

AP - 111

SWMUs No. 1 (Aeration
Basin) & No. 14 (Old API
Separator)

Investigation Report (1)

August 2015



SUSANA MARTINEZ
Governor

JOHN A. SANCHEZ
Lt. Governor

NEW MEXICO
ENVIRONMENT DEPARTMENT

2905 Rodeo Park Drive East, Building 1
Santa Fe, New Mexico 87505-6303
Phone (505) 476-6000 Fax (505) 476-6030
www.env.nm.gov



BUTCH TONGATE
Cabinet Secretary - Designate

J. C. BORREGO
Deputy Secretary

CERTIFIED MAIL – RETURN RECEIPT REQUESTED

January 24, 2017

Mr. Ed Riege
Remediation Manager
Western Refining, Southwest Inc., Gallup Refinery
92 Giant Crossing Road
Gallup, New Mexico 87301

**RE: DISAPPROVAL
INVESTIGATION WORK PLAN
SOLID WASTE MANAGEMENT UNIT (SWMU) NO. 1 AERATION BASIN AND
SWMU NO. 14 OLD API SEPARATOR
WESTERN REFINING SOUTHWEST INC., GALLUP REFINERY
EPA ID # NMD000333211
HWB-WRG-14-005**

Dear Mr. Riege:

The New Mexico Environment Department (NMED) has received the *Investigation Work Plan Solid Waste Management Unit (SWMU) No. 1 Aeration Basin and SWMU No. 14 Old API Separator* (Work Plan), dated July 2015 and submitted on behalf of Western Refining Southwest Inc., Gallup Refinery (Permittee) regarding proposed additional investigation at the SWMUs. NMED delayed review of the Work Plan, because review of the Permittee's revised *Investigation Report Solid Waste Management Unit (SWMU) No. 1 Aeration Basin and SWMU No. 14 Old API Separator* (Report), revised June 2014 and August 2015 and re-submitted April 26, 2016, had not been completed. NMED finalized review of the revised Report and hereby issues this Disapproval. The field investigation proposed in the Work Plan does not appear to adequately address soil and groundwater contamination delineation at either the Aeration Basin or the OAPIS; the Permittee must address the following comments.

Comment 1

The comments below are related to the proposed boring locations. In the Executive Summary, final paragraph, page 1, the Permittee states, “[t]his earlier investigation, which was conducted July 16, 2012 through October 16, 2012, was successful in characterizing the nature of the impacts, but did not fully delineate the extent in all areas. The investigation activities proposed in this work plan, which include sampling of soils and groundwater surrounding the Aeration Basin and the Old API Separator, are intended to complete the delineation of impacted environmental media.”

- a) The field work proposed in the Work Plan does not appear to address contamination related to the operation of the Old API Separator (OAPIS) and the Aeration Basin. Furthermore, the extent of soil contamination has not been vertically delineated at either of the SWMUs and the proposed soil locations will not provide this information. However, the proposed locations will provide further delineation for contamination that may not be related to the units. For example, the Permittee proposes to install a soil boring “[n]orth of soil borings SWMU 1-6 and SWMU 1-28 to define the northern extent of benzene found in soils at a depth of 1.5 – 2.0 feet;” The proposed location is approximately 25 feet north of those boring locations. Soil samples collected from boring 1-28 contained a concentration of 2.53 mg/kg benzene at the depth of 1.5-2.0 feet bgs, which was the total depth of the boring. Soil boring 1-6 was completed to a depth of 12 feet bgs and benzene was not detected in the soil sample or in the groundwater sample. Soil boring 1-6 and 1-28 are approximately 12 feet distant from each other. The elevated benzene concentration in boring 1-28 may be related to releases from the Aeration Basin or may be possibly related to historic releases from the New API Separator or another unit; it seems anomalous to have a benzene concentration at that depth north of EP-1. Installation of a soil boring/temporary well approximately 25 feet north of soil boring 1-6 and 1-28 may not provide data that will be useful in determining the extent of contamination. Similarly, the proposed soil boring location “[e]ast of SWMU 14-23, which had benzene detected at a depth of 12 – 14 feet bgs” may be related to releases upgradient of the OAPIS rather than from the OAPIS. Another example, the proposed soil boring/temporary, “[s]outhwest of SWMU 1-37, where manganese, nickel, MTBE, and DRO were observed at concentrations above the screening levels” is approximately 100 feet from the southwest edge of AL-2. It seems likely that contaminants in the groundwater at this location are not from the Aeration Basin or the OAPIS. The Permittee may delineate the horizontal impacts as proposed, but to fully characterize the sites the Permittee must determine the vertical extent as well.
- b) The Permittee proposes to install a soil boring with a temporary well approximately 20 feet north of groundwater monitoring well OAPIS-1. Analytical results from OAPIS-1 demonstrate that groundwater is affected by benzene, methyl tert-butyl ether (MTBE), diesel range organics (DRO), 1-Methyl naphthalene, and several metals above the groundwater standards. A hand auger sample (1-12) was collected just north of OAPIS-1, near the proposed sampling location, to a total depth of 1 foot below the ground surface (stopped due to refusal in gravel). The analytical detections of contaminants

demonstrate some impacts but no results were above the soil screening levels (SSLs). There is likely an upgradient source for the contaminants in groundwater samples from OAPIS-1. Investigation upgradient from the OAPIS is more appropriate than investigating the 40 feet between the former benzene strippers and the Aeration Basin. In the revised Work Plan discuss the rationale for the selection of this location and/or propose a more appropriate location for the boring/temporary well.

- c) The results of the investigation at the OAPIS demonstrate impacts directly beneath the OAPIS. Three hand auger borings (14-12, 14-13, and 14-14) were installed in the footprint of the OAPIS. The total depth of the hand auger borings were 2 feet bgs. Three hand auger borings (14-15, 14-16, 14-17) to a total depth of 2 feet bgs were also installed along the southern boundary of OAPIS and also demonstrate impacts to soils. Soil analytical results demonstrate increasing concentrations at depth. Further horizontal delineation of soil impacts is required. The Permittee must propose to install additional soil borings at the OAPIS.
- d) In the Investigation Report (revision, dated August 2015) the Permittee asserted that further investigation of the area between the OAPIS and the Aeration Basin was not warranted; however, several boring locations between the OAPIS and the Aeration Basin are proposed in the Work Plan. In the revised Work Plan discuss the reasons why this area is being investigated, if the Permittee does not think additional data in this area is necessary.

The Permittee states in Section 4 (Scope of Services) that “[t]he site investigation of soils and groundwater will be conducted to facilitate the remedy selection and final design process.” It does not appear that the proposed soil boring locations will facilitate either goal. The Permittee must re-evaluate the proposed soil boring locations and propose to install additional soil borings in more appropriate locations in the revised Work Plan.

Comment 2

In Section 2.1.1 (Operational History), page 5, the Permittee states, “Western recently completed construction of a new wastewater treatment plant that replaces the Aeration Basin. In April 2012, wastewater flows from the refinery were redirected to the new wastewater treatment plant. The Aeration Basin continued to receive wastewater from the nearby Pilot Travel Center until June 2013, when all wastewater flows were directed to the new wastewater treatment plant.” The wastewater treatment plant did not replace the Aeration Basin. New pond, STP-1, replaced the Aeration Basin. There appears to be similar errors throughout the Work Plan, for example on page 6, third full paragraph, the Permittee states, “[i]n 2008 GWM-1 was sampled on July 10 and results are submitted to NMED annually.” Another example, in Section 2.3.3 (Historical Site Investigation) regarding the OAPIS the Permittee states, “[t]here were no documented historical releases from the OAPIS with the aforementioned noted exception of the identification of some surface soils with hydrocarbon stains around the sides of the unit.” This statement is not accurate as illustrated by the list of releases discussed in Section 2.1.2 (Prior Maintenance

Activities) regarding the Aeration Basin. Ensure that submittals are edited for accuracy. Revise the Work Plan to accurately state the available facts.

Comment 3

In Section 2.1.3 (Historical Site Investigations) the Permittee discusses the sediment sampling conducted within the Aeration Basin ponds in 2008. The sediment sampling was useful in characterizing the sludge; however, sampling did not reach depths below the base of the Aeration Basin ponds or sample native soil beneath the ponds. Therefore, the vertical extent of contamination at the Aeration Basin has not been defined. The Permittee stated in the past that sampling through the base of the Aeration Basin will cause a conduit for contamination to reach groundwater; however, groundwater is already contaminated from the Aeration Basin and also is present in the Aeration Basin. Any proposed remedy that includes removal of the sludges from the Aeration Basin must include confirmation sampling to demonstrate that all soil contamination above soil screening limits at the base of the Aeration Basin is addressed. Samples must be collected from the base of the unit as well as five feet below the base of the unit. Soil samples also must be collected to determine the horizontal extent of potential contaminants. Revise the Work Plan to propose installation of borings to determine the vertical and horizontal extent of contamination.

Comment 4

In Section 4.1.1 (Soil Sample Field Screening and Logging) the Permittee states, “[d]iscrete soil samples will be retained for laboratory analyses from within the following intervals:

- 0-6” (at soil borings with evidence of significant impacts near the land surface);
- 18-24” (at soil borings with evidence of significant impacts near the land surface);
- 24” (from the interval in each soil boring with the greatest apparent degree of contamination, based on field observations and field screening);
- From the same depth / lithologic interval(s) in which impacts were present above screening levels in the adjacent soil borings completed in 2012 (Appendix C);
- From the bottom of each borehole (all soil borings);
- From the 6” interval at the top of saturation (applicable only to borings that reach saturation); and
- Any additional intervals as determined based on field screening results.

The description of “significant impacts” used above cannot be quantified, but rather may involve a combination of factors (e.g., PID readings elevated above background readings, visible hydrocarbons stains, and/or strong hydrocarbon odors).” Field screening for collection of soil samples is helpful when deciding whether or not to collect a soil sample. However, the Permittee used a similar sampling scheme for the Phase I investigation which resulted in several data gaps. For example: surface soil samples were collected to a total depth of 0-0.5 feet from seven hand auger borings along the eastern edge of the Aeration Basin. A soil boring (1-7) was installed and soil samples were collected from 12 to 18 feet below the ground surface leaving a data gap along the eastern edge of the Aeration Basin from 0.5 feet to 12 feet bgs. As observed with soil boring 1-28, where the 2.53 mg/kg benzene concentration from the 1.5-2’ sample, field observations are not always good indicators for the presence of soil contamination. The description of the soil

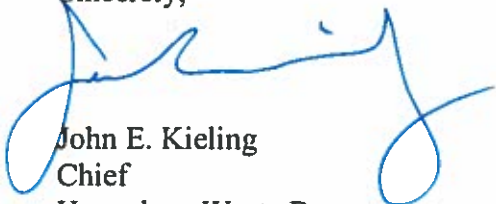
Ed Riege
Gallup Refinery
January 24, 2017
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investigation for soil boring 1-28 noted that no petroleum odors were observed and that the highest PID reading (4.8ppm) was observed at 2-4 ft bgs. In order to provide a more complete data set, the Permittee must collect soil samples in accordance with Permit Section IV.J.2.d.ii (Soil and Rock Sampling) and collect samples from the surface of all proposed boring locations as well as from 2.5-foot intervals and sample intervals where evidence of contamination (e.g., visual, olfactory) is observed.

The Permittee must submit a revised Work Plan. The submittal must include two bound paper copies and also an electronic copy that includes a redline-strikeout version of the Work Plan that shows where all changes have been made to the Work Plan. The revised Work Plan must be submitted on or before **June 30, 2017**.

If you have questions regarding this Disapproval, please contact Kristen Van Horn of my staff at 505-476-6046.

Sincerely,



John E. Kieling
Chief
Hazardous Waste Bureau

cc: D. Cobrain NMED HWB
K. Van Horn NMED HWB
C. Chavez OCD
A. Hains WRG
C. Johnson WRG
L. King EPA Region 6

File: Reading File and WRG 2017 File
HWB-WRG-14-005



SUSANA MARTINEZ
Governor

JOHN A. SANCHEZ
Lt. Governor

NEW MEXICO
ENVIRONMENT DEPARTMENT

2905 Rodeo Park Drive East, Building 1
Santa Fe, New Mexico 87505-6303
Phone (505) 476-6000 Fax (505) 476-6030
www.env.nm.gov



BUTCH TONGATE
Cabinet Secretary - Designate

J. C. BORREGO
Deputy Secretary

CERTIFIED MAIL – RETURN RECEIPT REQUESTED

January 11, 2017

Mr. Ed Riege
Remediation Manager
Western Refining, Southwest Inc., Gallup Refinery
92 Giant Crossing Road
Gallup, New Mexico 87301

**RE: APPROVAL
REVISED INVESTIGATION REPORT
SOLID WASTE MANAGEMENT UNIT (SWMU) NO. 1 AERATION BASIN AND
SWMU NO. 14 OLD API SEPARATOR
WESTERN REFINING SOUTHWEST INC., GALLUP REFINERY
EPA ID # NMD000333211
HWB-WRG-13-001**

Dear Mr. Riege:

The New Mexico Environment Department (NMED) has received the revised *Investigation Report Solid Waste Management Unit (SWMU) No. 1 Aeration Basin and SWMU No. 14 Old API Separator* (Report) revised June 2014 and August 2015 and submitted on April 26, 2016 on behalf of Western Refining Southwest Inc., Gallup Refinery (Permittee). The Permittee's response to NMED's March 17, 2016 Rejection letter is adequate. NMED hereby issues this Approval with the following comments and clarifications.

