGURE 14
CYANIDE
SOILS CONCENTRATION MAP
SWMU No. 10

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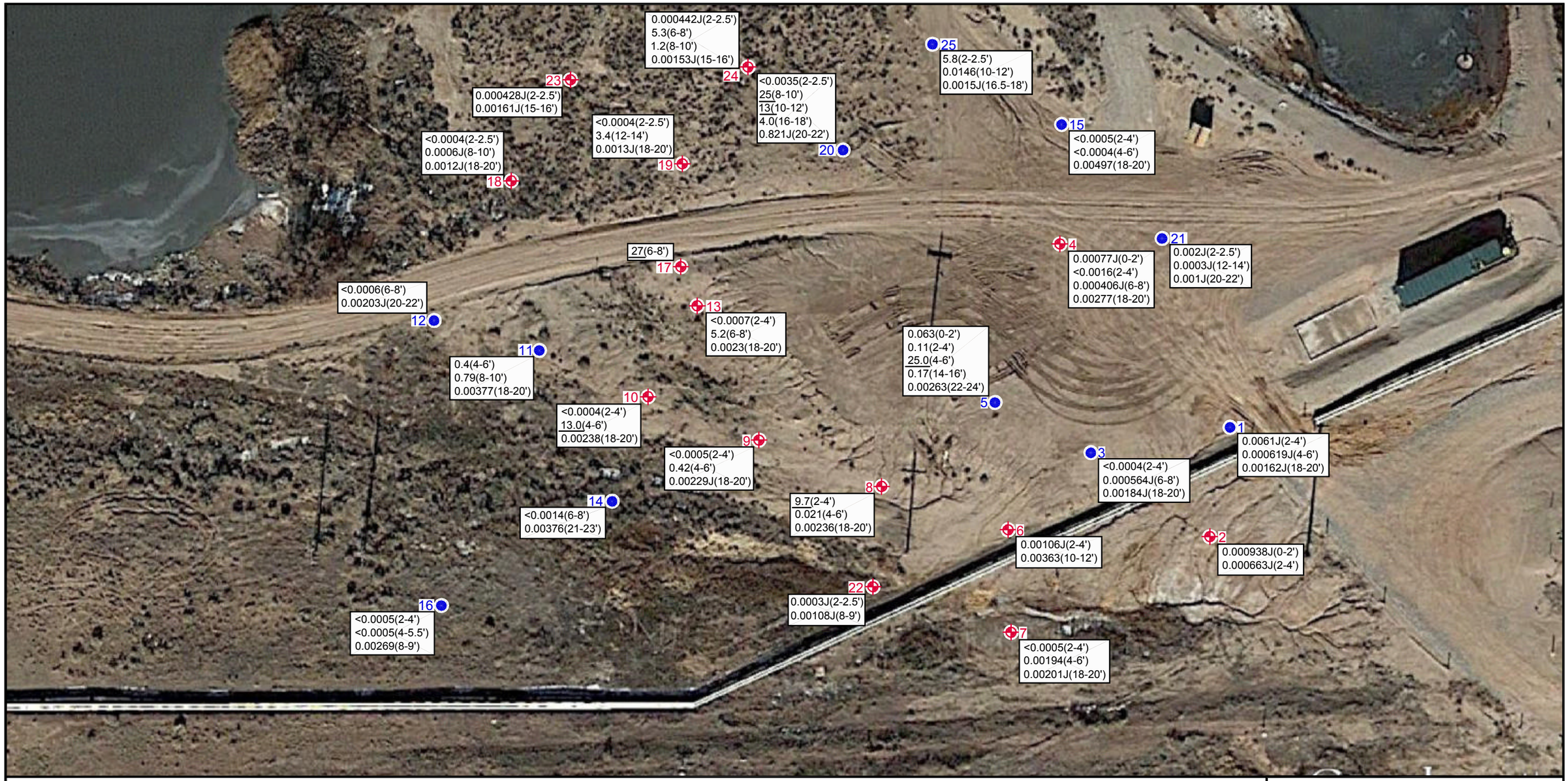

Aerial Map Source: Google Map, 01/05/2014.

N

0 40
SCALE IN FEET

LEGEND

2	SOIL BORING LOCATION AND IDENTIFICATION NUMBER
1	SOIL BORING / TEMPORARY WELL LOCATION AND IDENTIFICATION NUMBER
0.063(0-2')	1,2,4- TRIMETHYLBENZENE CONCENTRATION, mg/kg (SAMPLE DEPTH-FT)
6.2	UNDERLINED CONCENTRATION VALUE EXCEEDS SCREENING LEVEL

GALLUP SITE LOCATION

Western Refining
GALLUP REFINERY

PROJ. NO.: Western Refining | DATE: 07/23/16 | FILE: WestRef-dB66

FIGURE 15
1,2,4- TRIMETHYLBENZENE
SOILS CONCENTRATION MAP
SWMU No. 10

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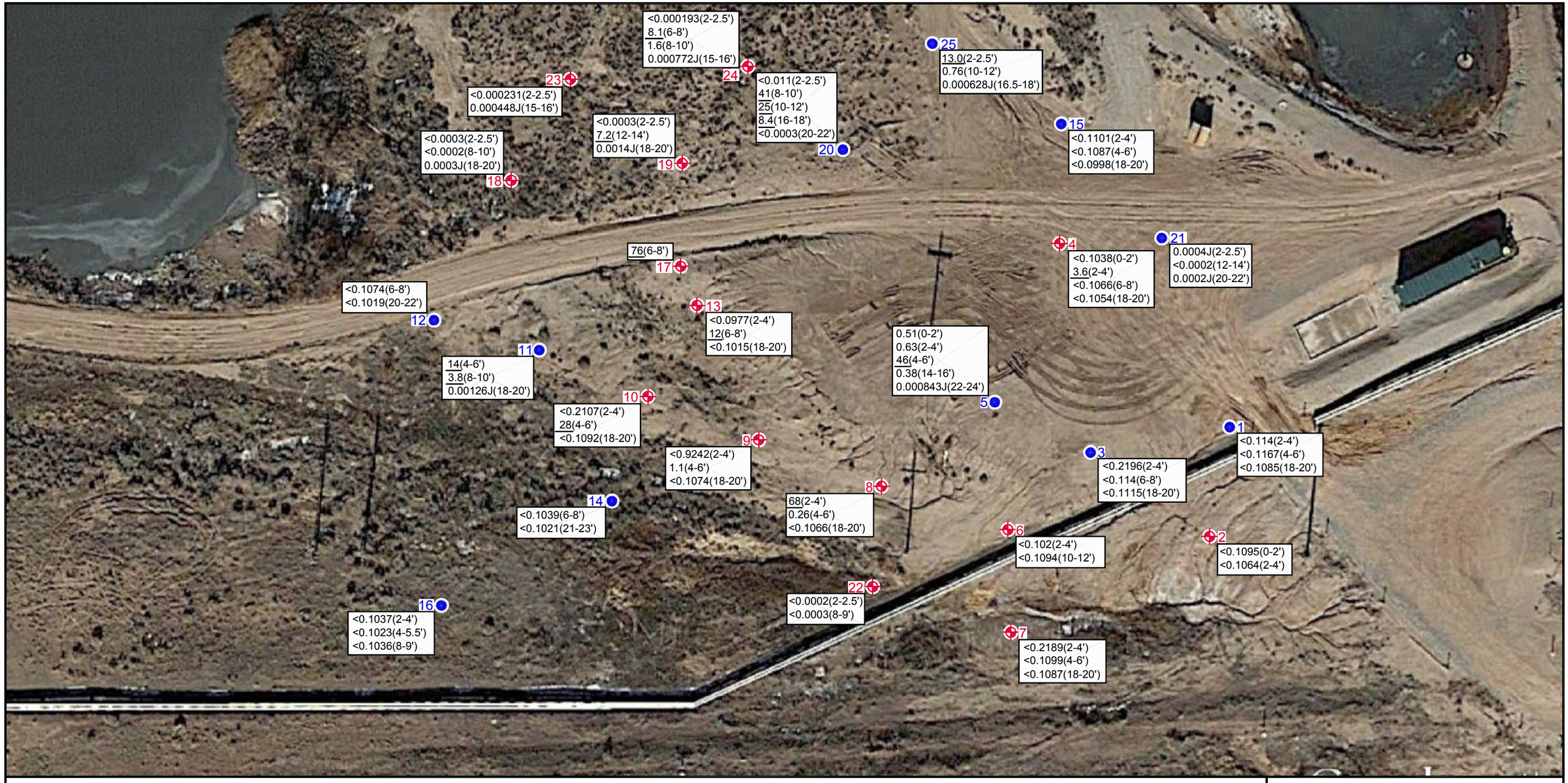
Austin, Texas 78759



Aerial Map Source: Google Map, 01/05/2014.

N

0 40
SCALE IN FEET

LEGEND

2	SOIL BORING LOCATION AND IDENTIFICATION NUMBER
1	SOIL BORING / TEMPORARY WELL LOCATION AND IDENTIFICATION NUMBER
0.51(0-2')	1-METHYLNAPHTHALENE CONCENTRATION, mg/kg (SAMPLE DEPTH-FT)
1.71	UNDERLINED CONCENTRATION VALUE EXCEEDS SCREENING LEVEL