NMED also received the Permittee's *Investigation Work Plan Solid Waste Management Unit (SWMU) No. 1 Aeration Basin and SWMU No. 14 Old API Separator* (Work Plan), dated July 2015 regarding proposed additional investigations at the SWMUs. NMED's comments regarding this Report should be addressed during further investigations in order to define the extent of contamination at the SWMUs. NMED's review and comments regarding the Work Plan are pending.

NMED's comments are separated into three sections regarding the April 1, 2014 Disapproval, the May 11, 2014 Disapproval, and the revised Report.

Permittee Response (August 24, 2015) to NMED Response (May 11, 2015) to Permittee Response to April 1, 2014 Disapproval Comments

Permittee Response to NMED Comment 2a

The Permittee's response to NMED's Comment 2a states "Western appreciates the clarification regarding use of DAFs. Our experience has clearly shown that groundwater impacts are associated with primary sources (e.g., leaking tanks or pipelines) and not minor secondary sources (e.g., stained soils with low concentrations of petroleum hydrocarbons, even well above DAF 20 values)." Soil DAF values are meant to assess the risk over time of contaminants present in soils to migrate to groundwater, so while groundwater may not immediately be affected by soils containing contaminant concentrations well above the DAF 20, the risk exists that the contamination may, over time, reach groundwater. At this point, because groundwater is already affected by contaminants, calculation and discussion of DAF is not necessary. No revision is required.

Permittee Response to NMED Comment 2b

The Permittee's response states, "Western notes that the report refers to 'vertical impacts to soil.' Although Western does not accept NMED's observation that 'hazardous waste has been in direct contact with groundwater,' both the Aeration Basin and OAPIS have contained waste materials that was in direct contact with refinery wastewater and Western believes this 'impacted' water transported contaminants vertically through soils in some locations. A review of the soil borings for SWMU 1 and SWMU 14 does not indicate any of the soil borings encountered waste materials." There appears to be a typographical error and the intent of NMED's comment was to refer to hazardous waste constituents rather than waste itself. The Permittee's response regarding the vertical impacts to soils is accurate.

Permittee Response to NMED Comments 2c and 8d

NMED's Response to Comments, Comment 2c related to the Permittee's risk assessment states, "[t]he results obtained from the screening analysis (risks for soil under a residential scenario at 1×10^{-3} exceed NMED target risk of 1×10^{-5} using DAF=461 while the hazard index is 1.5; for groundwater, the risk is again above 1×10^{-3} and the hazard index is 910) indicate the SWMUs must be further evaluated (potentially, with a more detailed, site-specific risk assessment) and/or that remediation of soil and groundwater is necessary. The Permittee may calculate separate DAFs for each SWMU to aid in the assessment of soil contamination. In addition to calculating separate site-specific DAFs, the Permittee may want to perform a screening analysis of the sediments in the Aeration Basin." The Permittee's response to NMED's Comment 2c states, "[b]ased on previous characterization of sediments, as provided in the Trihydro Report and process knowledge, Western assumes the sediments in the Aeration Basin will require that a remedy be implemented. A screening analysis does not appear to be warranted." The Permittee must take into account that the Aeration Basin received listed and characteristic hazardous waste and hazardous constituents and the regulatory impacts this has on site closure. NMED's

Comment 8d stated, “[g]iven the high risk estimates, a more detailed screening analysis that focuses on the potential risks and hazards posed by each SWMU is warranted. Further evaluation may also be necessary. Addressing the SWMUs as separate exposure units will facilitate more informed and resource-effective risk management decisions related to corrective action and remedy selection.” To which the Permittee responded, “Western needs more explanation of NMED’s statement that ‘Further evaluation will be necessary.’ Remediation is expected for both SWMUs and so Western questions what further risk evaluation could be necessary to arrive at that conclusion.” NMED’s comment was meant to clarify options for the Permittee, because of the high risk estimates at the SWMUs and to also point out that contaminated soils in one SWMU may delay cleanup progress at the other SWMU if they are connected. The Permittee separated the SWMUs; no revision is required.

Permittee Response to NMED Comment 5

The Permittee’s response to NMED’s Comment 5, which required a description of the construction and composition of the pond berms, provides excerpts from a geotechnical document regarding the proposed construction of the Aeration Basin titled *Technical Specification for Construction of an Aerated Lagoon API Separator Effluent Treatment Facility* dated 1986. The Permittee notes that, “[f]rom the following design description, it is clear that Giant Industries took great care to ensure the berms were properly constructed to minimize any exfiltration from the Aeration Basin.” The design specifications for the Aeration Basin provide details regarding plans; however, there is no evidence (unless the Permittee can provide as-built drawings or a final construction report) that the ponds and berms were constructed as planned. Additionally, GWM-2 and GWM-3, which were installed to determine whether or not the Aeration Basin was leaking, frequently contained water after their installation. Once the Aeration Basin started drying out, the wells became dry, indicating leakage from the Aeration Basin. The Permittee asserts that “[d]uring the operational life of the Aeration Basin there were no indications of any seepage along the western and northern sides of the Aeration Basin where the berms are above grade.” However, the presence of water in GWM-2 and -3 and contamination in GWM-1 demonstrate that this assertion is not accurate as does the discussion in Report Section 4.2.2 (see Comment 3). No revision is required; however, in future submittals regarding the Aeration Basin ensure that a discussion is included regarding seepage of wastewater from the Aeration Basin.

Permittee Response to NMED Comment 7a

The Permittee’s response to NMED’s Comment 7a states, “Western is interested in NMED’s suggestion to perform fingerprint analyses and would like to discuss this further and hopefully obtain examples from NMED of how other Permittees have used fingerprint analysis to determine site-specific screening levels with NMED’s approval of the methodology and any associated calculations. Western would note that when it comes to analysis for [*total petroleum hydrocarbons*] TPH, it is less important to know what the original release material was but rather what constituents remain in the subject environmental medium today, thus the analysis for [*gasoline range organics*] GRO, [*diesel range organics*] DRO and [*motor oil range organics*] MRO that are capable of providing the fractionation of the TPH.” There has not been a situation at another facility where use of a less conservative screening level has been proposed.

Fingerprint analysis may narrow down the specific component, but it is also possible that it may not, so the most conservative value will be used for comparison. NMED cannot make a determination without data. In the future, if the Permittee wishes to use a less conservative screening value, evidence must be presented to demonstrate that the proposed, less conservative value, is the most appropriate based on the hydrocarbon fractions present and as identified by an off-site laboratory analysis; otherwise, the unknown oil value must be used.

NMED Response to Permittee Response to May 11, 2014 Disapproval Comments

Permittee Response to NMED Comment 4

Regarding NMED Comment 4, the Permittee responds “NMED comments that the data tables have values with too many significant digits and then refers to the ‘proper number of significant digits.’” The data tables provided in the July 2014 Investigation Report contain the same values as those included in the original February 2013 copy of the Investigation Report for which NMED did not indicate any problems regarding the number of significant digits. Western does not understand why the presentation of a more accurate result containing more significant digits would elicit a comment from NMED. Regardless, Western searched the Permit and NMED guidance to identify what NMED is referencing as the ‘proper number of significant digits’ and did not find any reference to significant digits in either of these guiding documents. Western reviewed the electronic copy of the New Mexico Soil Screening Levels (Table A-1) that are provided on your website and observed the values are provided to 15 significant digits while the screening values included in the 2014 Risk Assessment Guidance for Site Investigation and Remediation show three significant digits expressed in scientific notation. Western has reported the exact values provided by the laboratory via electronic data delivery in Excel format and deferred to the reporting laboratory to determine the ‘proper number of significant digits’ for the detected results.” It is common practice to report data in units appropriate to its use. For future submittals, tables must report data using the same units as soil and groundwater cleanup levels and must report data to three significant digits to allow for easy comparison between screening levels and the data. No revision is required.

NMED Comments on the Revised Report

The following comments are NMED’s comments regarding the revised Report.

Comment 1

The Permittee presents conflicting statements regarding releases from the Old American Petroleum Institute Separator (OAPIS). In Section 2.2.2 (Prior Maintenance Activities), the Permittee states, “[t]he concrete was patched in numerous locations in both bays and the weir wall down-stream of the pipe skimmer was rebuilt on both bays. Stained soil (approx. 4,500 lbs) identified around the perimeter of the separator was removed and sent off-site for disposal as hazardous waste (K051).” However, in Section 2.2.3 (Historical Site Investigations) the Permittee states, “[t]here have not been any documented historical releases from the OAPIS with the aforementioned noted exception of the identification of some surface soils with hydrocarbon stains around the sides of the unit. These stained soils were removed and this limited volume of

material did not indicate an obvious significant release.” And then, in Section 2.1.2 (Prior Maintenance Activities) regarding the Aeration Basin, the Permittee lists release incidents where the OAPIS was the source of releases to the Aeration Basin. Additionally, soil boring analytical data from this investigation indicate that there were additional releases beneath the OAPIS. No revision is required; however, in the future statements must be supported by data.

Comment 2

In Section 3.1.2 (SWMU No. 14 Old API Separator) the Permittee states, “[t]wo of the planned deep borings (SWMU 14-5 and SWMU 14-8 located on the north side and northwest corner of the OAPIS) had to be installed with a hand auger instead of the hollow-stem auger (HSA) method due to access limitations with the drilling rig (Figure 3).” The majority of the borings installed at the OAPIS terminated two feet below the ground surface. Soil analytical data demonstrates that contaminant concentrations often increase in the 1.5-2.0 foot interval. While access limitations may affect collection of data from deeper intervals, the Permittee must demonstrate that the vertical extent of contamination has been defined. Borings 14-7 and 14-9 demonstrate that contamination outside the footprint of the OAPIS may reach a depth of 6 to 8 feet below ground surface (bgs). Generally, samples must be collected at the depth immediately below the base of the unit and at the fill-native soil interface, five feet below the base of the structure, and five feet below the water table (Permit Section IV.J.2.d.ii Soil and Rock Sampling). The Permittee submitted an additional Investigation Work Plan for SWMU 1 and 14, dated June 2014 that is currently under NMED review. The additional proposed sampling locations are not within the footprint of the OAPIS and do not address and delineate potential vertical contamination. The Permittee must delineate the vertical impacts and must propose soil borings within the footprint of the OAPIS in the Work Plan.

Comment 3

The Permittee discusses shallow groundwater that is present in the investigation area, in Section 4.2.2 (Hydrogeology):

“The presence of shallow groundwater in the area of the Aeration Basin and OAPIS appears to be associated with fluids managed in these two SWMUs. All of the deeper soil borings immediately surrounding the Aeration Basin encountered saturation or at least moist conditions where more permeable horizons (e.g., clayey sand) were present at elevations at or below the water levels in the Aeration Basin (Figure 7). Saturation was not encountered in similarly permeable soils at elevations above the water levels in the Aeration Basin, nor are any of the measured water levels in the shallow wells above the water levels in the Aeration Basin. Saturation was not encountered in borings (e.g., SWMU 14-1, SWMU 14-6, SWMU 14-7, SWMU 1-20, and SWMU 1-38) located further away from the Aeration Basin and OAPIS, with the exception of boring SWMU 14-23. There was an indication of saturation within a sandy clay interval in SWMU 14-23; however, no water was produced from a temporary well completion installed in the soil boring. In addition, as discussed above in Section 2.1.3,

there have been low concentrations of constituents reported in shallow groundwater from samples collected nearby the Aeration Basin and OAPIS that have also been detected in water and sediment samples collected from the Aeration Basin. All of the evidence points to the Aeration Basin in particular as a source of recharge to the discontinuous permeable zones (e.g., clayey sand) that have been identified in borings adjacent to the Aeration Basin. These saturated intervals produce very little water. Temporary well completions were installed in soil borings SWMU 1-2, SWMU 1-3, SWMU 1-4, SWMU 1-5, SWMU 1-6, SWMU 1-7, SWMU 1-8, SWMU 1-24, and SWMU 14-3. In every case, it was difficult to obtain sufficient volumes of water to complete scheduled sample collection activities and at SWMU 1-5, there was not a sufficient volume of water to allow analyses for all analytes.”

NMED agrees that the presence of shallow groundwater appears to be influenced by fluids managed in the SWMUs. However, historic documents demonstrate the presence of seeps in the area prior to construction of the Aeration Basin (see: *Geotechnical Investigation Three Cell Sludge Pond*, dated July 22, 1986). There are naturally occurring saturated intervals in the upper Chinle/Alluvium found in the subsurface as a discontinuous permeable zone and seen in borings as sand lenses (or sand stringers). The Aeration Basin, in particular, likely affected shallow groundwater levels, because there was a noticeable drop in groundwater levels in GWM-1, -2, -3, and OAPIS-1 when use of the Aeration Basin ceased. Evidence points to the connection between the natural water in the area with the wastewater held in the Aeration Basin. Any proposed remediation at the Aeration Basin must address groundwater contamination and the recharge of groundwater from, and now to, the Aeration Basin.

Comment 4

Many of the hand auger soil samples were completed to a total depth of two feet below ground surface or less, which is not necessarily representative of conditions at the SWMUs. As an example, one soil sample was collected (SWMU 1-19) from 0-0.5 feet bgs and then the boring was terminated due to refusal in gravel. Soil sample collection at the ground surface is useful if the investigation involves an area where, for instance, there were past releases that resulted in surface contamination that were not immediately remediated, but in this case the purpose of this investigation was to investigate whether or not the Aeration Basin contaminants seeped to the surrounding soils. NMED notes that fifteen hand auger borings 1-12, 1-17, 1-18, 1-19, 1-21, 1-23, 1-25, 1-26, 1-29, 1-31, 1-32, 1-33, 1-34, 1-36, 1-39 were terminated at two feet below ground surface or less and are not representative of subsurface conditions at the Aeration Basin.

Comment 5

In Section 7.1 (Conclusions), regarding soil cumulative risk calculations, the Permittee states, “[t]he cumulative carcinogenic risk is 1.36×10^{-3} assuming residential land use and 6.3×10^{-5} for non-residential land use at SWMU No. 1. The cumulative carcinogenic risk is 1.41×10^{-3} assuming residential land use and 6.93×10^{-5} for nonresidential land use at SWMU No. 14. The hazard index for residential land use is 0.56 and for non-residential land use is 0.126 at SWMU

No. 1. The hazard index for residential land use is 1.30 and for non-residential land use is 0.384 at SWMU No. 14.” The Permittee did not define the extent of contamination at the Aeration Basin; therefore, the cumulative risk calculations are not necessarily representative of site conditions. Cumulative risk must be calculated after the site has been fully characterized.

Comment 6

In Section 7.1 (Conclusions), regarding groundwater cumulative risk calculations, “[a] cumulative risk evaluation for groundwater is presented in Tables 14 and 15 for SWMUs No. 1 and No. 14, respectively. The evaluation was conducted by taking the maximum reported concentration of each constituent detected in groundwater, which is based on the totals analyses for metals, and dividing by the risk-based residential screening levels, as shown in the equation above in the discussion for soil. The cumulative carcinogenic risk level is calculated to be 1.74×10^{-3} for SWMU No. 1 and 1.48×10^{-3} for SWMU No. 14. The hazard index is 147.04 for SWMU 1 and 79.55 for SWMU 14.” Groundwater contaminant concentrations must meet the lower of the EPA Maximum Contaminant Levels (MCLs) or the WQCC standards as specified in Permit Section IV.D.1. It is noted that the calculated risk for groundwater is unacceptable even though the extent of contamination has not been defined.

Comment 7

In Section 7.1.1 (Aeration Basin) the Permittee states, “[b]enzene was the only constituent detected above the DAF screening level in soil boring SWMU 1-28 at a depth of 1.5 – 2.0’ bgl (2.53 mg/kg vs. 0.796 mg/kg). Soil boring SWMU 1-28 is located on the northern boundary of the Aeration Basin and the 1.5 – 2.0’ interval is composed of a clayey gravelly sand, which was damp, but not saturated. The boring was terminated at 4 feet bgl in the same material.” The Permittee did not collect a soil sample at the bottom of this boring; therefore, it is not known if benzene concentrations increase at depth. The highest PID reading from the boring was from the 2-4 foot sample interval (although the PID reading was low at 4.8). Further investigation of the vertical extent of contamination must be conducted. It is also not clear why a sample was not collected from the bottom of this boring, generally, when attempting to define the vertical extent of contamination; samples are collected for laboratory analyses from the bottom of boreholes.

Comment 8

In Section 7.1.1 (Aeration Basin), under the “Soils” heading, page 63, the Permittee states, “[o]verall, there were few exceedences of the DAF screening levels in the soil samples collected around the Aeration Basin. Only 3 (SWMU 1-1 (2-4’), SWMU 1-1 (10-12’), and SWMU 1-28 (1.5-2’) out of 103 soil samples collected around the Aeration Basin exceeded DAF screening levels. The vertical impacts to soil were found to extend to the uppermost groundwater-bearing horizons in some borings around the Aeration Basin.” Not surprisingly, the borings advanced around the Aeration Basin contained relatively low contaminant concentrations, but no borings were collected on the inner part of the berms, the berms separating the ponds, or within the ponds themselves; therefore, the unit has not been fully characterized. The groundwater analytical results demonstrate that there was migration of contaminants from the Aeration Basin.

Comment 9

Depth to bedrock appears to vary greatly around the Aeration Basin. The depth to bedrock can be correlated to the depth of shallow groundwater. Shallow groundwater is present in the area of the Aeration Basin and the OAPIS, contrary to the Permittee's statement that shallow groundwater is coming from leaks from the Aeration Basin and the OAPIS, the shallow groundwater is also naturally occurring. In Section 7.1.1 (Aeration Basin), under the "Groundwater" heading, page 65, the Permittee states,

"Based on the field evidence of potential impacts at borings SWMU 1-4 and SWMU 1-24, two additional soil borings (SWMU 1-20 and SWMU 1-38) were drilled west of the Aeration Basin.

At location SWMU 1-20 (located southwest of SWMU 1-4), bedrock was encountered at a depth of only 10 feet bgl and there was no indication of saturation in the boring or the clayey sand deposits, which were identified in SWMU 1-4. No groundwater sample was collected at SWMU 1-20 as the boring was dry. Soil boring SWMU 1-38 was drilled west-northwest of SWMU 1-4 and bedrock was encountered at a depth of only 6 feet bgl. Once again, the clayey sand deposits, which were saturated in boring SWMU 1-4, were not present at this location to the west of the Aeration Basin. No groundwater sample was collected at SWMU 1-38 because the boring was dry. Based on the results of borings SWMU 1-20 and SWMU 1-38, it does not appear that the saturated zones found in SWMU 1-4 and SWMU 1-24 extend beyond the base of the slope on the west side of the Aeration Basin where borings SWMU 1-20 and SWMU 1-38 were completed."

Bedrock is present anywhere from 6 feet to over 30 feet below the ground surface at the facility. Between the top of bedrock and the ground surface, the Chinle (bedrock)/Alluvium Interface and other relatively coarser-grained intervals often contain groundwater. In Section 7.1.1 (Aeration Basin), page 65, under the "Groundwater" heading the Permittee states, "SWMU 1-24 was drilled to a depth of 34 feet, but bedrock was not encountered. A saturated interval of clayey silt/sand was identified from 24 to 28 feet bgl. A groundwater sample collected from this boring found benzene, 1-methylnaphthalene, DRO, and naphthalene at concentrations above their screening levels." Boring SWMU 1-24 is located on the western berm of EP-1. The clayey sand interval is unpredictable and difficult to trace and may be present in some borings and not in others or may be present with more frequency in some borings compared to others. In Section 7.1.1 (Aeration Basin), under the "Groundwater" heading, page 64, the Permittee states, "soil boring SWMU 1-2 was drilled along the southwest side of the Aeration Basin and encountered bedrock at a depth of 19.5 feet bgl. There were several saturated soil intervals encountered in this boring including clayey sand from 8 to 11 feet, 14 to 16 feet, 17 to 17.25 feet, and 18.25 to 18.5 feet bgl." The shallow groundwater and the clayey sand layers represent groundwater flow paths throughout the facility that can allow contaminants to migrate. Any proposed remedy for the

Aeration Basin or the OAPIS must take into account the presence of these groundwater contaminant flow paths. See also Comment 3. No revision is required.

Comment 10

In Section 7.1.1 (Aeration Basin), under the "Groundwater" heading, page 66, the Permittee states, "[t]he saturated intervals in most locations consist of clayey sand, which was found to not be very productive during sample collection activities. The clayey sand intervals do not appear to be laterally continuous at most locations based on the inability to correlate zones between most of the soil borings completed around the perimeter of the Aeration Basin. It also appears that the source of recharge to the saturated intervals found in the borings around the Aeration Basin is the wastewater, which has been maintained in the Aeration Basin. As the Aeration Basin is removed from service and the liquids are removed, it is probable that the saturation observed in borings SWMU 1-2, SWMU 1-3, SWMU 1-4, SWMU 1-5, SWMU 1-6, SWMU 1-7, SWMU 1-8, SWMU 1-24, and SWMU 1-37 will dissipate." While the hydraulic conductivity of the clayey sand layers may not be very high, the interval(s) represent contaminant migration pathways. Additionally, it has been assumed that the Aeration Basin was set into dense clay that acted as a barrier for the unlined ponds; it is obvious now that the permeability of some soils allowed wastewater to seep into the surrounding soils. It also appears that the same soil permeability allowed groundwater to seep into the Aeration Basin. See also Comments 3 and 10. No revision is required.

Comment 11

In Section 7.1.2 (Old API Separator), under the "Soils" heading, page 67, the Permittee states, "[t]he highest concentrations were found in soil samples collected directly beneath the former location of the OAPIS at borings SWMU 14-12, SWMU 14-13, and SWMU 14-14, and at borings immediately adjacent to the OAPIS (e.g., SWMU 14-15, SWMU 14-16, and SWMU 14-17). In addition, there is an area of elevated concentrations at depths of 8 to 12 feet bgl located near the west end of the former OAPIS, near borings SWMU 14-6 and SWMU 14-7, and extending north towards the location of the former benzene strippers." The high concentrations of contaminants detected in the soils demonstrate that wastewater was likely historically released from the OAPIS. See also Comment 2.

Comment 12

In Section 7.1.2 (Old API Separator), under the "Soils" heading, page 67, the Permittee states, "[a]ll constituents except benzene were found below their respective DAF screening levels to the east of the OAPIS in boring SWMU 14-23. Benzene was detected at 1.1 mg/kg vs. a DAF screening level of 0.796 mg/kg in silty clay at a depth of 12 – 14 feet in SWMU 14-23." The constituents detected in boring SWMU 14-23 may be from a source other than the OAPIS. No response is required, although further investigation may be warranted to determine if there is an upgradient source of soil contamination east of the OAPIS.

Comment 13

In Section 7.1.2 (Old API Separator), under the "Soils" heading, page 67, the Permittee states, "[t]he extent of impacts to soil was not defined to the north toward the Aeration Basin, as

demonstrated by impacts found in soil boring SWMU 14-3, which is located approximately half way between the former OAPIS and the Aeration Basin. It is possible that the impacts to soil may extend continuously between the OAPIS and the Aeration Basin, which are separated by only a short distance of approximately 60 feet. The vertical impacts to soil were found to extend to the uppermost groundwater-bearing horizons in borings SWMU 14-2 and SWMU 14-3.” The Permittee recommends, on page 68, that “[t]he area between the OAPIS and the Aeration Basin is relatively small and does not warrant additional investigation to determine if there is possible separation of impacts sourced from the two different SWMUs.” NMED concurs that further investigation is not needed in this area between the units; however, any earth moving or excavation in this area must include sampling to demonstrate that all contaminated soils are addressed. No revision is required.

Comment 14

In Section 7.1.2 (Old API Separator), under the “Groundwater” heading, page 68, the Permittee states, “[s]oil boring SWMU 14-2 was drilled to a depth of 26 feet, but did not encounter bedrock, nor was there any distinct saturated interval logged in this boring. Soil boring SWMU 14-3 was also drilled to a depth of 26 feet and did not encounter bedrock. An indication of potential saturation was observed near the top of a clay horizon in SWMU 14-3 at 14 feet bgl. Groundwater production was very slow from both of these locations, indicating the lack of a true aquifer.” The Permittee is aware that there is shallow groundwater at the facility and that meets the definition of groundwater in Permit Section I.I and therefore must meet the groundwater cleanup standards. Low flow groundwater sampling techniques are used at the facility because of low recharge rates in many of the groundwater monitoring wells; the Permittee is aware that many groundwater wells have slow recharge rates at the facility. See also Comment 3 and Comment 10.

Comment 15

The manner in which the Permittee presents the soil analytical data for the Aeration Basin and the OAPIS makes it difficult to interpret because soil sample depths are not presented in order (e.g., from the top of the soil strata to the bottom of the borehole). The data presentation makes it more difficult than necessary to visualize any trends in the data set. In the future, please ensure that data tables present data in a way that makes sense for interpretation. No revision is required.

Ed Riege
Gallup Refinery
January 11, 2017
Page 11

If you have questions regarding this Approval, please contact Kristen Van Horn of my staff at 505-476-6046.

Sincerely,

A handwritten signature in black ink, appearing to read 'John E. Kieling', with a stylized flourish at the end.

John E. Kieling
Chief
Hazardous Waste Bureau

cc: D. Cobrain NMED HWB
K. Van Horn NMED HWB
C. Chavez OCD
A. Hains WRG
C. Johnson WRG
L. King EPA Region 6, 6MM-RC

File: Reading File and WRG 2017 File
HWB-WRG-13-001

Chavez, Carl J, EMNRD

From: VanHorn, Kristen, NMENV
Sent: Thursday, March 17, 2016 1:50 PM
To: Riege, Ed
Cc: Hains, Allen (Allen.Hains@wnr.com); king.laurie@epa.gov; Cobrain, Dave, NMENV; Dhawan, Neelam, NMENV; Chavez, Carl J, EMNRD; Johnson, Cheryl (Cheryl.Johnson@wnr.com)
Subject: Aeration Basin Report Resubmittal
Attachments: Rejection_Report_March2016.pdf

Ed,
Please see the attached correspondence.
Thanks,
Kristen

Kristen Van Horn
NMED Hazardous Waste Bureau
2905 Rodeo Park Drive East
Building 1
Santa Fe, NM 87505
Phone: 505-476-6046
Email: *Kristen.VanHorn@state.nm.us*



SUSANA MARTINEZ
Governor
JOHN A. SANCHEZ
Lieutenant Governor

NEW MEXICO
ENVIRONMENT DEPARTMENT

2905 Rodeo Park Drive East, Building 1
Santa Fe, New Mexico 87505-6303
Phone (505) 476-6000 Fax (505) 476-6030
www.env.nm.gov



RYAN FLYNN
Cabinet Secretary
BUTCH TONGATE
Deputy Secretary

CERTIFIED MAIL – RETURN RECEIPT REQUESTED

March 17, 2016

Mr. Ed Riege
Environmental Manager
Western Refining, Southwest Inc., Gallup Refinery
92 Giant Crossing Road
Gallup, New Mexico 87301

**RE: REJECTION
RESPONSE TO NMED DISAPPROVAL REVISED INVESTIGATION
REPORT SOLID WASTE MANAGEMENT UNIT (SWMU) NO. 1 AERATION
BASIN AND SWMU NO. 14 OLD API SEPARATOR
WESTERN REFINING SOUTHWEST INC., GALLUP REFINERY
EPA ID # NMD000333211
HWB-WRG-13-001**

Dear Mr. Riege:

The New Mexico Environment Department (NMED) has received the revised *Investigation Report Solid Waste Management Unit (SWMU) No. 1 Aeration Basin and SWMU No. 14 Old API Separator* (Report) dated February 2013 and submitted on behalf of Western Refining Southwest Inc., Gallup Refinery (Permittee). NMED hereby issues this Rejection of the Report in accordance with Permit Section I.J.11.