GALLUP SITE LOCATION

Western Refining
GALLUP REFINERY

PROJ. NO.:Western Refining | DATE:07/23/16 | FILE:WestRef-dB70

FIGURE 16
1-METHYLNAPHTHALENE
SOILS CONCENTRATION MAP
SWMU No. 10

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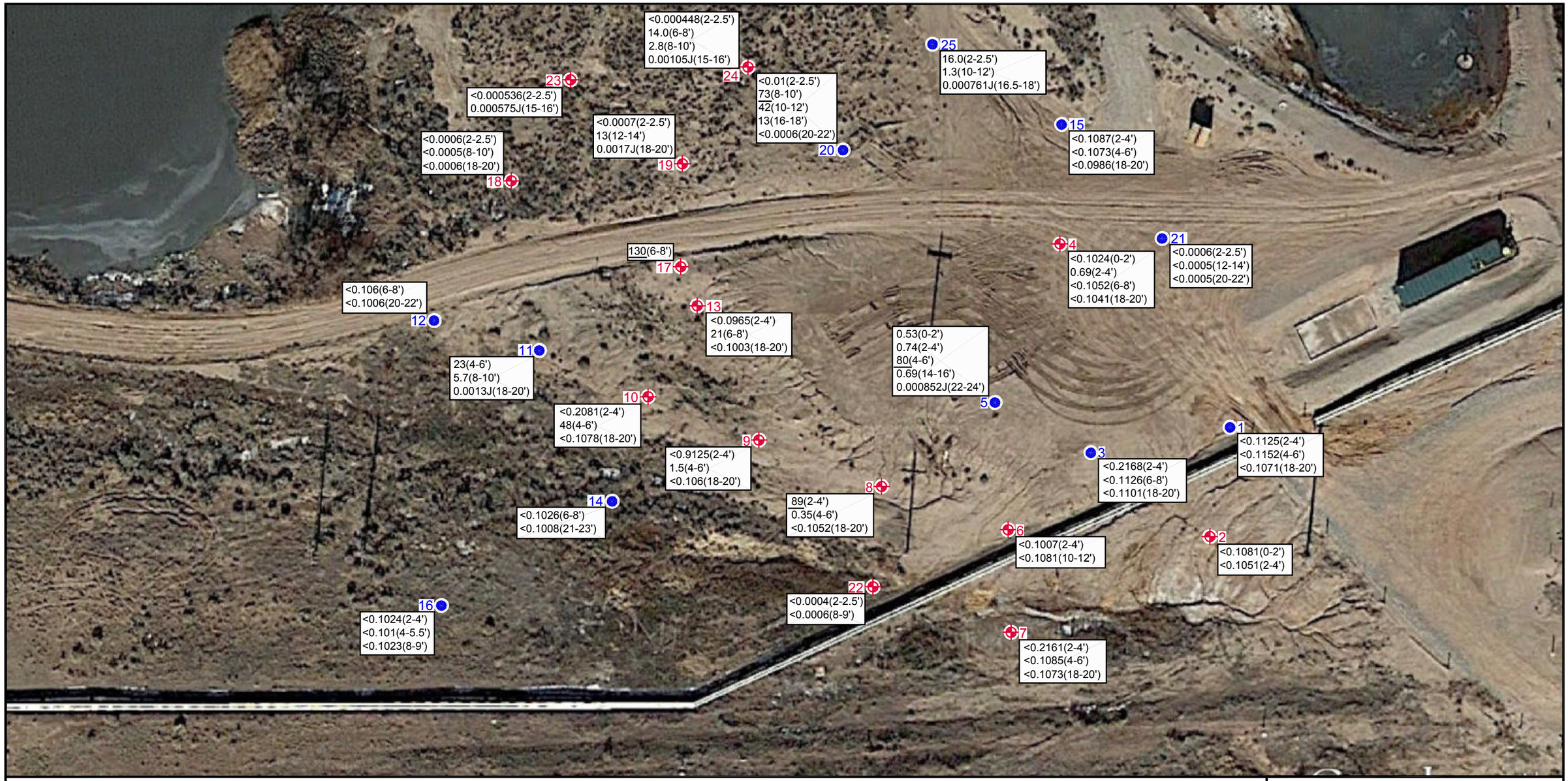
Suite 300
Austin, Texas 78759



Aerial Map Source: Google Map, 01/05/2014.

N

0 40

SCALE IN FEET

LEGEND

2 SOIL BORING LOCATION AND IDENTIFICATION NUMBER

1 SOIL BORING / TEMPORARY WELL LOCATION AND IDENTIFICATION NUMBER

0.53(0-2') 2-METHYLNAPHTHALENE CONCENTRATION, mg/kg (SAMPLE DEPTH-FT)

56.1 UNDERLINED CONCENTRATION VALUE EXCEEDS SCREENING LEVEL

NEW MEXICO

GALLUP SITE LOCATION

Western Refining
GALLUP REFINERY

PROJ. NO.: Western Refining | DATE: 08/03/16 | FILE: WestRef-dB71

FIGURE 17
2-METHYLNAPHTHALENE
SOILS CONCENTRATION MAP
SWMU No. 10

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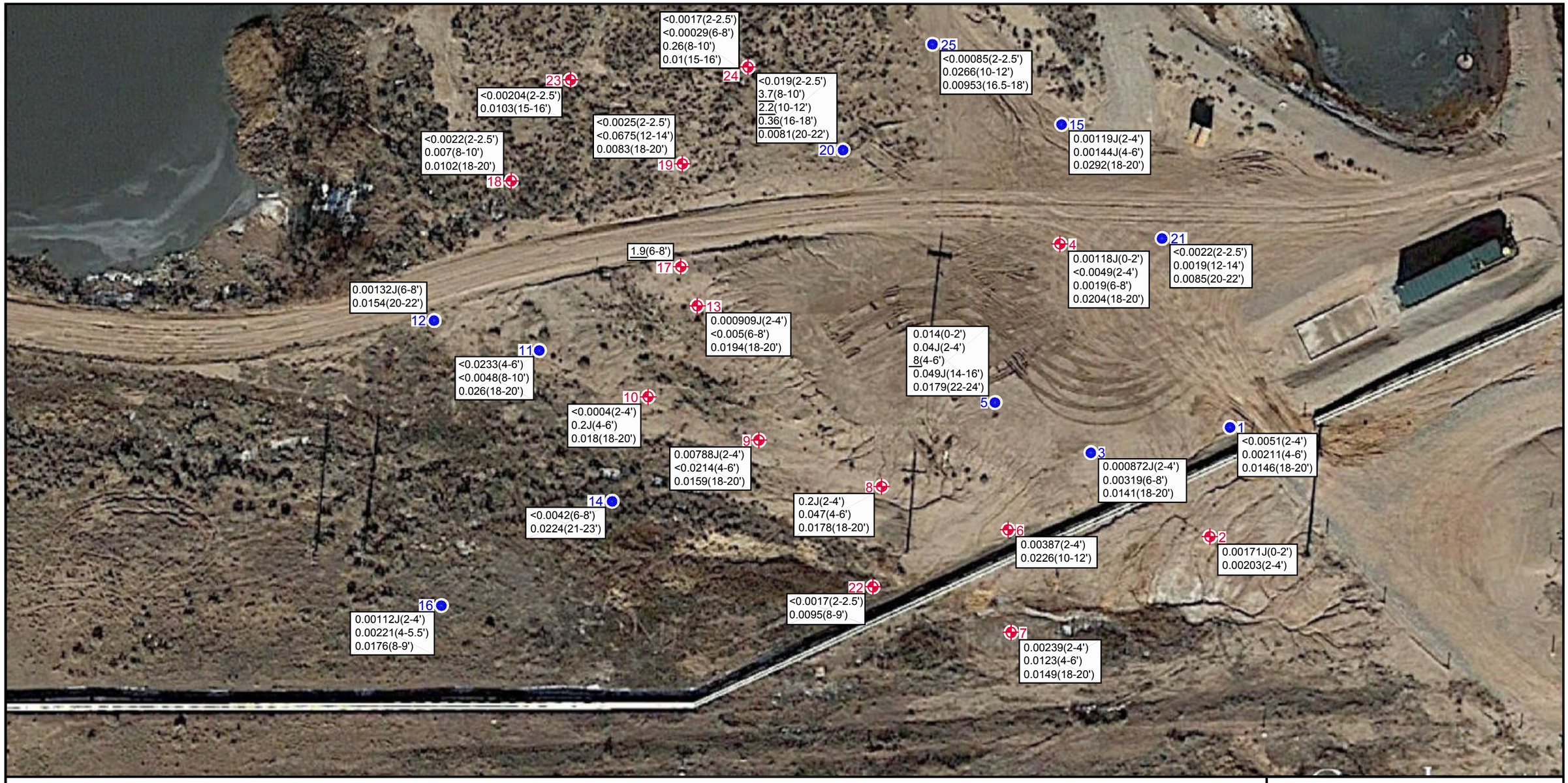
Suite 300
Austin, Texas 78759



Aerial Map Source: Google Map, 01/05/2014.

N

0 40
SCALE IN FEET

LEGEND

2	SOIL BORING LOCATION AND IDENTIFICATION NUMBER
1	SOIL BORING / TEMPORARY WELL LOCATION AND IDENTIFICATION NUMBER
0.014(0-2')	BENZENE CONCENTRATION, mg/kg (SAMPLE DEPTH-FT)
0.56	UNDERLINED CONCENTRATION VALUE EXCEEDS SCREENING LEVEL

GALLUP SITE LOCATION

Western Refining
GALLUP REFINERY

PROJ. NO.: Western Refining | DATE:08/03/16 | FILE:WestRef-dB67

FIGURE 18
BENZENE
SOILS CONCENTRATION MAP
SWMU No. 10

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Environmental Consulting Firm
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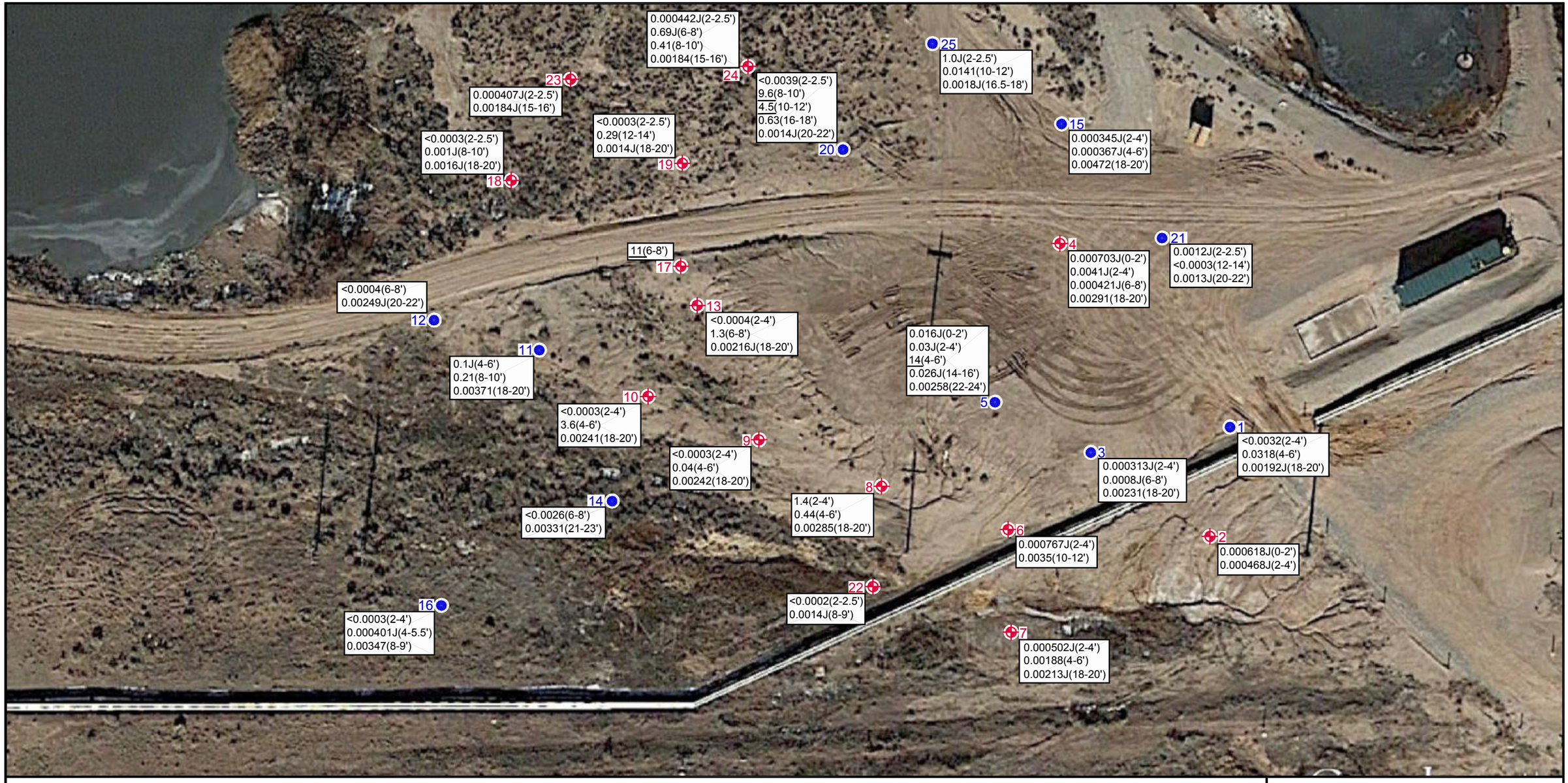
Suite 300
Austin, Texas 78759



Aerial Map Source: Google Map, 01/05/2014.