NMED's May 11, 2015 *Disapproval* letter required the Permittee to make all required changes to the Report and resubmit the document for NMED's review. The Permittee, in its response letter, states "[d]ue to the few actual changes relative to the size of the full report, Western is providing hard copy replacement pages. To simplify the replacement process, the entire text portion of the report, including table of contents is replaced along with Appendix B. New Figures 2, 3, and 7A are enclosed along with revised Tables 2, 7, 8, 9, 10, 12, 13, 14, and 15. An electronic copy of the redline document is enclosed indicating changes to the text of the report, including Appendix

Ed Riege
Gallup Refinery
March 17, 2016
Page 2

B. An electronic copy of the full revised report is also provided on the enclosed disk." As stated above, NMED required resubmittal of the entire Report in its May Disapproval letter. The Permittee did not discuss with NMED whether or not submittal of replacement pages was an appropriate response. In instances where there are relatively few changes required to a document, NMED typically requires replacement pages rather than re-submittal of an entire document; however, this was not such an instance. In this case, the required changes were significant enough to warrant submittal of a revised Report. Furthermore, it is extremely difficult for NMED to review the Permittee's changes to the document, including the accompanying data tables given the current form of the document (e.g., unbound, loose pages).

The Permittee must submit a full, revised Report. The submittal must include two bound paper copies and also an electronic copy that includes a redline-strikeout version of the Report that shows where all changes have been made to the Report. The revised Report must be submitted on or before **May 2, 2016**.

If you have questions regarding this Rejection, please contact Kristen Van Horn of my staff at 505-476-6046.

Sincerely,



John E. Kieling
Chief
Hazardous Waste Bureau

cc: D. Cobrain NMED HWB
N. Dhawan NMED HWB
K. Van Horn NMED HWB
C. Chavez OCD
A. Hains WRG
C. Johnson WRG
L. King EPA Region 6

File: Reading File and WRG 2016 File
HWB-WRG-13-001

INVESTIGATION REPORT
**Solid Waste Management Unit (SWMU) No. 1 Aeration
Basin and SWMU No. 14 Old API Separator**



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

EPA ID# NMD000333211

**Volume 1 of 2
(Report, Tables and Figures)**

**February 2013
(Revised June 2014 and August 2015)**

Billy McClain
Refinery Manager
Western Refining Southwest, Inc.
Gallup Refinery

INVESTIGATION REPORT
**Solid Waste Management Unit (SWMU) No. 1 Aeration
Basin and SWMU No. 14 Old API Separator**

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

EPA ID# NMD000333211

**Volume 2 of 2
(Appendices A - F)**

**February 2013
(Revised June 2014)**

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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)
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
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 constituent
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 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 refinery's Resource Conservation and Recovery Act (RCRA) Post-Closure Care Permit and 20.4.1.500 New Mexico Administrative Code, this environmental site investigation was completed for SWMU No. 1 (Aeration Basin) and SWMU No. 14 (Old API Separator).

The activities completed include sampling and analysis of soils and groundwater surrounding the Aeration Basin and Old API Separator to determine if there has been a release to the environment and to delineate any such release. In addition, information was collected to help determine the source of groundwater that has been observed in monitoring wells GWM-2 and GWM-3. The investigation began on July 16, 2012 and continued through October 16, 2012. This included the completion of 63 soil borings with 171 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). One of the soil borings (SWMU 14-2) near the Old API Separator was completed as a permanent monitoring well (OAPIS-1) and temporary well completions were installed in 10 additional borings to allow collection of groundwater samples. Twelve 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, metals, and inorganic/general water quality parameters).

At the Aeration Basin, four organic constituents (1,2,4-trimethylbenzene, 1-methylnaphthalene, benzene, and naphthalene) and diesel range organics (DRO) were detected in three soil samples at concentrations exceeding their respective screening levels developed to ensure protection of potable groundwater. The three impacted soil samples were located at the north and south ends of the Aeration Basin.

There were numerous metals detected at concentrations above residential / tap water screening levels in groundwater samples collected from the soil borings that surround the Aeration Basin. The metal residential / tap water screening levels were exceeded in every soil boring from which

a groundwater sample was collected. It is possible that these results are affected by high turbidity levels in the water samples collected from the temporary well completions installed in the soil borings. Seven organic constituents (1-methylnaphthalene, 2-methylnaphthalene, 1,2,4-trimethylbenzene, benzene, methyl tert-butyl ether (MTBE), naphthalene, and 2,4-dimethylphenol), and DRO were detected in groundwater samples collected from soil borings at concentrations above residential / tap water screening levels. At least one organic constituent was found at concentrations above the residential / tap water screening levels in groundwater at five borings immediately surrounding the Aeration Basin and one boring a short distance to the southwest. Some of the deep soil borings completed near the Aeration Basin were either dry or would not produce enough water to allow completion of all scheduled analyses.

At the Old API Separator (OAPIS), twelve organic constituents [1,1,2-Trichloroethane, 1,2,4-trimethylbenzene, 1,2-dibromo-3-chloropropane, 1,2-dibromoethane (EDB), 1,2-dichloropropane, 1-methylnaphthalene, 2-methylnaphthalene, benzene, ethylbenzene, naphthalene, xylenes, and bis(2-chloroethyl)ether] and DRO were detected in soils at concentrations above their screening levels developed to ensure protection of potable groundwater. 1,2-Dibromo-3-chloropropane was detected in one soil sample and 1,2-dibromoethane (EDB) was detected in four soil samples at concentrations above their residential direct contact soil screening levels. The highest concentrations were found in soil samples collected directly beneath the former location of the OAPIS and at borings immediately adjacent to the OAPIS. In addition, there is an area of elevated concentrations at depths of 8 to 12 feet below ground level (bgl) located near the west end of the former OAPIS extending north towards the location of the former benzene strippers.

Groundwater samples were collected from two soil borings near the OAPIS, one of which was completed as a permanent monitoring well. Similarly as observed above for the temporary well completions around the Aeration Basin, many metals were detected above residential / tap water screening levels in the groundwater samples collected at these locations. The number of metals detected at concentrations above their residential / tap water screening levels in the groundwater sample collected from the permanent well completion (OAPIS-1) was significantly less than the number detected in the groundwater sample collected from the initial temporary well completion in this same soil boring. It is possible that these results are affected by high turbidity levels in the water samples collected from the temporary well completions. Seven organic constituents (benzene, 1-methylnaphthalene, 2-methylnaphthalene, 1,2,4-

trimethylbenzene, methylene chloride, MTBE, and naphthalene) and DRO were detected at concentrations above their residential / tap water screening levels in groundwater samples.

Potential future actions include an additional soil boring to the north of the Aeration Basin to provide full delineation of both soil and groundwater impacts to the north of the Aeration Basin. Also an additional boring to the southwest of the Aeration Basin could provide additional control in this area for potential groundwater impacts. The area between the OAPIS and the Aeration Basin is relatively small and does not warrant additional investigation to determine if there is possible separation of impacts sourced from the two different SWMUs. An additional soil boring could be installed east of the OAPIS to provide full delineation of soil impacts observed in this area. Additional soil data to the southwest of the OAPIS could be used to better define soil impacts observed in this area of the site.

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 is located on 810 acres. Figure 1 presents the refinery location.

The Gallup Refinery is a crude oil refinery currently owned and operated by Western Refining Southwest, Inc., formerly known as Giant Industries Arizona, Inc. and formerly doing business as Giant Refining Company Ciniza Refinery, an Arizona corporation. 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 Aeration Basin (SWMU No. 1) and Figure 3 for the Old API Separator (SWMU No. 14). 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 New Mexico Administrative Code (NMAC) incorporating 40 Code of Federal Regulations (CFR) Section 264.101. The investigation was completed pursuant to the SWMU No. 1 Investigation Work Plan dated February 2012 (revised June 2012) and the SWMU No. 14 Investigation Work Plan dated January 2010 (revised October 2010), with a few deviations (e.g., installation of additional soil borings), which are discussed in Section 3.1.

Section 2 presents background information for SWMU No. 1 and No. 14, including a review of historical waste management activities to help identify 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 a monitoring well, 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 constituents, total petroleum hydrocarbons (TPH), metals, and inorganic general chemistry constituents. The results of these analyses are compared to applicable State or federal cleanup and 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 SWMU No. 1 and No. 14, including a review of historical waste management activities for each SWMU to identify the following:

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

2.1 SWMU No. 1 Aeration Basin

The Aeration Basin, which is designated as SWMU No. 1 in the facility's RCRA Post-Closure Care Permit, was constructed within original Pond No. 1 in 1987. The location and extent of the Aeration Basin is documented in the Post-Closure Care Permit, Attachments – Post-Closure Permit Application Volume III. The Aeration Basin includes three cells, which were created within original Pond No.1 to facilitate the addition of aeration units to the facility's wastewater treatment. These three cells are identified in the RCRA Permit as Inlet Aeration Basin, Second Aeration Basin and Holding Pond. Subsequently, the first two cells (Inlet Aeration Basin and Second Aeration Basin) have become known as the aeration lagoons or more specifically, AL-1 and AL-2. The third cell (Holding Pond) is now commonly referred to as EP-1, although it is not an evaporation pond and is not part of the area covered by SWMU No. 2 - Evaporation Ponds. Hereafter, the currently used designations of AL-1, AL-2 and EP-1 are used to refer to the three cells of SWMU No. 1 – Aeration Basin (Figure 2).

The aeration lagoons (AL-1 and AL-2) cover an area approximately 275 feet by 150 feet and have an estimated holding capacity of 1 million gallons. EP-1 is approximately 225 feet by 250 feet and has an estimated holding capacity of 3 million gallons. Three benzene air strippers were located between the refinery's API separator and the aeration lagoons to prevent characteristically hazardous waste from being discharged to the aeration lagoons. Monitoring data of the effluent from the two original benzene air strippers, which discharges into the inlet aeration lagoon, and flows into AL-2 has indicated that concentrations of benzene above the toxicity characteristic (TC) regulatory threshold of 0.5 milligrams per liter (mg/l) have entered these impoundments.

2.1.1 Operational History

Prior to construction of the new wastewater treatment plant, the refinery process wastewater generated (approximately 178 gallons per minute (gpm) average flows for calendar year 2011) at the Gallup Refinery was managed first by physical treatment in an API separator, and then the volatile components were removed via benzene air strippers. The final treatment (biological) occurred in two aeration lagoons operated in series (AL-1 and AL-2). Water then flowed to EP-1, before being discharged to the evaporation ponds. The lagoons and EP-1 are earthen surface impoundments with natural clay functioning as a bottom liner. AL-1 and AL-2 are equipped with surface aerators to oxygenate the water and stimulate biological activity.

Wastewater from AL-1, subject to aggressive biological treatment, is routed to AL-2 through an overflow pipe. Flows to the aeration lagoons measured as totalized flow from the API Separator averaged 178 gallons per minute (gpm) for calendar year 2011. Totalizer readings were recorded weekly. Daily average flows were calculated based on elapsed time between readings. Western has installed a real time electronic data system that captures minute by minute flow data.

Western recently completed the construction of a new wastewater treatment plant that replaces the Aeration Basin. In April 2012, wastewater flows from the refinery were redirected to the new wastewater treatment plant. The Aeration Basin continued to receive wastewater from the nearby Pilot Travel Center until June 2013, when all wastewater flows were directed to the new wastewater treatment plant.

2.1.2 Prior Maintenance Activities

Western has experienced intermittent discharges of oil and oily water into the lagoons as documented in previous correspondence to NMED. Most of these occurrences were the result of unit upset/large storm events affecting the old API Separator. Some recent examples are described below:

- A release of oily water from the old API separator and its inlet box occurred on August 3, 2005 with approximately 17 cubic yards of impacted soils excavated from AL-1 and AL-2;
- Approximately 13 cubic yards of impacted soils were excavated from AL-1 and AL-2 after a release of oily water from the old API separator occurred on August 15, 2005;

- On June 15, 2006, Western submitted a letter to NMED requesting a “contained-in” determination regarding soil excavated from AL-1, AL-2 and EP-1 to remediate releases of oily water containing F037/F038, which occurred in the fall of 2005;
- A release of approximately 700-800 gallons of oil from the new API separator (NAPIS) occurred on March 3, 2007 to AL-1, AL-2, and EP-1, which resulted in the collection additional effluent samples at AL-1, AL-2 and EP-1. In July 2007, the impacted bank soils were removed from the aeration lagoons (AL-1 and AL-2), EP-1 and evaporation pond EP-2. NMED stated in their letter of August 15, 2007, that the oily wastewater contained benzene (D018) and F037/F038-listed waste; however, the excavated soils were determined to meet the contained-in criteria and the excavated materials were appropriately disposed off-site pursuant to NMED’s direction;
- On June 23, 2007 and July 19, 2007, oily wastewater reported to contain benzene (D018) and F037/F038-listed waste was released from the weir box at the NAPIS. The impacted soils were removed and subsequent analyses demonstrated the soils met the contained-in criteria for management as non-hazardous waste; and
- On August 3, 2008, 756 gallons of oily wastewater was discharged from the NAPIS to the Aeration Basin. The impacted soils were removed and disposed off-site pursuant to NMED’s approval.