N

0 40
SCALE IN FEET

LEGEND

2	SOIL BORING LOCATION AND IDENTIFICATION NUMBER
1	SOIL BORING / TEMPORARY WELL LOCATION AND IDENTIFICATION NUMBER
1.4(2-4')	ETHYLBENZENE CONCENTRATION, mg/kg (SAMPLE DEPTH-FT)
3.87	UNDERLINED CONCENTRATION VALUE EXCEEDS SCREENING LEVEL

GALLUP SITE LOCATION

Western Refining
GALLUP REFINERY

PROJ. NO.: Western Refining | DATE:08/03/16 | FILE:WestRef-dB68

FIGURE 19
ETHYLBENZENE
SOILS CONCENTRATION MAP
SWMU No. 10

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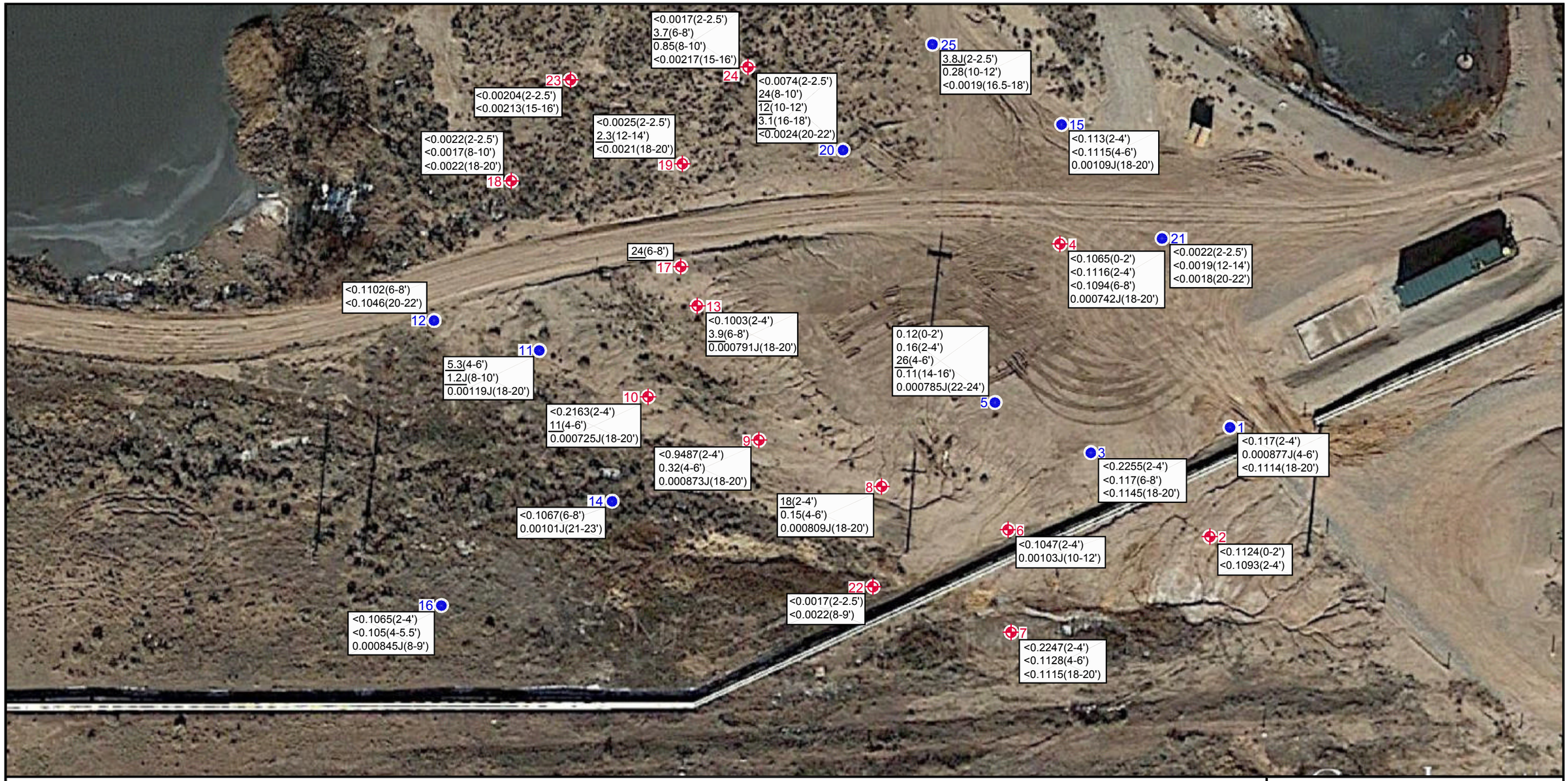
Suite 300
Austin, Texas 78759



Aerial Map Source: Google Map, 01/05/2014.

N

0 40

SCALE IN FEET

LEGEND

2 — SOIL BORING LOCATION AND IDENTIFICATION NUMBER

1 — SOIL BORING / TEMPORARY WELL LOCATION AND IDENTIFICATION NUMBER

0.12(0-2') — NAPHTHALENE CONCENTRATION, mg/kg (SAMPLE DEPTH-FT)

1.21 — UNDERLINED CONCENTRATION VALUE EXCEEDS SCREENING LEVEL

GALLUP SITE LOCATION

Western Refining
GALLUP REFINERY

PROJ. NO.: Western Refining | DATE:08/03/16 | FILE:WestRef-dB69

FIGURE 20
NAPHTHALENE
SOILS CONCENTRATION MAP
SWMU No. 10

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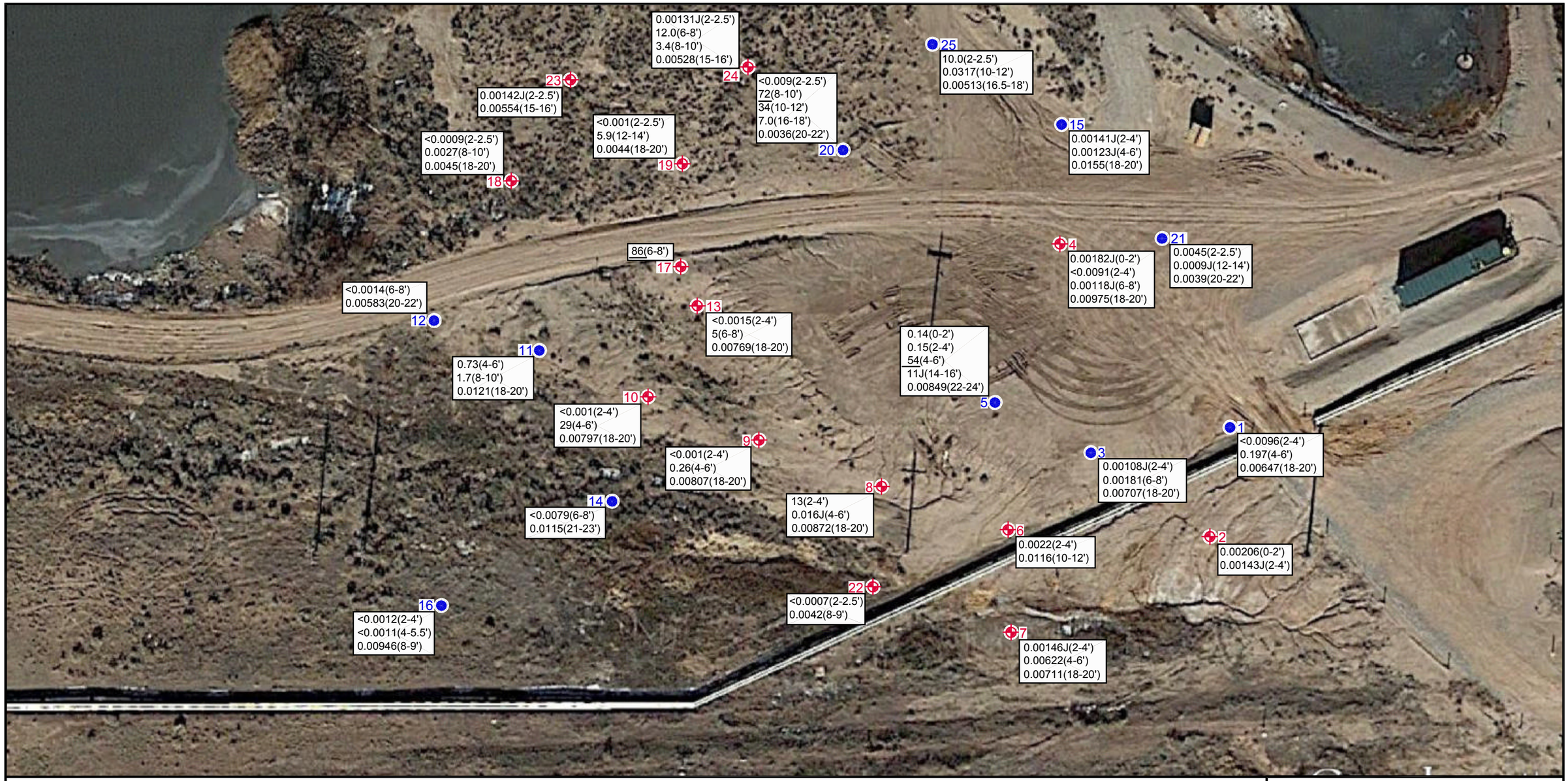
Austin, Texas 78759



Aerial Map Source: Google Map, 01/05/2014.