2.1.3 Historical Site Investigations

Soil sampling was conducted near the aeration lagoons and EP-1 during the RFI in the early 1990s (Giant Refining Company, 1991). Based on the analytical results from the samples, the EPA concurred on January 7, 1994 with Giant’s determination that no significant impact had occurred and thus no further action was required for SWMU #1. EPA requested that on-going soil sampling be conducted at the lagoons every two years, which was later reduced to a frequency of five years. The first “monitoring” event was completed in October, 1996 (Giant Refining Company, 1996). Soil samples were collected from depths of four feet to 20 feet below ground surface with some borings angled to allow collection of samples beneath the lagoons. Neither volatile nor semi-volatile organics were detected in 25 of the samples. Two samples collected near the side wall of the inlet aeration lagoon at a depth of four feet had very low concentrations of benzene, toluene, ethylbenzene, and xylenes (BTEX). The highest concentration was 2.2 mg/kg of xylenes.

A visual assessment of the lagoons was conducted in 1998, which concluded that the lagoons were in active service, functioning normally, oxygenating wastewater, and stimulating biological activity (Practical Environmental Services, Inc., 1998). The lagoons were found to have been placed in an appropriate geologic setting in which the underlying bentonitic soils exhibited a very

low hydraulic conductivity of 10^{-7} cm/sec, effectively serving as an aquitard. The noted concentrations of BTEX near the inlet were considered common and predictable for the service.

Two groundwater monitoring wells (GWM-1 and GWM-2) were installed immediately down-gradient of the aeration lagoons in 2004 and 2005, respectively. Analyses of groundwater samples collected at GWM-1 and GWM-2 have indicated only very low concentrations of constituents such as BTEX and MTBE that would indicate a potential for historical releases from the lagoons. GWM-3 is also located nearby, adjacent to EP-1. Both GWM-2 and GWM-3, which were intentionally installed in the vadose zone as dry wells to detect potential leakage from SWMU No. 1, were dry during the 2007 annual sampling event.

In 2008 GWM-1 was sampled on July 10 and results are submitted to NMED annually (Western Refining Annual Ground Water Monitoring Reports). Detections at concentrations greater than established comparison criteria included benzene (0.011 mg/L), MTBE (0.12 mg/L), arsenic (0.070 mg/L), manganese (3.6 mg/L) and iron (14 mg/L). Iron and manganese detections may be indicative of reducing groundwater conditions that could alter inorganic valence states leading to elevated concentrations of iron and manganese in groundwater.

GWM-2 and GWM-3 were checked quarterly in 2008 to determine if any water was present in the wells. Water was first encountered in GWM-2 on February 18, 2008 and a sample was subsequently collected on February 28, 2008 and analyzed for petroleum hydrocarbons and volatile organic compounds (VOCs). The only constituent detected was MTBE at a concentration of 0.028 milligrams per liter. GWM-2 was checked again on March 17, 2008, May 21, 2008, September 10, 2008, and November 3, 2008, but it was found to be dry each time. GWM-3 was also checked on these same dates and found to be dry. Both wells were checked quarterly during 2009 and found to be dry on each occasion.

Water levels continue to be checked quarterly in GWM-2 and GWM-3 and during the second quarterly inspection in 2010 both wells indicated the presence of water. An estimated water column thickness of 1.5 feet and 0.88 feet was measured at GWM-2 and GWM-3, respectively. Water was present in both wells and samples were collected for analysis on a quarterly basis through November 2012. During the first quarterly sampling event in 2013 (March 18, 2013), GWM-3 was found to be dry and water has not been present in the well during subsequent quarterly monitoring events through March 11, 2014. Water was found in GWM-2 until the first quarterly sampling event in 2014. The results of the historical chemical analyses are

summarized in the Table 1 through March 2012. As indicated in the tables, there have been a number of constituents detected in water samples collected from GWM-1, GWM-2, and GWM-3 that are at concentrations above potentially applicable action levels. Water level measurements are also included in Table 2.

An investigation of the aeration lagoons and EP-1 was conducted in April 2008 to characterize the volume and nature of sediments in each lagoon. A copy of the report of the investigation prepared by Trihydro Corporation is included as Appendix A. Based on this investigation, there appears to be two layers of sludge/sediment in the aeration lagoons. The upper layer ("soft sediment") is described as a soft, loose, and unconsolidated, as opposed to the lower layer ("hard pack sediment") that is more compact and dense. In some areas, the distinction between the two layers is indiscernible.

The investigation of EP-1 did not yield a similar distinction of sediment layers. The sediment in EP-1 exhibits similar physical characteristics to the soft sediment found in AL-1 and AL-2. Sixteen sediment depth measurements were made in EP-1, however only 5 measurements resulted in sediment depths greater than 2 feet. The sediment appearance was described as a black sludge with fluid in the upper portion and an increasing silt content moving deeper through the sample

Trihydro used the software program SurvCAD to produce calculations estimating the volumes of sediment in each lagoon and EP-1. Appendix E of the Trihydro Report provides the input parameters used in the program. The SurvCAD program produced the following estimates for sediment in the two lagoons and EP-1.

Estimated Volumes of Sludge in AL-1 and AL-2

Unit	Soft Sediment Thickness Min/Max (ft)	Soft Sediment Avg Thickness (ft)	Estimated Soft Sediment Volume (cy)	Hardpack Sediment Thickness Min/Max (ft)	Hardpack Sediment Avg Thickness (ft)	Estimated Hardpack Sediment Volume (cy)	Total Estimated Sediment Volume (cy)
AL-1	3.2-5.9	4.4	1,464	0-2.5	0.52	229	1,693
AL-2	5.8-8.5	7.47	3,404	0-2.2	0.96	430	3,834

Estimated Volumes of Sludge in EP-1

Unit	Average Sediment Depth (ft)	Maximum Sediment Depth (ft)	Estimated Sediment Volume (cy)
EP-1	1.59	5.04	3,178

Trihydro notes that the observed distinction between the two types of sediment in the aeration lagoons was not as evident as expected and therefore, it is suggested that sediment in the lagoons be considered and treated as a single sediment layer. Additionally, since the measurements and calculations are in-situ calculations, the SurvCAD program applied no allowances for expansion or compaction to the calculated estimates. Removal of the material from the lagoons or exposure to ambient air reducing the percent moisture of the sediment may impact the volume of material. Sample log sheets for each location can be found in the Trihydro Report (Trihydro Corporation, 2008).

2.2 SWMU No. 14 Old API Separator

The Old API Separator was not originally included as a SWMU in the 1988 Hazardous and Solid Waste Act (HSWA) permit or the subsequent 1990 RFI Work Plan. The “API Separator” was first added as a SWMU in the August 2000 Post-Closure Care Permit. There were two API Separators at the refinery as shown in Figure 2.

2.2.1 Operational History

The original separator, now referred to as the Old API Separator (OAPIS) was put into service in 1957. The OAPIS initially only received process wastewater and in 1996 a stormwater sewer system was installed that also flowed to the OAPIS. A new API Separator was put into service in October 2004 and the process wastewater was redirected to the New API Separator. The intention was that only the stormwater sewer system would continue to be directed to the OAPIS.

The API Separator is the first step in the treatment process of the refinery’s wastewater. Its purpose is to remove free oil and suspended solids from the wastewater prior to subsequent downstream treatment. An API Separator functions as a gravitational separation unit and is designed based on the difference in specific gravity of the oil to be separated and the wastewater. Three phases result in the separator, with oil at the top, wastewater in the middle and accumulated sediment in the bottom. The oil is constantly removed from the upper layer, wastewater flows through continuously, and the bottom sediment layer is periodically removed to

ensure proper function of the separator. The material accumulating in the bottom of the OAPIS has been routinely removed once a year or more frequently, as necessary.

The OAPIS was approximately 135 feet long, 22 feet wide and six feet high. The unit was mostly below ground level with the southern side being mostly at grade. The land surface slopes away to the north and up to approximately two feet of the separator was above grade in some locations. The unit was constructed on compact clay soils.

2.2.2 Prior Maintenance Activities

After the wastewater flows were diverted to the New API Separator, all residual materials were removed from the OAPIS in October 2004. The material was removed using vacuum trucks and sent off-site for recycling at the NORCO refinery. The OAPIS was steam cleaned and sand blasted in preparation for inspection and repairs. The concrete was patched in numerous locations in both bays and the weir wall down-stream of the pipe skimmer was rebuilt on both bays. Stained soil (approx. 4,500 lbs) identified around the perimeter of the separator was removed and sent off-site for disposal as hazardous waste (K051).

In 2006, Western identified potential “dry weather” flows into the OAPIS and undertook an investigation of the sewer systems to determine if process wastewater was continuing to flow to the OAPIS. Flows from the OAPIS were directed to the New API Separator to ensure any potential process wastewaters entering the OAPIS were appropriately managed. A dye tracer study did not identify any cross-connections between the process wastewater and stormwater sewers. To help reduce the potential for process wastewater to flow to the OAPIS, numerous changes were made to both the stormwater drains and the process sewer drains in the summer of 2006.

The OAPIS was in service until recently to handle stormwater flows but in spite of extensive efforts to eliminate dry weather flows, it appears that some dry weather flow continued to enter the unit until it was taken out of service in February 2011. The discharge from the OAPIS was directed to the New API Separator to ensure appropriate treatment of any dry weather flow that may have entered the OAPIS. A new wastewater treatment plant was recently constructed at the Gallup Refinery and the OAPIS is no longer required, thus its removal from service.

The OAPIS was cleaned out in December 2011 to remove any potentially listed hazardous waste and all non-hazardous waste materials. Demolition of the OAPIS, which was conducted from

June 11, 2012 through June 20, 2012, included removal of the metal components and the concrete containment with the exception of a portion of the southern wall, which was required to remain in-place to maintain the physical integrity of the structures (e.g., the flare knockout tank) located immediately south of the OAPIS.

The nearby benzene strippers were removed from service on November 9, 2012. After they were disconnected from the wastewater treatment plant piping, Strippers #1, #2, and #3 were decontaminated by first removing the packing and then rinsing with water in-place. After decontamination was completed, the strippers were taken to the Bone Yard where they were cut up for disposal. The packing material was placed into supersacks and taken to the 90-day storage area for off-site disposal as a hazardous waste.

2.2.3 Historical Site Investigations

The material handled in the OAPIS has primarily been petroleum hydrocarbons, with a lesser potential for refinery catalyst and gasoline additives to enter the sewer systems. As the solids that accumulate in the bottom of the separator are routinely removed, the greatest potential for a release from the unit would be the liquid phase containing dissolved petroleum hydrocarbons. Liquids could leak from the unit along cracks in the below ground concrete structure or from piping that transfers liquids into and from the unit.

There have not been any documented historical releases from the OAPIS with the aforementioned noted exception of the identification of some surface soils with hydrocarbon stains around the sides of the unit. These stained soils were removed and this limited volume of material did not indicate an obvious significant release.

There had not been an investigation of soils or groundwater in the immediate vicinity of the OAPIS prior to this investigation. There are existing monitoring wells in the general area, with two wells (GMW-1 and GWM-2) located along the down-gradient side of the Aeration Basin and also possibly down-gradient of the OAPIS and four monitoring wells near the New API Separator (NAPIS 1, NAPIS 2, NAPIS 3, and KA-3), which are cross-gradient to the OAPIS (Figure 2). Analyses of groundwater samples collected from these wells are discussed above in Section 2.1.3.

The soil and groundwater samples obtained for this investigation were collected from July 16, 2012 through October 17, 2012. On January 15, 2013, a spill of 70 barrels oily wastewater

occurred onto the ground in the area where OAPIS was located. Western began immediate spill response actions and recovered 69.5 barrels of the spilled wastewater. The spill was limited to a small area within the original footprint of the OAPIS. The soil samples, which had previously been collected from this area, documented significant hydrocarbon impacts in this same area and the relatively dilute wastewater should not have resulted in an increase in concentrations such that the previously collected information would not be a valid representation of current conditions.

Section 3

Scope of Activities

3.1 Soil Boring, Monitoring Well Installation and Sample Collection

Pursuant to the approved Investigation Work Plans, 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 monitoring wells were installed at the Aeration Basin (Figure 2) and the OAPIS (Figure 3).

As outlined in the Investigation Work Plans, there is the potential for constituents to have been released to soils at known locations and therefore a judgmental sampling design was implemented. Examples of these areas include documented spills that affected soils immediately adjacent to the OAPIS.

3.1.1 SWMU No. 1 Aeration Basin

The scope of work for the investigation at the Aeration Basin included approximately 28 shallow (i.e., 2-foot) soil borings spaced 50 feet apart around the perimeter of the Aeration Basin, with each fifth boring extended at least 6 inches below the bottom of the berm material if the berm material is deeper than 24 inches. In addition, eight deep soil borings were to be installed with groundwater samples collected, as possible, from temporary well completions in each deep boring.

Twenty eight shallow soil borings (SWMU 1-9 through SWMU 1- 23, SWMU 1-25 through SWMU 1-36, and SWMU 1-39) were completed and each fifth boring was extended at least 6 inches below the bottom of the berm material where the berm material was deeper than 24 inches (Figure 2). Eight deep soil borings (SWMU 1-1 through SWMU 1-8) were installed around the perimeter as required in the Investigation Work Plan and three additional deep soil borings (SWMU 1-24, SWMU 1-37, and SWMU 1-38) were completed to the southwest and west to facilitate lateral delineation. Based on observations of probable impacts at boring SWMU 1-4, shallow borings SWMU 1-19, SWMU 1-20 (extended deeper), SWMU 1-21, SWMU 1-22, SWMU 1-23, and SWMU 1-39) were shifted to the west to better facilitate lateral delineation on the west side of the Aeration Basin (Figure2). The installation of each boring is discussed in more detail in Section 4.3.