N

0 40

SCALE IN FEET

LEGEND

2 — SOIL BORING LOCATION AND IDENTIFICATION NUMBER

1 — SOIL BORING / TEMPORARY WELL LOCATION AND IDENTIFICATION NUMBER

0.14(0-2') — XYLENES CONCENTRATION, mg/kg (SAMPLE DEPTH-FT)

43.9 — UNDERLINED CONCENTRATION VALUE EXCEEDS SCREENING LEVEL

NEW MEXICO

GALLUP SITE LOCATION

Western Refining
GALLUP REFINERY

PROJ. NO.: Western Refining | DATE: 08/05/16 | FILE: WestRef-dB72

FIGURE 21
XYLENES
SOILS CONCENTRATION MAP
SWMU No. 10

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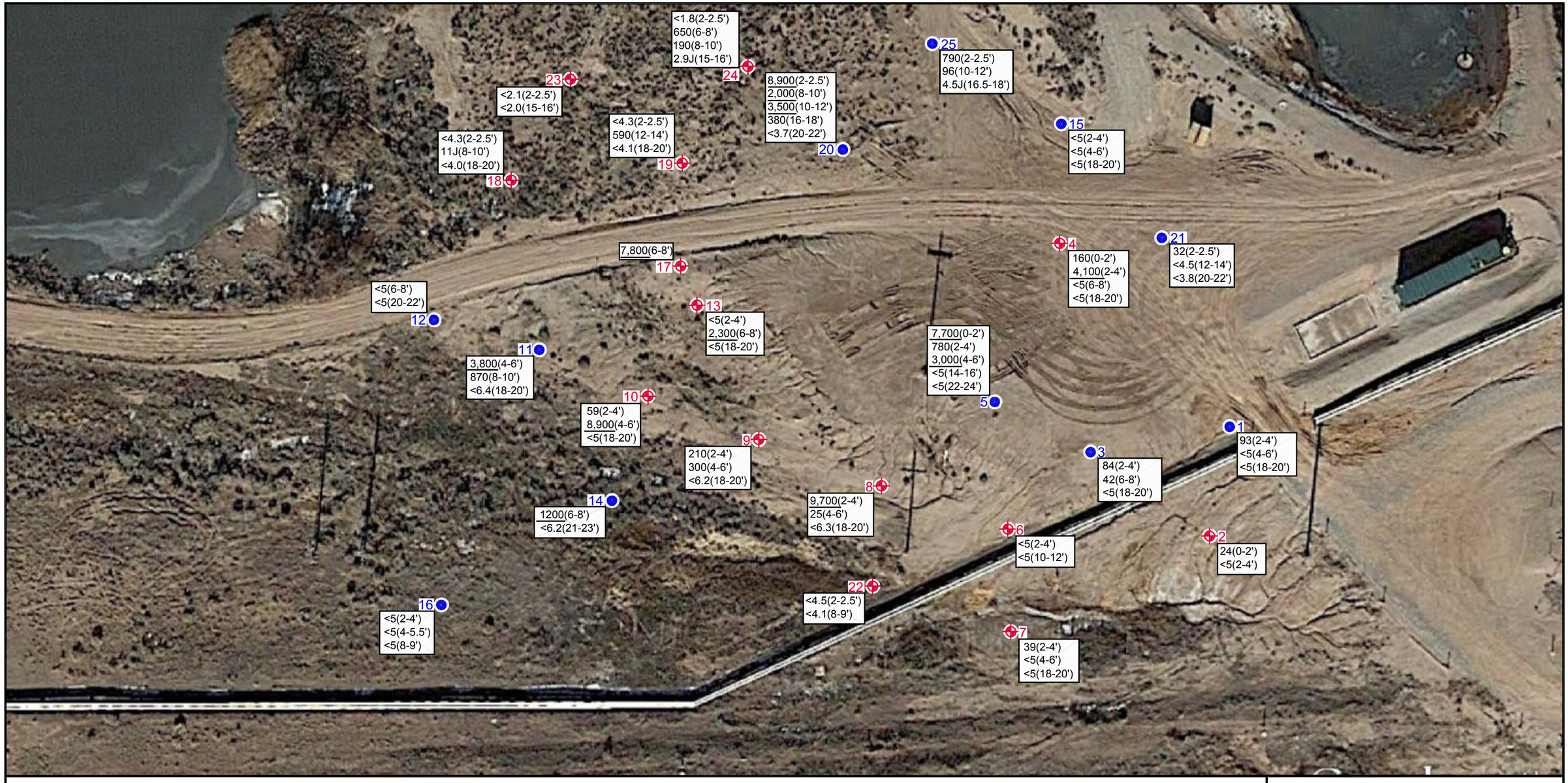
Suite 300
Austin, Texas 78759



Aerial Map Source: Google Map, 01/05/2014.

N

0 40
SCALE IN FEET

LEGEND

2	SOIL BORING LOCATION AND IDENTIFICATION NUMBER
1	SOIL BORING / TEMPORARY WELL LOCATION AND IDENTIFICATION NUMBER
160(0-2')	DIESEL RANGE ORGANICS CONCENTRATION, mg/kg (SAMPLE DEPTH-FT)
1,000	UNDERLINED CONCENTRATION VALUE EXCEEDS SCREENING LEVEL

GALLUP SITE LOCATION

Western Refining
GALLUP REFINERY

PROJ. NO.: Western Refining | DATE:08/05/16 | FILE:WestRef-dB73

FIGURE 22
DIESEL RANGE ORGANICS
SOILS CONCENTRATION MAP
SWMU No. 10

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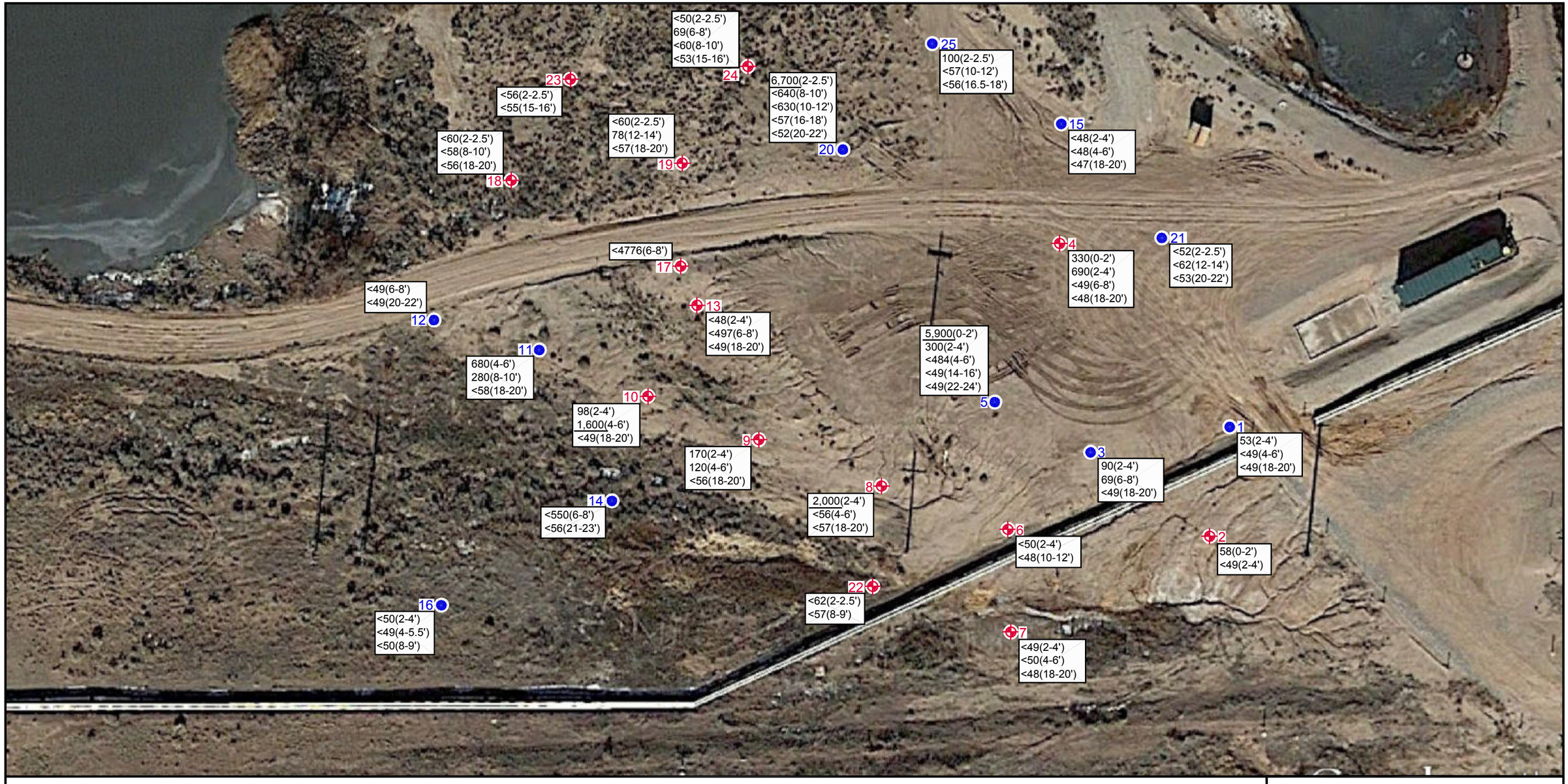

Aerial Map Source: Google Map, 01/05/2014.

0 40
SCALE IN FEET

LEGEND

2	SOIL BORING LOCATION AND IDENTIFICATION NUMBER
1	SOIL BORING / TEMPORARY WELL LOCATION AND IDENTIFICATION NUMBER
330(0-2')	MOTOR OIL RANGE ORGANICS CONCENTRATION, mg/kg (SAMPLE DEPTH-FT)
1,000	UNDERLINED CONCENTRATION VALUE EXCEEDS SCREENING LEVEL