In addition to moving the specific borings discussed above, other deviations from the Investigation Work Plan include the inability to extend some of the shallow borings with a hand auger to the scheduled depth of two feet. The borings are discussed in detail in Section 4.3. Stiff clay with gravel was encountered in these borings, which prevented advancement with a hand auger. An attempt was made to loosen the compacted clay/gravel in advance of the hand auger using a hammer and decontaminated screwdriver, but it was still not possible to reach the target depth of two feet in all hand auger locations.

All eight of the scheduled deep soil borings (SWMU 1-1 through SWMU 1-8) were drilled to the top of bedrock (i.e., the Petrified Forest Formation) and groundwater samples were collected from temporary well completions in all but one of the borings. Soil boring SWMU 1-1 did not yield water and boring SWMU 1-5 yielded only a small quantity of water, which limited the analyses that could be performed (i.e., metals analyses were not conducted at SWMU 1-5). Low water yields affected other temporary wells also, but metals and all other analyses were completed with the exception that only total analyses were completed for the metals. Groundwater samples were also collected from temporary well completions in two of the additional soil borings (SWMU 1-24 and SWMU 1-37).

3.1.2 SWMU No. 14 Old API Separator

The scope of work for the OAPIS included nine soil borings installed to a minimum depth of ten feet and if groundwater was encountered, then a groundwater sample was to be collected from a temporary well completion. One of the soil borings on the north side of the benzene strippers was to be completed as a permanent monitoring well. In addition, soil samples from depths of 0-0.5' and 1.5-2.0' were to be collected from 11 additional locations using a hand auger.

Three of the deep soil borings were not completed as scheduled. One boring that was to be drilled beneath the center of the location of the benzene strippers could not be completed because the benzene strippers were still in operation during the investigation; the strippers have since been removed. Two of the planned deep borings (SWMU 14-5 and SWMU 14-8 located on the north side and northwest corner of the OAPIS) had to be installed with a hand auger instead of the hollow-stem auger (HSA) method due to access limitations with the drilling rig (Figure 3). The location for the permanent well (OAPIS-1) was moved slightly to the south, to a location just off the northwest corner of the benzene strippers. Four additional deep borings (SWMU 14-6, SWMU 14-21, SWMU 14-22, and SWMU 14-23) and one hand auger location

(SWMU14-24) were completed to help delineate the lateral extent to the east, south, and west of the OAPIS.

3.2 Background Information Research

Documents containing the results of previous investigations and subsequent routine groundwater monitoring data from monitoring wells were reviewed to facilitate development of the Investigation Work Plans. The previously collected data provides valuable information on the overall subsurface conditions, including hydrogeology and contaminant distribution within groundwater. The data collected under this investigation supplements the historical groundwater data and provides SWMU-specific information regarding contaminant occurrence and distribution within soils and groundwater.

3.3 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 Aeration Basin and the OAPIS were collected and put into 55-gallon drums. A composite sample of all 10 drums was collected using a decontaminated stainless steel spoon and sent to Hall Environmental Laboratory for waste characterization analysis. The sample was analyzed for Reactivity, Corrosivity, and Ignitability (RCI), RCRA 8 (TCLP) Metals, TCLP Volatiles (Method 1311 / 8260), TCLP Semi-volatiles (Method 1311 / 8270), and Total Petroleum Hydrocarbon (TPH) (Method 8015B). The Hall analytical report (# 1208B78) is indicated in Appendix E.

Based on the analysis, ten non-hazardous/non-regulated drums (2.7 cubic yards) were shipped off-site to Advanced Chemical Treatment Facility for disposal. All purge water and decontamination water was collected in 55-gallon drums and disposed in the refinery wastewater system located upstream of the API Separator.

3.4 Surveys

A hand held GPS receiver was used to record the coordinates of each soil boring. These coordinates were recorded on the field boring logs. The monitoring well location was subsequently surveyed by a registered surveyor.

The horizontal coordinates, the top of the monitoring well casing, and the ground surface at the monitoring well location were determined by a registered New Mexico professional land surveyor in accordance with the State Plane Coordinate System (NMSA 1978 47-1-49-56 (Repl. Pamp. 1993)). The surveys were conducted in accordance with Sections 500.1 through 500.12 of the Regulations and Rules of the Board of Registration for Professional Engineers and Surveyors Minimum Standards for Surveying in New Mexico.

Section 4

Field Investigation Results

This section provides a summary of the surface and subsurface conditions at the refinery, including the area near SWMUs No. 1 and 14. 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 permanent and temporary well completions and the collection of groundwater samples.

4.1 Surface Conditions

A topographic map of the area near the Aeration Basin and OAPIS is included as Figure 4. Local site topographic features include high ground in the southeast gradually decreasing to a 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 the Aeration Basin and the OAPIS is at an approximate elevation of 6,910 feet above mean sea level (msl).

The soils in the immediate vicinity of the Aeration Basin include two soil types. The McKinley County soil survey indicates that the soil type changes near the midline across the aeration lagoons. Surface soils from the northern section of the aeration lagoons and evaporation ponds are primarily Rehobeth silty clay loam (USDA, 2005). Rehobeth soil properties include a pH ranging from 8 to 9 standard units and salinity (naturally occurring) typically measuring up to approximately 8 mmhos/cm. The Rehobeth soils are described as having a geomorphic position *“within flood plains and stream terraces on valley floors.”* The parent material is described as *“stream alluvium derived from gypsiferous shale.”* The permeability is *“slow”* (0.06 in/hr). The typical profile is as follows:

A (mineral horizon) — 0 to 2 inches; silty clay loam

Bw (B soil horizon, color or structure, but little illuvial accumulation) — 2 to 5 inches; silty clay loam

Bss (B soil horizon, alluvial accumulation) — 5 to 12 inches; clay

Bssny1 (B soil horizon, alluvial accumulation, sodium, gypsum) — 12 to 18 inches; clay

Bssny2 (B soil horizon, alluvial accumulation, sodium, gypsum) — 18 to 32 inches; clay

Bssny3 (B soil horizon, alluvial accumulation, sodium, gypsum) — 32 to 80 inches; clay

The southern end of the aeration lagoons and the OAPIS are mapped as being constructed within the bordering Simitarq-Celavar sandy loams. Simitarq soils have nearly neutral pH

values ranging from 7.2 to 7.4 standard units. The geomorphic position is described as “*summits on mesas and dipslopes on cuestras*”, with a parent material of eolian material and slope alluvium over residuum derived from sandstone. The permeability is described as moderate (0.6 in/hour). The “*typical profile*” is as follows:

Oi (organic soil horizon, slightly decomposed)—0 to 1 inches;

A (mineral soil horizon) —1 to 2 inches; sandy loam

Bt (B soil horizon, argillic) — 2 to 11 inches; sandy clay loam

Btk1(B soil horizon, argillic, accumulation of calcium carbonate) — 11 to 27 inches; sandy clay loam

Btk2(B soil horizon, argillic, accumulation of calcium carbonate) —2 7 to 31 inches; sandy clay loam

R (bedrock) — 31 inches; sandstone bedrock

Regional surface water features include the refinery evaporation ponds and several small ponds (one cattle water pond and two small unnamed spring-fed ponds). Average annual rainfall is less than 10 inches per year, thus there are not many natural surface water bodies in this area. The site is located in the Rio Puerco valley, north of the Zuni Uplift with overland flows directed northward to the tributaries of the Rio Puerco river. The Rio Puerco river continues to the east to the confluence with the Rio Grande river. The South Fork of the Rio Puerco river is intermittent and retains flow only during and immediately following precipitation events.

There is very little vegetation throughout the area surrounding the Aeration Basin and OAPIS, with most surfaces composed of nearly bare dirt, gravel, concrete, or asphalt. The area between the refinery and the Rio Puerco River does have limited vegetation.

4.2 Subsurface Conditions

An underground pipeline is present in the western side of the Aeration Basin, which could act as a preferential pathway for contaminant migration to the west; however, it reaches the land surface only a short distance west of the Aeration Basin (Figure 2). Most of the other pipelines near the Aeration Basin and OAPIS are above ground but there are two (inlet and outlet) underground lines buried at a shallow depth near the OAPIS as indicated on Figure 3.

4.2.1 Geology

The shallow subsurface geology consists of fluvial and alluvial deposits comprised of clay and silt with minor inter-bedded sand layers, which overlie mudstone bedrock. These deposits are described in more detail below in descending order.

The Quaternary alluvium, which occurs at the land surface in the area of the Aeration Basin and OAPIS, is mapped regionally as a narrow band trending west-northwest and running just north of I-40 (Figure 5). The Quaternary alluvium is thought to be the parent material of the Rehobeth soils discussed above in Section 4.1. Two cross sections of the shallow subsurface in the immediate vicinity of the Aeration Basin and OAPIS are included as Figures 7 and Figure 8. As shown on the cross sections, the predominant lithology is silty clay with minor amounts of sand in varying proportions. Thin clayey sand lenses up to three to five feet in thickness are observed in the soil borings completed near the Aeration Basin and OAPIS, but the lenses are discontinuous. An isopach map of higher permeable materials (e.g., sand and gravel) was prepared for the sediments that immediately overlie the bedrock to determine if there is a laterally continuous layer of permeable materials present capable of transmitting groundwater and potential contaminants away from the Aeration Basin and/or OAPIS (Figure 9). As shown on the isopach map, there is not a laterally continuous layer of higher permeable materials present on top of the bedrock surface in the immediate vicinity of the Aeration Basin and the OAPIS. This is in contrast to the area further northwest near the Land Treatment Unit (LTU) where a sand layer up to 10 to 15 feet thick has been identified immediately overlying the bedrock (Precision Engineering, 1996). In the area of the LTU, a second sand layer up to 10 feet thick has also been identified, which is separated from the lower sand by a clay layer of 5 to 10 feet in the southern portion of the LTU. As shown on Figure 6 (Cross Section A-A'), these two sand bodies occur at a significantly lower elevation than the thin sand intervals identified near the Aeration Basin and OAPIS and do not appear to be stratigraphically equivalent.

A paleotopographic map, which is based on the current elevation of the top of the bedrock, was prepared to facilitate the evaluation of the deposition of the Quaternary alluvium (Figure 10). The surface of the bedrock slopes to the west and appears to be fairly uniform beneath the Aeration Basin. There is a significant depression of the surface elevation closer to the OAPIS as indicated in boring SWMU 14-1 and a second depressed area, possibly to a lesser extent, near the northwest corner of the Aeration Basin (boring SWMU 1-24). There is no obvious correlation between the surface of the bedrock and the presence of higher permeable materials in the overlying alluvium based on the available information.

Subcropping beneath the Quaternary alluvium is the Triassic Chinle Group, which is most likely the parent material of the Simitarq soils described above in Section 4.1 (Figure 5). 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', B-B', and C-C' (Figures 6, 7 and 8). 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 and the lowest mappable unit shown on cross section A-A' (Figure 6). The Blue Mesa Member is described as mostly purple and greenish-gray mudstone.

4.2.2 Hydrogeology

As discussed above in Section 2.1.3, previous investigations of the occurrence of shallow groundwater near the Aeration Basin identified various groundwater-bearing units where more permeable horizons (e.g., clayey sand/sandy clay) are present within the generally low permeability deposits of the Quaternary alluvium. Generally, the potentiometric surface of the shallow groundwater in monitoring wells at the refinery follows the land surface (Figure 11). The presence of shallow groundwater in the area of the Aeration Basin and OAPIS appears to be associated with fluids managed in these two SWMUs. All of the deeper soil borings immediately surrounding the Aeration Basin encountered saturation or at least moist conditions where more permeable horizons (e.g., clayey sand) were present at elevations at or below the water levels in the Aeration Basin (Figure 7). Saturation was not encountered in similarly permeable soils at elevations above the water levels in the Aeration Basin, nor are any of the measured water levels in the shallow wells above the water levels in the Aeration Basin. Saturation was not encountered in borings (e.g., SWMU 14-1, SWMU 14-6, SWMU 14-7, SWMU 1-20, and SWMU 1-38) located further away from the Aeration Basin and OAPIS, with the exception of boring SWMU 14-23. There was an indication of saturation within a sandy clay interval in SWMU 14-23; however, no water was produced from a temporary well completion installed in the soil boring. In addition, as discussed above in Section 2.1.3, there have been low concentrations of constituents reported in shallow groundwater from samples collected nearby the Aeration Basin and OAPIS that have also been detected in water and sediment samples collected from the Aeration Basin. All of the evidence points to the Aeration Basin in particular as a source of recharge to the discontinuous permeable zones (e.g., clayey sand) that have been identified in

borings adjacent to the Aeration Basin. These saturated intervals produce very little water. Temporary well completions were installed in soil borings SWMU 1-2, SWMU 1-3, SWMU 1-4, SWMU 1-5, SWMU 1-6, SWMU 1-7, SWMU 1-8, SWMU 1-24, and SWMU 14-3. In every case, it was difficult to obtain sufficient volumes of water to complete scheduled sample collection activities and at SWMU 1-5, there was not a sufficient volume of water to allow analyses for all analytes.

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 Formation 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 LTU indicated an average permeability of $1.9\text{E-}05$ cm/sec (Appendix C). Permeability tests performed on soils in the area of the firewater pond indicated an average permeability of $1.1\text{E-}07$ cm/sec (Appendix C).