NEW MEXICO

GALLUP SITE LOCATION

Western Refining
GALLUP REFINERY

PROJ. NO.: Western Refining | DATE:08/05/16 | FILE:WestRef-dB74

FIGURE 23
MOTOR OIL RANGE ORGANICS
SOILS CONCENTRATION MAP
SWMU No. 10

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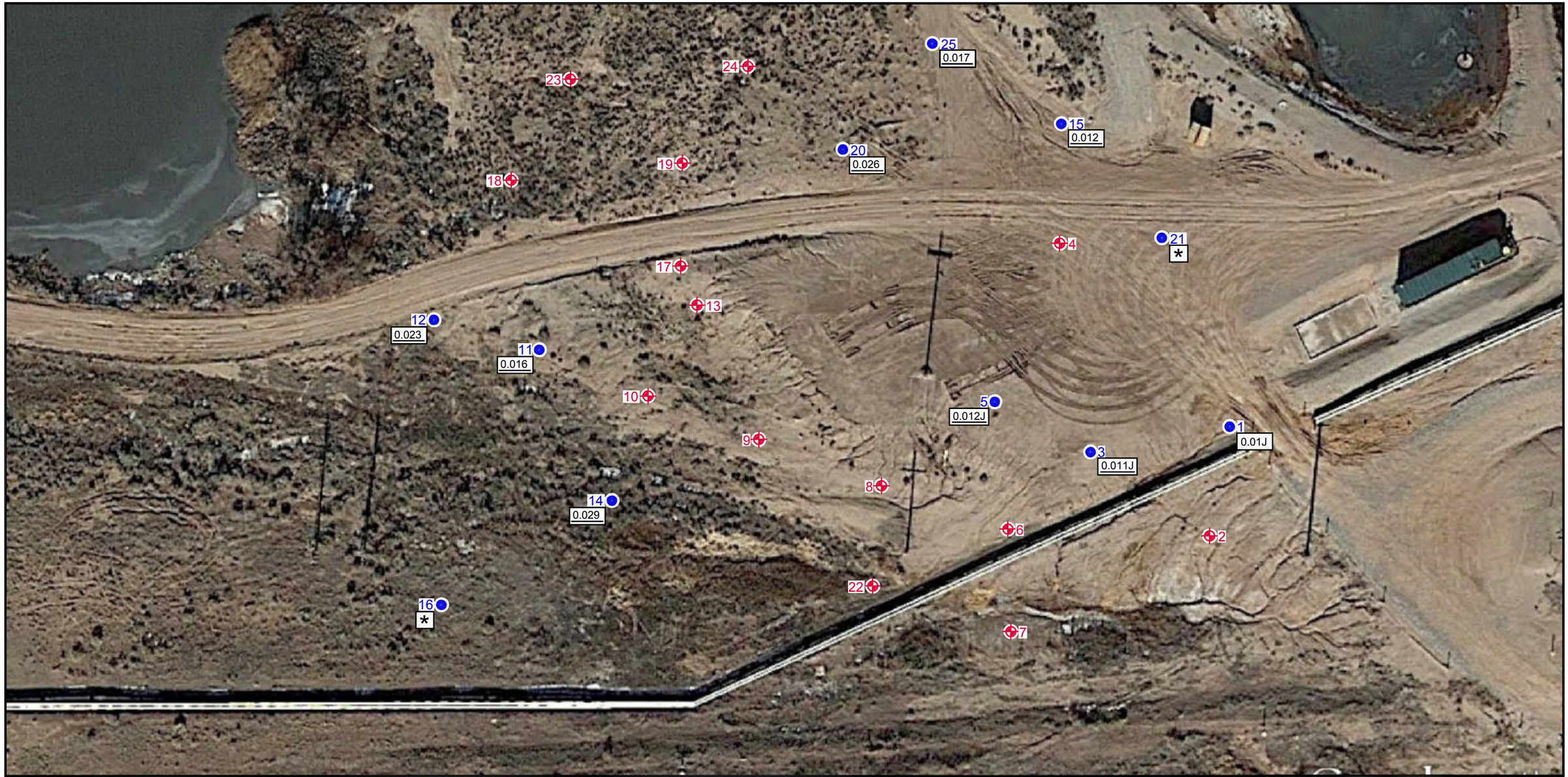

Aerial Map Source: Google Map, 01/05/2014.

LEGEND

2	SOIL BORING LOCATION AND IDENTIFICATION NUMBER
1	SOIL BORING / TEMPORARY WELL LOCATION AND IDENTIFICATION NUMBER
0.016	ARSENIC CONCENTRATION, mg/l
0.01	UNDERLINED CONCENTRATION VALUE EXCEEDS SCREENING LEVEL
*	NOT SUFFICIENT WATER VOLUME FOR ANALYSIS

N

0 40
SCALE IN FEET

NEW MEXICO
GALLUP SITE LOCATION

Western Refining
GALLUP REFINERY

PROJ. NO.: Western Refining | DATE:08/07/16 | FILE:WestRef-dB80

FIGURE 24
ARSENIC
GROUNDWATER CONCENTRATION MAP
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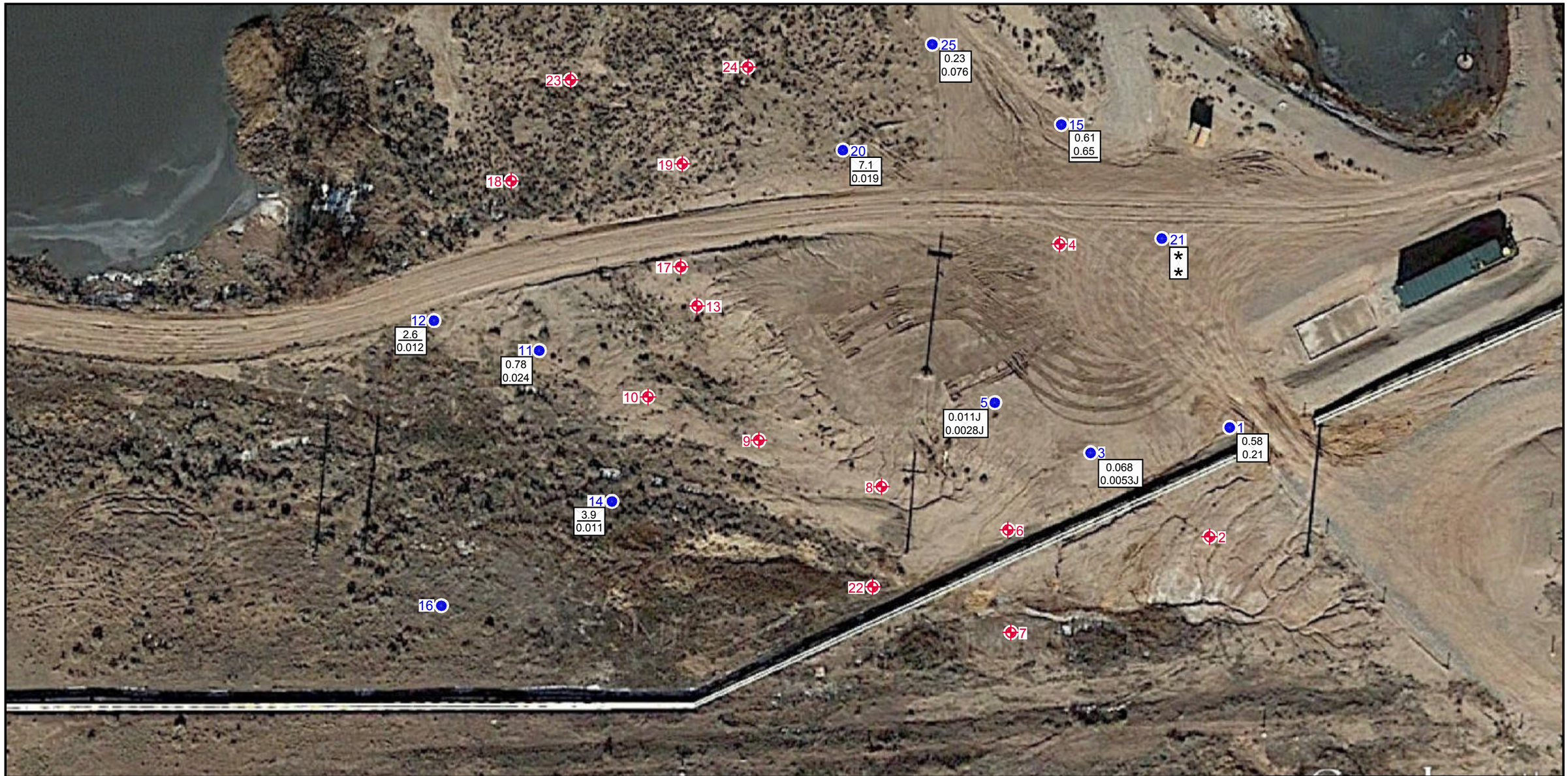

Aerial Map Source: Google Map, 01/05/2014.

LEGEND

2 ⊕	SOIL BORING LOCATION AND IDENTIFICATION NUMBER
1 ●	SOIL BORING / TEMPORARY WELL LOCATION AND IDENTIFICATION NUMBER
2.6 / 0.012	DISSOLVED IRON CONCENTRATION, mg/l DISSOLVED NICKEL CONCENTRATION, mg/l
1.0	IRON - UNDERLINED CONCENTRATION VALUE EXCEEDS SCREENING LEVEL
0.372	NICKEL - UNDERLINED CONCENTRATION VALUE EXCEEDS SCREENING LEVEL
*	NOT SUFFICIENT WATER VOLUME FOR ANALYSIS

N

0 40

SCALE IN FEET

GALLUP SITE LOCATION

Western Refining
GALLUP REFINERY

PROJ. NO.: Western Refining | DATE:08/07/16 | FILE:WestRef-dB89

FIGURE 25
IRON & NICKEL
GROUNDWATER CONCENTRATION MAP
SWMU No. 10

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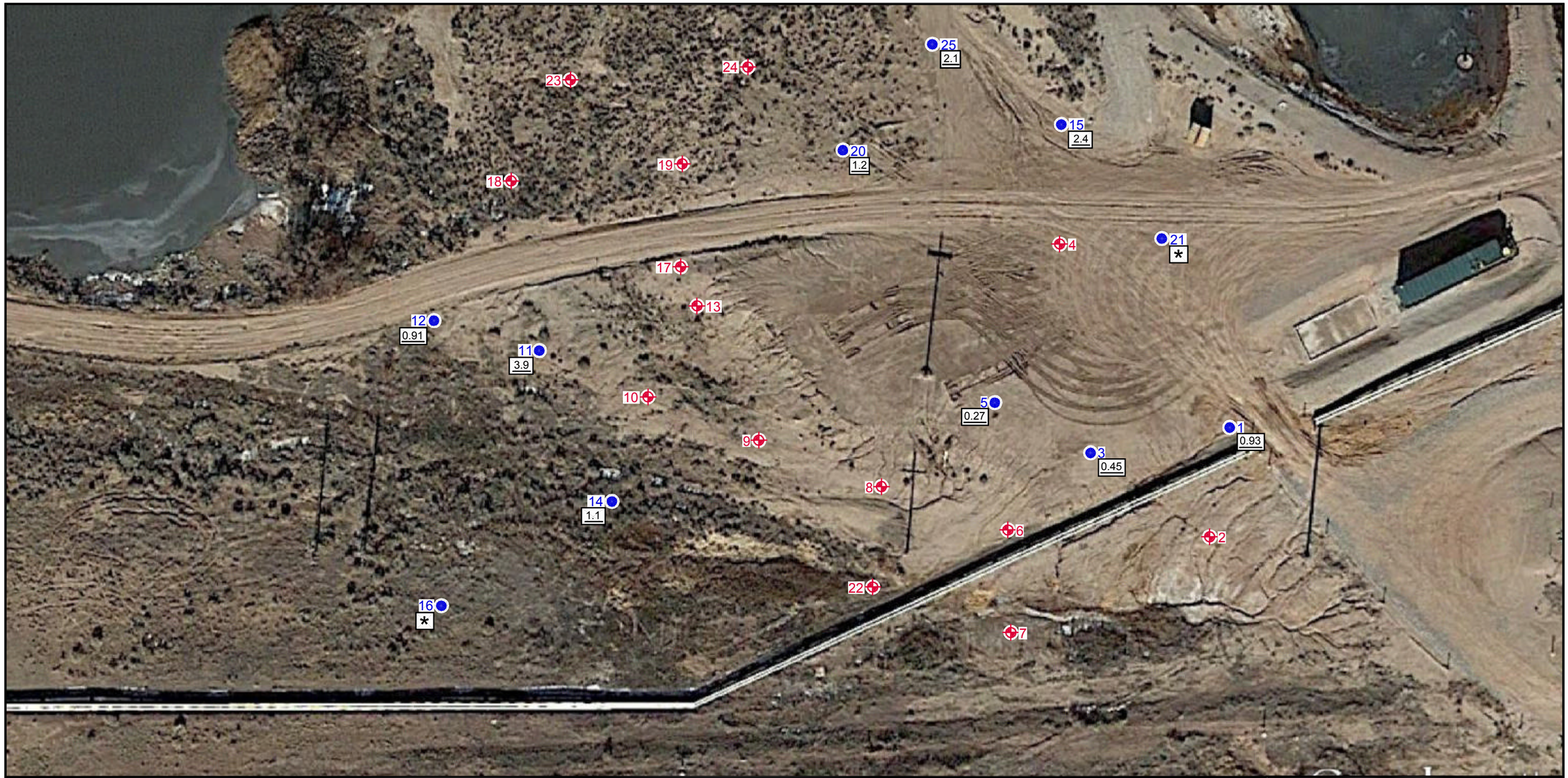

Aerial Map Source: Google Map, 01/05/2014.

LEGEND

2	SOIL BORING LOCATION AND IDENTIFICATION NUMBER
1	SOIL BORING / TEMPORARY WELL LOCATION AND IDENTIFICATION NUMBER
0.91	MANGANESE (DISSLOVED) CONCENTRATION, mg/l
0.2	UNDERLINED CONCENTRATION VALUE EXCEEDS SCREENING LEVEL
*	NOT SUFFICIENT WATER VOLUME FOR ANALYSIS

N

0 40

SCALE IN FEET

NEW MEXICO

GALLUP SITE LOCATION

Western Refining
GALLUP REFINERY

PROJ. NO.: Western Refining | DATE:08/07/16 | FILE:WestRef-dB81

FIGURE 26
MANGANESE (DISSOLVED)
GROUNDWATER CONCENTRATION MAP
SWMU No. 10

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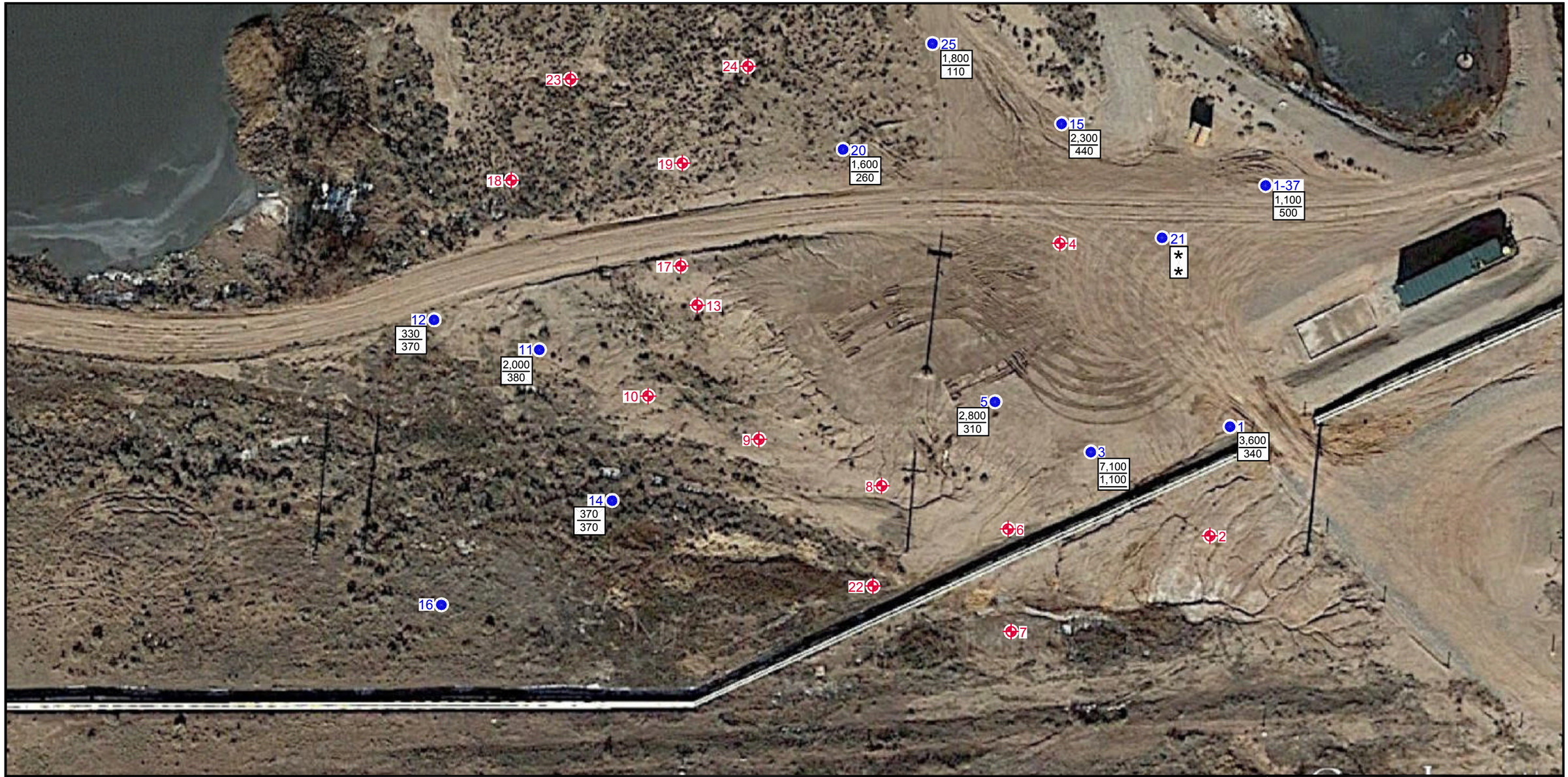

Aerial Map Source: Google Map, 01/05/2014.

LEGEND

2	SOIL BORING LOCATION AND IDENTIFICATION NUMBER
1	SOIL BORING / TEMPORARY WELL LOCATION AND IDENTIFICATION NUMBER
330 / 370	CHLORIDE CONCENTRATION, mg/l / SULFATE CONCENTRATION, mg/l
250	CHLORIDE - UNDERLINED CONCENTRATION VALUE EXCEEDS SCREENING LEVEL
600	SULFATE - UNDERLINED CONCENTRATION VALUE EXCEEDS SCREENING LEVEL
*	NOT SUFFICIENT WATER VOLUME FOR ANALYSIS

N

0 40

SCALE IN FEET

GALLUP SITE LOCATION

Western Refining
GALLUP REFINERY

PROJ. NO.: Western Refining | DATE: 08/22/16 | FILE: WestRef-dB90

FIGURE 27
CHLORIDE & SULFATE
GROUNDWATER CONCENTRATION MAP
SWMU No. 10

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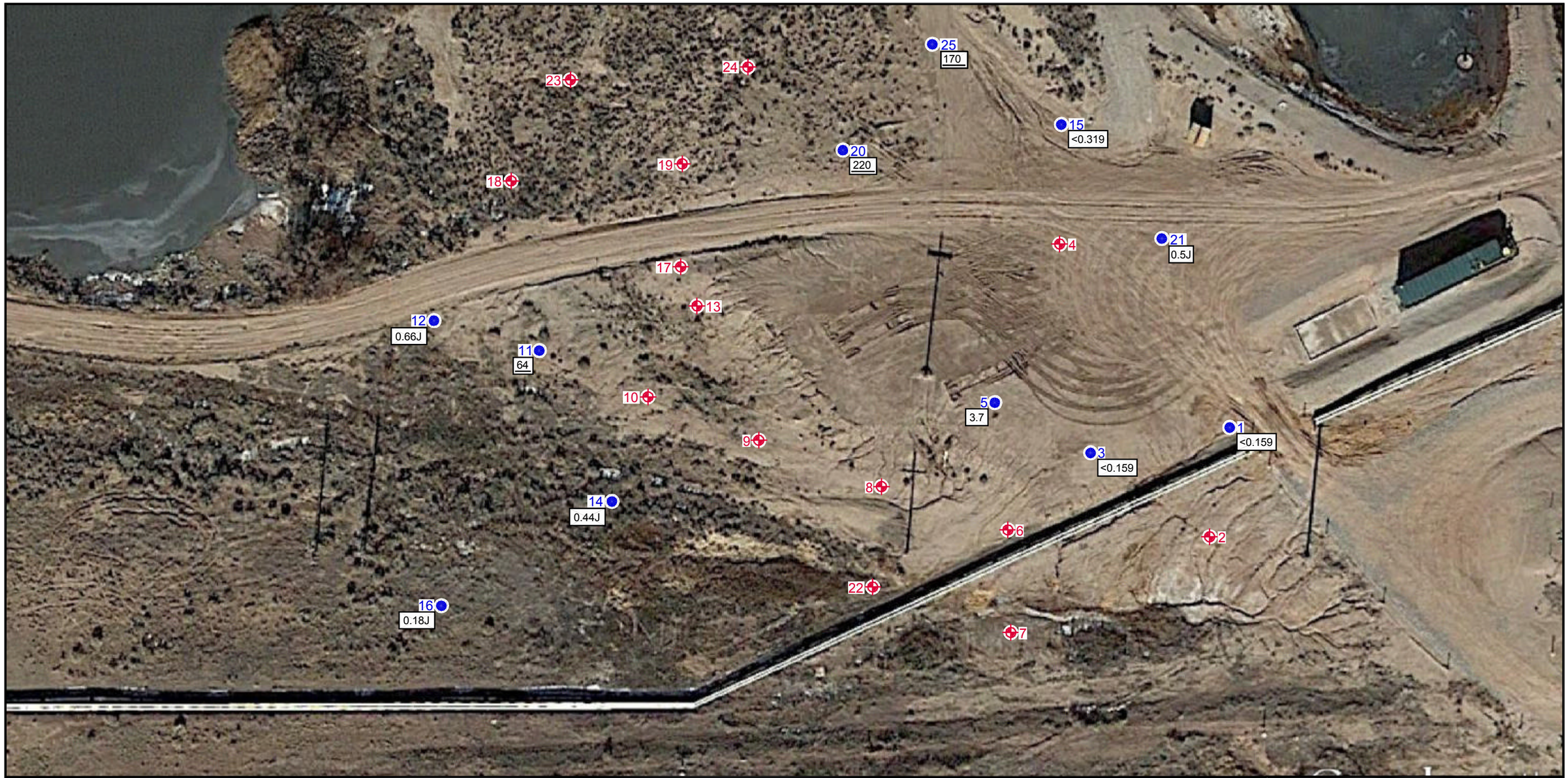

Aerial Map Source: Google Map, 01/05/2014.