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 C). A slug test performed on July 3, 1984 in well OW-4 indicated a hydraulic conductivity of $4.0\text{E-}7$ cm/sec. A pump test was performed in well OW-24 on February 20, 1985 and it yielded a hydraulic conductivity of $2.5\text{E-}7$ 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 $100 \text{ ft}^2/\text{day}$ (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 C).

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.

4.3.1 Aeration Basin Soil Investigation

The deeper soil borings (i.e., those scheduled to penetrate deeper than two feet) were drilled using the hollow-stem auger (HSA) method and a general description of the exploratory drilling activities is as follows. The drilling equipment was decontaminated between each borehole, as described in Appendix B. All deep soil borings were drilled to the top of saturation and extended deeper if multiple zones of saturation were encountered to reach the sand layer identified in GWM-1 at a depth of 21.5 feet, which lies on top of the Petrified Forest Formation (i.e., bedrock). All of the originally scheduled deep soil borings (i.e., SWMU 1-1 through SWMU 1-8) and three additional deep borings (SMWU 1-20, SWMU 1-37, and SWMU 1-38) reached the top of bedrock. One additional deep soil boring (SWMU 1-24) did not reach bedrock but was terminated after drilling to a depth of 34 feet with steadily decreasing signs of potential impacts based on field screening and penetrating six feet below the bottom of saturation.

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

- 0-6" (at soil borings with evidence of significant impacts near the land surface and all hand auger locations);
- 18-24" (at soil borings with evidence of significant impacts near the land surface and all hand auger locations, except where refusal was reached at a shallower depth);
- > 24" (from the interval in each soil boring with the greatest apparent degree of contamination, based on field observations and field screening);
- From a one-foot interval, which lies approximately five feet below the bottom of the Aeration Basin (all deep soil borings);
- From the bottom of each borehole (all soil borings);

- From the 6" interval at the top of saturation (all borings that encountered saturated soils) and
- Many additional soil samples were collected from:
 - zones that are sandy or silty;
 - intervals with apparent impacts based on field screening in addition to the interval with the greatest apparent impacts; and
 - in borings with multiple saturated intervals, soils samples were collected from each discrete saturated interval.

The installation of soil borings and collection of soil samples is discussed below in numerical order for the samples collected near the Aeration Basin. 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 2.

SWMU 1-1

On October 5, 2012 the drilling rig was set up on location SWMU 1-1. Sample collection was accomplished using the HSA drilling method and split spoon samplers. Three soil samples were collected from 2 - 4 feet, 10 - 12 feet and 13 - 14 feet bgl. Petroleum hydrocarbon odor and elevated photoionization detector (PID) readings were observed from 2 - 14 feet bgl. Discoloration (i.e., black staining) was observed from 2 - 4 feet bgl.

The lithology encountered consisted of surficial silty clay fill from 0 - 4 feet bgl. There was no recovery in the interval from 4 - 6 feet bgl. Soft, low plastic clay was encountered from 6 - 8 feet bgl. A very stiff, high plastic clay was encountered from 8 - 13 feet bgl. A very dense, dry, gray sandstone (Chinle Group- Painted Desert Member) was encountered from 13 - 14 feet bgl. The sampling terminated at 14 feet bgl. A temporary PVC well was installed with the screened interval ranging from 3 to 8 feet. No groundwater was detected in the temporary well. On October 9, 2012 the well was removed, the borehole was re-reamed and a temporary PVC well was reset with 10 feet of screen set from 2 - 12 feet. No groundwater was detected in the well. The well was pulled and the borehole was grouted on October 11, 2012.

SWMU 1-2

On October 2, 2012 the drilling rig was set up on location SWMU 1-2. Sample collection was accomplished using the HSA drilling method and split spoon samplers. Five soil samples were collected from 6 - 8 feet bgl, 10 - 11 feet bgl, 14 - 16 feet bgl, 17 - 17.25 feet bgl and 19.5 - 20 feet bgl. No odors were evident from 0 - 16 feet bgl. Petroleum hydrocarbon odors were evident from 16 - 19.5 feet bgl. The highest PID reading (7.2 ppm) was observed from 17 - 17.25 feet bgl.

The lithology encountered consisted of surficial silty clay from 0 - 8 feet bgl. There was no recovery in the interval from 8 - 10 feet bgl, (the empty sampling spoon was dripping with water). Saturated, fine grain clayey sand was encountered from 10 - 11.5 feet bgl. Moderate to low plastic clay was encountered from 11.5 - 12 feet bgl. Reddish brown, high plastic, firm clay was encountered from 12 - 14 feet bgl. A saturated, fine grain, clayey sand was encountered from 14 - 16 feet bgl. High plastic, firm, brown clay was encountered from 16 - 19.5 feet bgl. Two saturated, clayey sand seams were observed within the clay at 17 - 17.25 feet bgl and 18.50 - 18.75 feet bgl. A dense, dry, gray/reddish brown mudstone /sandstone (Painted Desert Member of Petrified Forest Formation) was encountered from 19.5 - 20 feet bgl. The sampling terminated at 20 feet bgl. A groundwater sample was collected from within the augers and the borehole was grouted.

SWMU 1-3

On October 2, 2012 the drilling rig was set up on location SWMU 1-3. Sample collection was accomplished using the HSA drilling method and split spoon samplers. Five soil samples were collected from 2 - 4 feet bgl, 10 - 11 feet bgl, 11 - 11.25 feet bgl, 18.5 - 19.25 feet bgl and 19.5 - 20 feet bgl. No petroleum hydrocarbon odors were evident in the samples collected from SWMU 1-3. The highest PID reading (21.3 ppm) was observed from 2 - 4 feet bgl.

The lithology encountered consisted of surficial silty clay from 0 - 11 feet bgl. A saturated, clayey sand seam was encountered from 11 - 11.25 feet bgl. High plastic, firm, reddish brown clay was encountered from 11.25 - 17 feet bgl. A damp to saturated, sandy clay / clayey sand was encountered from 17 - 19.5 feet bgl. A very dense, dry, reddish brown mudstone (Painted Desert Member of Petrified Forest Formation) was encountered from 19.5 - 20 feet bgl. The sampling terminated at 20 feet bgl. A temporary well was installed at this location with the

screened interval ranging from 15 - 20 feet bgl. A groundwater sample was collected on October 3, 2012. The well was pulled and the borehole was grouted.

SWMU 1-4

On October 3, 2012 the drilling rig was set up on location SWMU 1-4. Sample collection was accomplished using the HSA drilling method and split spoon samplers. Five soil samples were collected from 8 - 10 feet bgl, 10 - 12 feet bgl (duplicate), 17 - 18 feet bgl, and 23 - 24 feet bgl. No petroleum hydrocarbon odors were evident in the samples collected from 0 - 14 feet bgl. Petroleum hydrocarbon odors were evident in the samples collected from 16 - 23 feet bgl. The highest PID reading (16.4 ppm) was observed from 17 - 18 feet bgl.

The lithology encountered consisted of surficial silty clay from 0 - 10 feet bgl. A moist to saturated, clayey sand seam was encountered from 10 - 12 feet bgl. Silty clay was encountered from 12 - 14 feet bgl. There was no recovery in the interval from 14 - 16 feet bgl. Silty clay with black staining was encountered from 16 - 17 feet bgl. Moist to saturated sandy clay / clayey sand was encountered from 17 - 20 feet bgl. High plastic, reddish brown clay was encountered from 20 - 23 feet bgl. A dry, reddish brown / gray mudstone (Painted Desert Member of Petrified Forest Formation) was encountered from 23 - 24 feet bgl. The sampling terminated at 24 feet bgl. A temporary well was installed at this location with the screened interval ranging from 16 - 21 feet bgl. A groundwater sample (volatiles and semi-volatiles) was collected on October 4, 2012. A groundwater sample (metals) was collected on October 5, 2012. The well was pulled and the borehole was grouted.

SWMU 1-5

On October 3, 2012 the drilling rig was set up on location SWMU 1-5. Sample collection was accomplished using the HSA drilling method and split spoon samplers. Six soil samples were collected from 10 - 12 feet bgl, 14 - 16 feet bgl, 16 - 18 feet bgl, 24 - 25 feet bgl, 26 - 27 feet bgl and 27 - 28 feet bgl. No petroleum hydrocarbon odors were evident in the samples collected from SWMU 1-5. The highest PID reading (16.1 ppm) was observed from 16 - 18 feet bgl.

The lithology encountered consisted of surficial silty clay from 0 - 10 feet bgl. Clayey sand / silty clay / sandy clay was encountered from 10 - 16 feet bgl. A low plastic, gravelly clay was encountered from 16 - 26 feet bgl. Saturated, clayey sand was encountered from 26 - 27 feet bgl. A very dense, dry, gray, weathered mudstone (Painted Desert Member of Petrified Forest Formation) was encountered from 27 - 28 feet bgl. The sampling terminated at 28 feet bgl. A

temporary well was installed on October 4, 2012 at this location with the screened interval ranging from 23 - 28 feet bgl. A groundwater sample (volatiles and semi-volatiles) was collected on October 5, 2012. The well was pulled and the borehole was grouted.

SWMU 1-6

On October 4, 2012 the drilling rig was set up on location SWMU 1-6. Sample collection was accomplished using the HSA drilling method and split spoon samplers. Six soil samples were collected from 2 - 4 feet bgl (duplicate), 4 - 6 feet bgl, 7.5 - 8 feet bgl, 10 - 11 feet bgl and 11 - 12 feet bgl. No petroleum hydrocarbon odors were evident in the samples collected from SWMU 1-6. The highest PID reading (37.5 ppm) was observed from 2 - 4 feet bgl.

The lithology encountered consisted of surficial silty clay / gravel from 0 - 4 feet bgl. Saturated clayey sand was encountered from 4 - 7.5 feet bgl. Silty clay was encountered from 7.5 - 9 feet bgl. Saturated clayey sand was encountered from 9 - 11 feet bgl. A very dense, dry, reddish brown and gray mudstone (Painted Desert Member of Petrified Forest Formation) was encountered from 11 - 12 feet bgl. The sampling terminated at 12 feet bgl. A temporary well was installed with the screened interval ranging from 7 - 12 feet bgl. A groundwater sample was collected. The well was pulled and the borehole was grouted on October 5, 2012.

SWMU 1-7

On October 4, 2012 the drilling rig was set up on location SWMU 1-7. Sample collection was accomplished using the HSA drilling method and split spoon samplers. Three soil samples were collected from 12 - 14 feet bgl, 14 - 16 feet bgl, and 16 - 18 feet bgl. No petroleum hydrocarbon odors were evident in the samples collected from SWMU 1-7. The highest PID reading (7.6 ppm) was observed from 0 - 2 feet bgl.

The lithology encountered consisted of surficial silty clay from 0 - 12 feet bgl. High plastic clay with saturated clayey sand seams was encountered from 12 - 16 feet bgl. A very dense, dry, reddish brown and gray clay / mudstone (Painted Desert Member of Petrified Forest Formation) was encountered from 16 - 18 feet bgl. The sampling terminated at 18 feet bgl. A temporary well was installed with the screened interval ranging from 13 - 18 feet bgl. A groundwater sample was collected. The well was pulled and the borehole was grouted on October 5, 2012.

SWMU 1-8

On October 5, 2012 the drilling rig was set up on location SWMU 1-8. Sample collection was accomplished using the HSA drilling method and split spoon samplers. Six soil samples were collected from 4 - 6 feet bgl, 10 - 12 feet bgl, 12 - 14 feet bgl, 16 - 18 feet bgl (duplicate) and 19 - 20 feet bgl. Petroleum hydrocarbon odors were evident in the samples collected from 4 - 6 feet bgl and 12 - 19 feet bgl. The highest PID reading (161 ppm) was observed from 12 - 14 feet bgl.

The lithology encountered consisted of surficial silty clay fill from 0 - 4 feet bgl. Saturated clayey sand was encountered from 4 - 6 feet bgl. Silty clay was encountered from 6 - 13 feet bgl. Saturated clayey sand was encountered from 13 - 19 feet bgl. A very dense, dry to damp, reddish brown / gray mudstone (Painted Desert Member of Petrified Forest Formation) was encountered from 19 - 20 feet bgl. The sampling terminated at 20 feet bgl. A temporary well was installed with the screened interval ranging from 13 - 18 feet bgl. A groundwater sample was collected. The well was pulled and the borehole was grouted on October 5, 2012.

SWMU 1-9

On October 15, 2012 location SWMU 1-9 was sampled using a hand auger. The samples were collected from the auger bucket. Two soil samples were collected from 0 - 0.5 feet bgl and 1.5 - 2 feet bgl. Petroleum hydrocarbon odors were not evident in the samples collected from SWMU 1-9. The highest PID reading (7.0 ppm) was observed from 1.5 - 2 feet bgl. The lithology encountered consisted of surficial silty clay / gravel fill from 0 - 0.5 feet bgl. Silty sand fill was encountered from 0.5 - 1.5 feet bgl. The boring was terminated in silty clay encountered from 1.5 - 2 feet bgl. Soils not used for laboratory analyses were placed back in the borehole.

SWMU 1-10

On October 15, 2012 location SWMU 1-10 was sampled using a hand auger. The samples were collected from the auger bucket. Two soil samples were collected from 0 - 0.5 feet bgl and 1.5 - 2 feet bgl. Petroleum hydrocarbon odors were not evident in the samples collected from SWMU 1-10. The highest PID reading (10.1 ppm) was observed from 0 - 0.5 feet bgl. The lithology encountered consisted of surficial silty clay / gravel fill from 0 - 0.5 feet bgl. Silty sand fill was encountered from 0.5 - 2 feet bgl. The boring was terminated at 2 feet bgl. Soils not used for laboratory analyses were placed back in the borehole.