N

0 40
SCALE IN FEET

LEGEND

2	SOIL BORING LOCATION AND IDENTIFICATION NUMBER
1	SOIL BORING / TEMPORARY WELL LOCATION AND IDENTIFICATION NUMBER
0.44	1,2,4-TRIMETHYLBENZENE CONCENTRATION, µg/l
15.0	UNDERLINED CONCENTRATION VALUE EXCEEDS SCREENING LEVEL

GALLUP SITE LOCATION

Western Refining
GALLUP REFINERY

PROJ. NO.: Western Refining | DATE:08/07/16 | FILE:WestRef-dB82

FIGURE 28
1,2,4-TRIMETHYLBENZENE
GROUNDWATER CONCENTRATION MAP
SWMU No. 10

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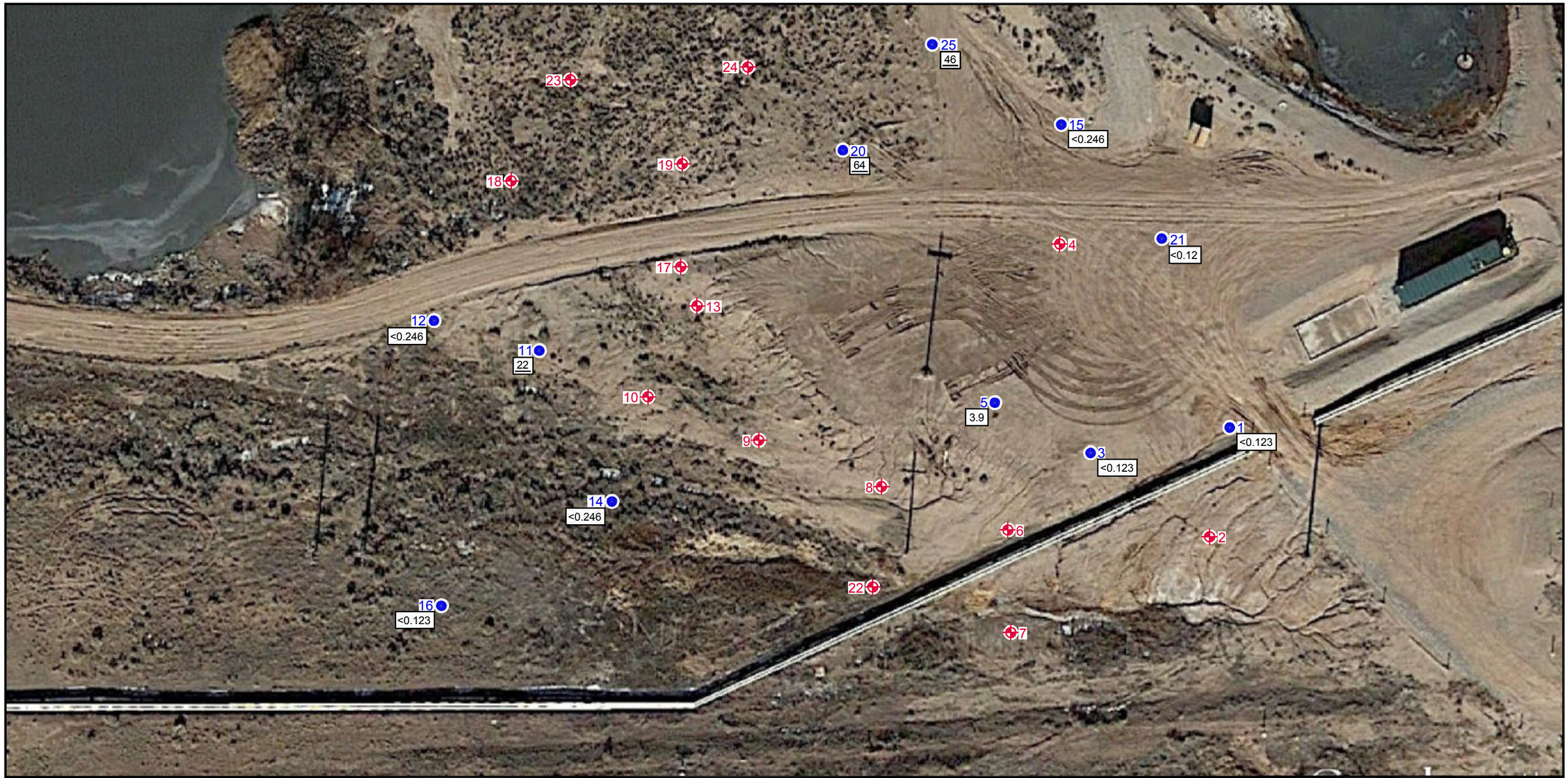

Aerial Map Source: Google Map, 01/05/2014.

0 40
SCALE IN FEET

LEGEND

2	SOIL BORING LOCATION AND IDENTIFICATION NUMBER
1	SOIL BORING / TEMPORARY WELL LOCATION AND IDENTIFICATION NUMBER
3.9	1,3,5-TRIMETHYLBENZENE CONCENTRATION, µg/l
12	UNDERLINED CONCENTRATION VALUE EXCEEDS SCREENING LEVEL

GALLUP SITE LOCATION

Western Refining
GALLUP REFINERY

PROJ. NO.: Western Refining | DATE:08/07/16 | FILE:WestRef-dB83

FIGURE 29
1,3,5-TRIMETHYLBENZENE
GROUNDWATER CONCENTRATION MAP
SWMU No. 10

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Aerial Map Source: Google Map, 01/05/2014.

0 40
SCALE IN FEET

LEGEND

2	SOIL BORING LOCATION AND IDENTIFICATION NUMBER
1	SOIL BORING / TEMPORARY WELL LOCATION AND IDENTIFICATION NUMBER
3.1	1-METHYLNAPHTHALENE CONCENTRATION, µg/l
11	UNDERLINED CONCENTRATION VALUE EXCEEDS SCREENING LEVEL

NEW MEXICO

GALLUP SITE LOCATION

Western Refining
GALLUP REFINERY

PROJ. NO.: Western Refining | DATE:08/08/16 | FILE:WestRef-dB84

FIGURE 30
1-METHYLNAPHTHALENE GROUNDWATER CONCENTRATION MAP SWMU No. 10

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Aerial Map Source: Google Map, 01/05/2014.

0 40
SCALE IN FEET

LEGEND

2	SOIL BORING LOCATION AND IDENTIFICATION NUMBER
1	SOIL BORING / TEMPORARY WELL LOCATION AND IDENTIFICATION NUMBER
3.8	2-METHYLNAPHTHALENE CONCENTRATION, µg/l
36	UNDERLINED CONCENTRATION VALUE EXCEEDS SCREENING LEVEL

NEW MEXICO

GALLUP SITE LOCATION

Western Refining
GALLUP REFINERY

PROJ. NO.: Western Refining | DATE:08/08/16 | FILE:WestRef-dB85

FIGURE 31
2-METHYLNAPHTHALENE
GROUNDWATER CONCENTRATION MAP
SWMU No. 10

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Austin, Texas 78759

Aerial Map Source: Google Map, 01/05/2014.

LEGEND

2	SOIL BORING LOCATION AND IDENTIFICATION NUMBER
1	SOIL BORING / TEMPORARY WELL LOCATION AND IDENTIFICATION NUMBER
2.5	BENZENE CONCENTRATION, µg/l
5.0	UNDERLINED CONCENTRATION VALUE EXCEEDS SCREENING LEVEL

0 40
SCALE IN FEET

NEW MEXICO
GALLUP SITE LOCATION

Western Refining
GALLUP REFINERY

PROJ. NO.: Western Refining | DATE:08/08/16 | FILE:WestRef-dB86

FIGURE 32
BENZENE
GROUNDWATER CONCENTRATION MAP
SWMU No. 10

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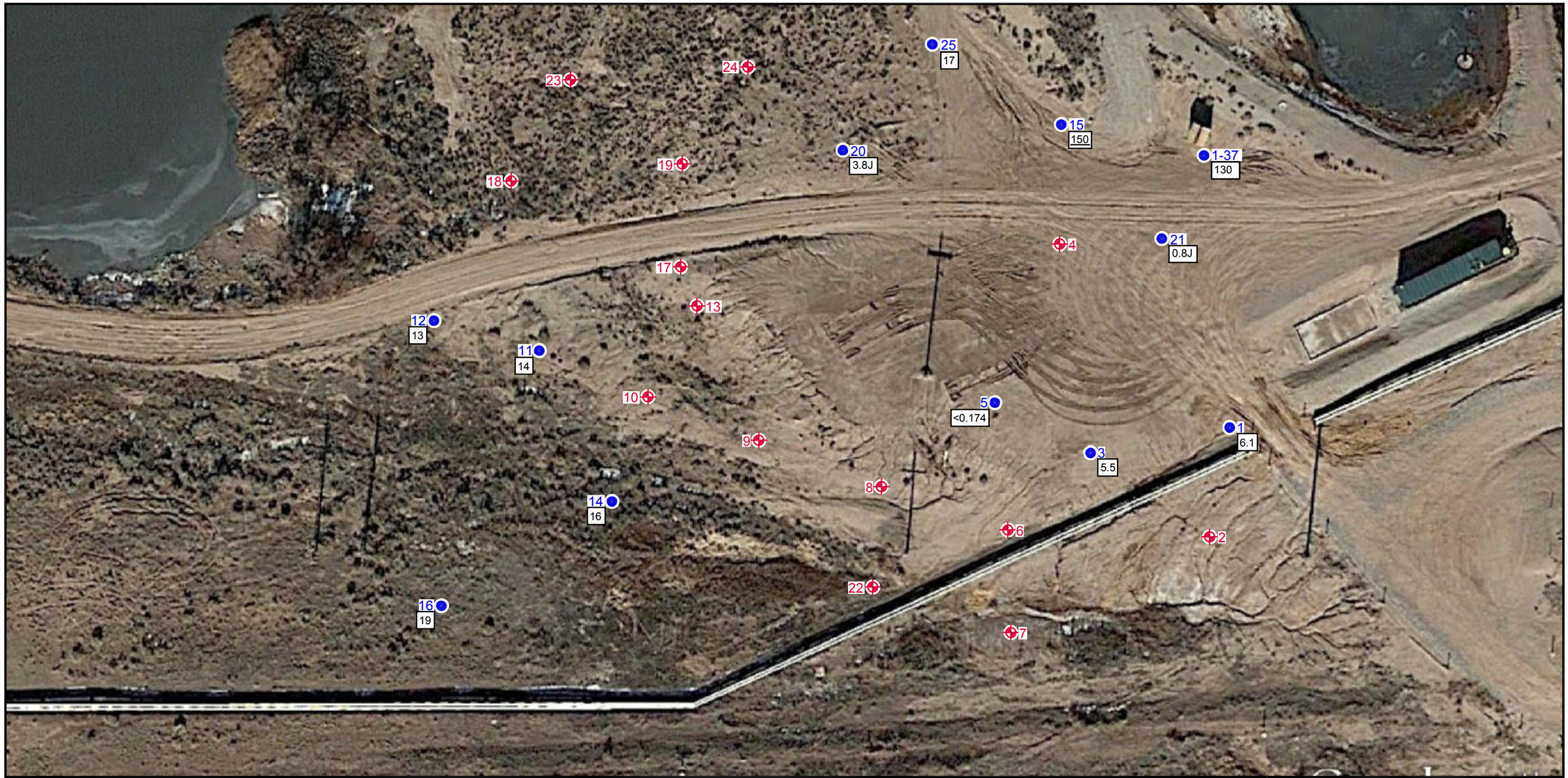

Aerial Map Source: Google Map, 01/05/2014.

N

0 40

SCALE IN FEET

LEGEND

2	SOIL BORING LOCATION AND IDENTIFICATION NUMBER
1	SOIL BORING / TEMPORARY WELL LOCATION AND IDENTIFICATION NUMBER
16	MTBE CONCENTRATION, µg/l
143	UNDERLINED CONCENTRATION VALUE EXCEEDS SCREENING LEVEL

GALLUP SITE LOCATION

Western Refining
GALLUP REFINERY

PROJ. NO.: Western Refining | DATE:08/08/16 | FILE:WestRef-dB87

FIGURE 33
MTBE
GROUNDWATER CONCENTRATION MAP
SWMU No. 10

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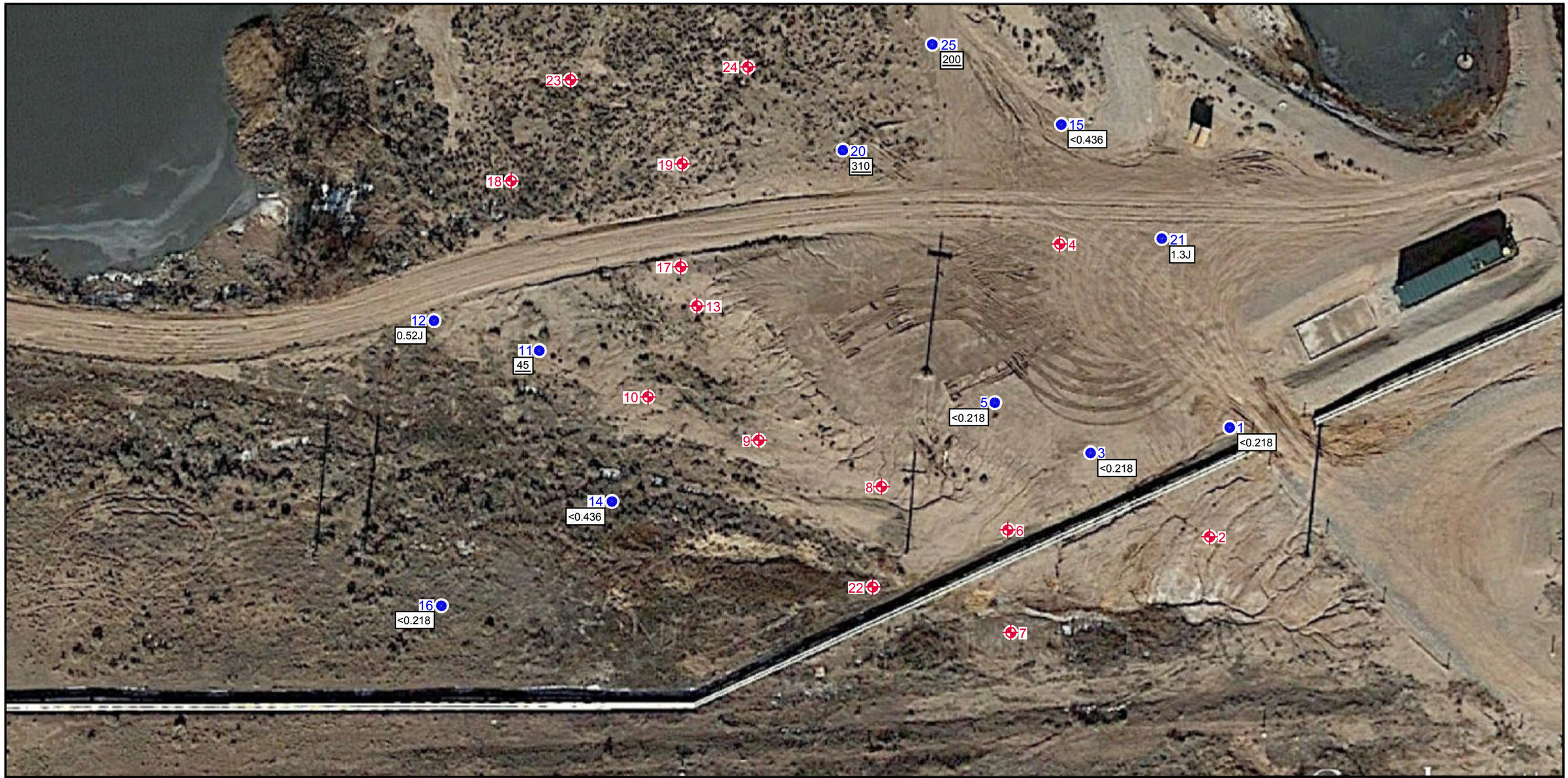

Aerial Map Source: Google Map, 01/05/2014.

0 40
SCALE IN FEET

LEGEND

2	SOIL BORING LOCATION AND IDENTIFICATION NUMBER
1	SOIL BORING / TEMPORARY WELL LOCATION AND IDENTIFICATION NUMBER
45	NAPHTHALENE CONCENTRATION, µg/l
1.65	UNDERLINED CONCENTRATION VALUE EXCEEDS SCREENING LEVEL

NEW MEXICO

GALLUP SITE LOCATION

Western Refining
GALLUP REFINERY

PROJ. NO.: Western Refining | DATE:08/08/16 | FILE:WestRef-dB88

FIGURE 34
NAPHTHALENE GROUNDWATER CONCENTRATION MAP SWMU No. 10

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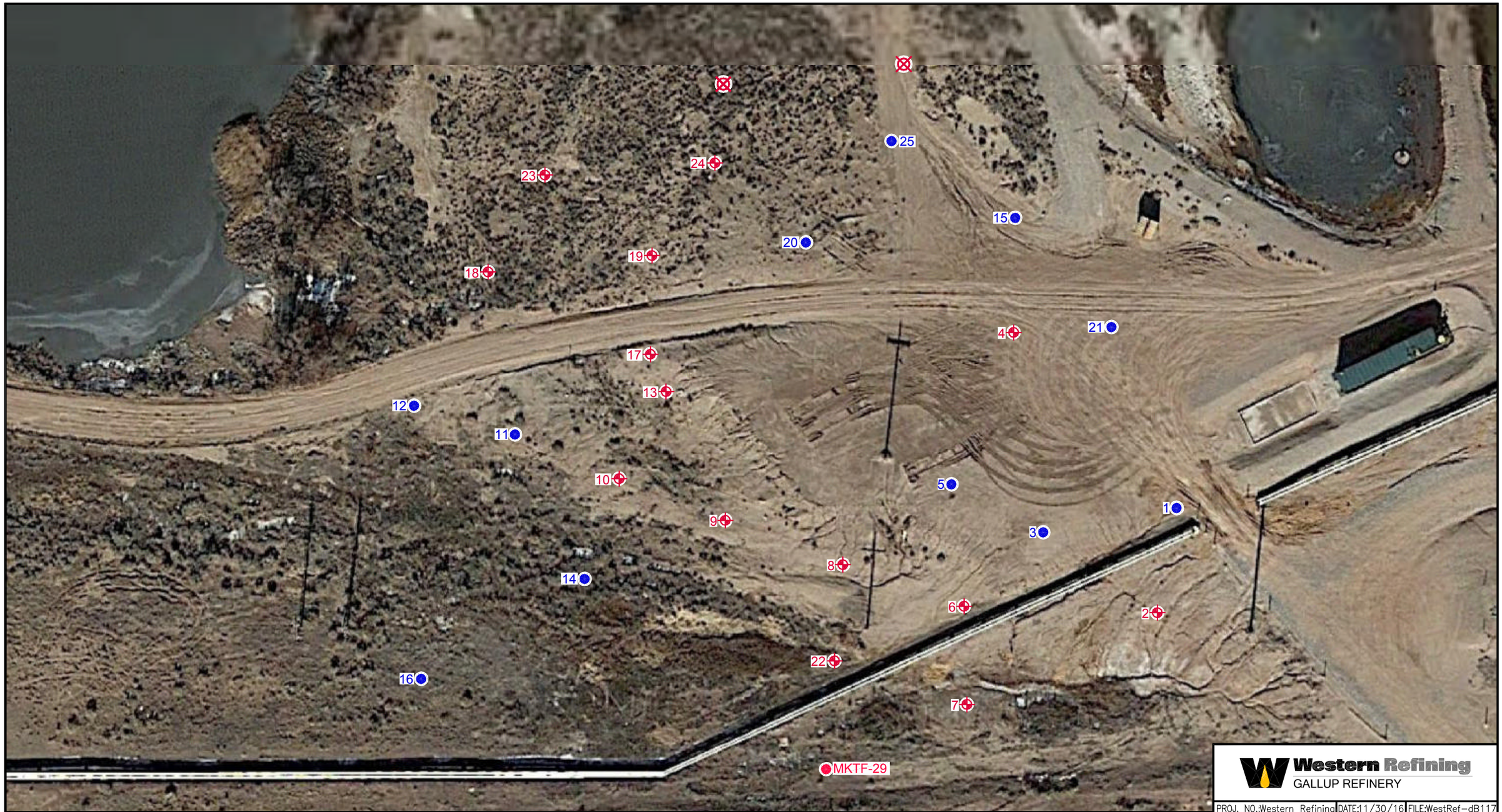

Aerial Map Source: Google Map, 01/05/2014.

0 40
SCALE IN FEET

LEGEND

- PROPOSED SOIL BORING LOCATION
- 2 — SOIL BORING LOCATION AND IDENTIFICATION NUMBER
- 1 — SOIL BORING / TEMPORARY WELL LOCATION AND IDENTIFICATION NUMBER
- MKTF-29 — MONITORING WELL LOCATION (PERMANENT WELL) AND IDENTIFICATION NUMBER

NEW MEXICO

GALLUP SITE LOCATION

Western Refining
GALLUP REFINERY

PROJ. NO.:Western Refining | DATE:11/30/16 | FILE:WestRef-dB117

FIGURE 35
PROPOSED SOIL BORING MAP
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