SWMU 1-11

On October 15, 2012 location SWMU 1-11 was sampled using a hand auger. The samples were collected from the auger bucket. Two soil samples were collected from 0 - 0.5 feet bgl and 1.5 - 2 feet bgl. Petroleum hydrocarbon odors were not evident in the samples collected from SWMU 1-11. The highest PID reading (38.9 ppm) was observed from 0 - 0.5 feet bgl. The lithology encountered consisted of surficial silty clay / gravel fill from 0 - 2 feet bgl. The boring was terminated at 2 feet bgl. Soils not used for laboratory analyses were placed back in the borehole.

SWMU 1-12

On October 15, 2012 location SWMU 1-12 was sampled using a hand auger. The samples were collected from the auger bucket. Two soil samples were collected from 0 - 0.5 feet bgl and 0.5 - 1 feet bgl. Petroleum hydrocarbon odors were not evident in the samples collected from SWMU 1-12. The highest PID reading (63 ppm) was observed from 0 - 0.5 feet bgl. The lithology encountered consisted of surficial silty clay / gravel fill from 0 - 1 feet bgl. The boring was terminated at 1 feet bgl due to refusal in gravel. Soils not used for laboratory analyses were placed back in the borehole.

SWMU 1-13

On October 12, 2012 the drilling rig was set up on location SWMU 1-13. Sample collection was accomplished using the HSA drilling method and split spoon samplers. Five soil samples were collected from 0 - 0.5 feet bgl, 1.5 - 2 feet bgl, 2 - 4 feet bgl, and 4 - 6 feet bgl (duplicate). No petroleum hydrocarbon odors were evident in the samples collected from SWMU 1-13. The highest PID reading (35.7 ppm) was observed from 2 - 4 feet bgl. The lithology encountered consisted of surficial silty clay fill from 0 - 6 feet bgl. The borehole was plugged with bentonite chips.

SWMU 1-14

On October 15, 2012 location SWMU 1-14 was sampled using a hand auger. The samples were collected from the auger bucket. Three soil samples were collected from 0 - 0.5 feet bgl and 1.5 - 2 feet bgl (duplicate). Petroleum hydrocarbon odors were not evident in the samples collected from SWMU 1-14. The highest PID reading (5.7 ppm) was observed from 0 - 0.5 feet bgl. The lithology encountered consisted of surficial silty clay / gravel fill from 0 - 1 feet bgl and

clay fill from 1 - 2 feet bgl. The boring was terminated at 2 feet bgl. Soils not used for laboratory analyses were placed back in the borehole.

SWMU 1-15

On October 15, 2012 location SWMU 1-15 was sampled using a hand auger. The samples were collected from the auger bucket. Two soil samples were collected from 0 - 0.5 feet bgl and 1.5 - 2 feet bgl. Petroleum hydrocarbon odors were not evident in the samples collected from SWMU 1-15. The highest PID reading (9.3 ppm) was observed from 1.5 - 2 feet bgl. The lithology encountered consisted of surficial silt / silty clay fill from 0 - 1 feet bgl and clay fill from 1 - 2 feet bgl. The boring was terminated at 2 feet bgl. Soils not used for laboratory analyses were placed back in the borehole.

SWMU 1-16

On October 15, 2012 location SWMU 1-16 was sampled using a hand auger. The samples were collected from the auger bucket. Two soil samples were collected from 0 - 0.5 feet bgl and 1.5 - 2 feet bgl. Petroleum hydrocarbon odors were not evident in the samples collected from SWMU 1-16. The highest PID reading (7.7 ppm) was observed from 0 - 0.5 feet bgl. The lithology encountered consisted of surficial silt / gravel fill from 0 - 1 feet bgl and silty clay / gravel fill from 1 - 2 feet bgl. The boring was terminated at 2 feet bgl. Soils not used for laboratory analyses were placed back in the borehole.

SWMU 1-17

On October 15, 2012 location SWMU 1-17 was sampled using a hand auger. The samples were collected from the auger bucket. Two soil samples were collected from 0 - 0.5 feet bgl and 1 - 1.5 feet bgl. Petroleum hydrocarbon odors were not evident in the samples collected from SWMU 1-17. The highest PID reading (9.5 ppm) was observed from 0 - 0.5 feet bgl. The lithology encountered consisted of surficial silt / gravel fill from 0 - 0.5 feet bgl and silty clay fill from 0.5 - 1.5 feet bgl. The boring was terminated at 1.5 feet bgl due to refusal in gravel. Soils not used for laboratory analyses were placed back in the borehole.

SWMU 1-18

On October 16, 2012 location SWMU 1-18 was sampled using a hand auger. The samples were collected from the auger bucket. Two soil samples were collected from 0 - 0.5 feet bgl and 1 - 1.5 feet bgl. Petroleum hydrocarbon odors were not evident in the samples collected from

SWMU 1-18. The highest PID reading (8.2 ppm) was observed from 0 - 0.5 feet bgl. The lithology encountered consisted of surficial silt / gravel fill from 0 - 0.5 feet bgl and silty clay fill from 0.5 - 1.5 feet bgl. The boring was terminated at 1.5 feet bgl due to refusal in gravel. Soils not used for laboratory analyses were placed back in the borehole.

SWMU 1-19

On October 16, 2012 location SWMU 1-19 was sampled using a hand auger. The samples were collected from the auger bucket. One soil sample was collected from 0 - 0.5 feet bgl. Petroleum hydrocarbon odors were not evident in the samples collected from SWMU 1-19. The PID reading (4.1 ppm) was observed from 0 - 0.5 feet bgl. The lithology encountered consisted of surficial silt from 0 - 0.5 feet bgl. The boring was terminated at 0.5 feet bgl due to refusal in gravel. Soils not used for laboratory analyses were placed back in the borehole.

SWMU 1-20

On October 11, 2012 the drilling rig was set up on location SWMU 1-20, which was an additional location selected west of the Aeration Basin to help define the lateral extent of potential impacts observed in SWMU 1-4. Sample collection was accomplished using the HSA drilling method and split spoon samplers. Five soil samples were collected from 0 - 0.5 feet bgl (duplicate), 1.5 - 2 feet bgl, 4 - 6 feet bgl, and 10 - 12 feet bgl (duplicate). No petroleum hydrocarbon odors were evident in the samples collected from SWMU 1-20. The highest PID reading (21.7 ppm) was observed from 0 - 2 feet bgl. The lithology encountered consisted of silt / silty clay from 0 - 2 feet bgl. Silty clay was encountered from 2 - 10 feet bgl. A very dense, dry to damp, reddish brown mudstone (Painted Desert Member of Petrified Forest Formation) was encountered from 10 - 12 feet bgl. The sampling terminated at 12 feet bgl. The borehole was plugged with bentonite chips.

SWMU 1-21

On October 16, 2012 location SWMU 1-21, which was shifted west of its original location, was sampled with a hand auger. The samples were collected from the auger bucket. Two soil samples were collected from 0 - 0.5 feet bgl (duplicate). Petroleum hydrocarbon odors were not evident in the samples collected from SWMU 1-21. A PID reading of 1.4 ppm was observed from 0 - 0.5 feet bgl. The lithology encountered consisted of silt from 0 - 0.5 feet bgl. The boring was terminated at 0.5 feet bgl due to refusal in gravel. Soils not used for laboratory analyses were placed back in the borehole.

SWMU 1-22

On October 16, 2012 location SWMU 1-22, which was shifted west of its original location, was sampled using a hand auger. The samples were collected from the auger bucket. Two soil samples were collected from 0 - 0.5 feet bgl and 1.5 - 2 feet bgl. Petroleum hydrocarbon odors were not evident in the samples collected from SWMU 1-22. The highest PID reading (6.8 ppm) was observed from 1.5 - 2 feet bgl. The lithology encountered consisted of silt from 0 - 0.5 feet bgl and silty clay from 0.5 - 2 feet bgl. The boring was terminated at 2 feet bgl. Soils not used for laboratory analyses were placed back in the borehole.

SWMU 1-23

On October 16, 2012 location SWMU 1-23 was sampled using a hand auger. This boring was moved west of its original location due to earlier field indications of potential impacts at SWMU 1-4 and SWMU 1-24. The samples were collected from the auger bucket. One soil sample was collected from 0 - 0.5 feet bgl. Petroleum hydrocarbon odors were not evident in the samples collected from SWMU 1-23. The PID reading (3.7 ppm) was observed from 0 - 0.5 feet bgl. The lithology encountered consisted of silt /gravel from 0 - 0.5 feet bgl. The boring was terminated at 0.5 feet bgl due to refusal in gravel. Soils not used for laboratory analyses were placed back in the borehole.

SWMU 1-24

On October 8, 2012 the drilling rig was set up on location SWMU 1-24. This location was an additional deep boring installed between SWMU 1-4 to the south and SWMU 1-5 to the north to better define potential impacts in this area. Sample collection was accomplished using the HSA drilling method and split spoon samplers. Seven soil samples were collected from 0 - 0.5 feet bgl (duplicate), 1.5 - 2 feet bgl, 10.5 - 11.5 feet bgl, 16 - 18 feet bgl, 24 - 26 feet bgl and 32 - 34 feet bgl. Petroleum hydrocarbon odors were evident in the samples collected from 18 - 32 feet bgl. The highest PID reading (28 ppm) was observed from 16 - 18 feet bgl.

The lithology encountered consisted of surficial silty clay fill from 0 - 16 feet bgl. Damp, clayey sand was encountered within the silty clay at the 10.5 - 11.5 feet bgl interval. Sandy clay / clayey sand was encountered from 16 - 20 feet bgl. Clayey silt was encountered from 20 - 24 feet bgl. The interval from 24 - 28 feet contained clayey silt and sand and was observed to be saturated to very moist. Black discoloration (possible staining from petroleum hydrocarbons) was also observed from 20 to 34 feet bgl. Damp, very dense clayey sand / gravel was

encountered from 30 - 34 feet bgl. The sampling terminated at 34 feet bgl. A temporary well was installed on October 9, 2012 with the screened interval ranging from 16 - 26 feet bgl. A groundwater sample was collected on October 10, 2012. The well was pulled and the borehole was grouted on October 11, 2012.

SWMU 1-25

On October 16, 2012 location SWMU 1-25 was sampled using a hand auger. The samples were collected from the auger bucket. Two soil samples were collected from 0 - 0.5 feet bgl and 0.5 - 1 feet bgl. Petroleum hydrocarbon odors were not evident in the samples collected from SWMU 1-25. The highest PID reading (4.7 ppm) was observed from 0.5 - 1 feet bgl. The lithology encountered consisted of sand / gravel fill from 0 - 1 feet bgl. The boring was terminated at 1 feet bgl due to refusal in gravel. Soils not used for laboratory analyses were placed back in the borehole.

SWMU 1-26

On October 16, 2012 location SWMU 1-26 was sampled using a hand auger. The samples were collected from the auger bucket. One soil sample was collected from 0 - 0.5 feet bgl. Petroleum hydrocarbon odors were not evident in the samples collected from SWMU 1-26. A PID reading of 6.5 ppm was observed from 0 - 0.5 feet bgl. The lithology encountered consisted of silty clay / gravel from 0 - 0.5 feet bgl. The boring was terminated at 0.5 feet bgl due to refusal in gravel. Soils not used for laboratory analyses were placed back in the borehole.

SWMU 1-27

On October 12, 2012 the drilling rig was set up on location SWMU 1-27. This location was originally to be completed with a hand auger, but the drilling rig was used to allow deeper penetration to help define any potential impacts observed in boring SWMU 1-6. Sample collection was accomplished using the HSA drilling method and split spoon samplers. Two soil samples were collected from 0 - 0.5 feet bgl and 1.5 - 2 feet bgl. No petroleum hydrocarbon odors were evident in the samples collected from SWMU 1-27. The highest PID reading (18.2 ppm) was observed from 2 - 4 feet bgl. The lithology encountered consisted of silty clay fill from 0 - 4 feet bgl. The sampling terminated at 4 feet bgl. The borehole was plugged with bentonite chips.

SWMU 1-28

On October 12, 2012 the drilling rig was set up on location SWMU 1-28. This location was originally to be completed with a hand auger, but the drilling rig was used to allow deeper penetration to help define any potential impacts observed in boring SWMU 1-6. Sample collection was accomplished using the HSA drilling method and split spoon samplers. Three soil samples were collected from 0 - 0.5 feet bgl and 1.5 - 2 feet bgl (duplicate). No petroleum hydrocarbon odors were evident in the samples collected from SWMU 1-28. The highest PID reading (4.8 ppm) was observed from 2 - 4 feet bgl. The lithology encountered consisted of silty clay fill from 0 - 2 feet bgl and clayey gravelly sand from 2 - 4 feet bgl. The sampling terminated at 4 feet bgl. The borehole was plugged with bentonite chips.

SWMU 1-29

On October 16, 2012 location SWMU 1-29 was sampled using a hand auger. The samples were collected from the auger bucket. One soil sample was collected from 0 - 0.5 feet bgl. Petroleum hydrocarbon odors were not evident in the samples collected from SWMU 1-29. A PID reading of 3.6 ppm was observed from 0 - 0.5 feet bgl. The lithology encountered consisted of silty clay / gravel from 0 - 0.5 feet bgl. The boring was terminated at 0.5 feet bgl due to refusal in gravel. Soils not used for laboratory analyses were placed back in the borehole.

SWMU 1-30

On October 12, 2012 the drilling rig was set up on location SWMU 1-30. Sample collection was accomplished using the HSA drilling method and split spoon samplers. Three soil samples were collected from 0 - 0.5 feet bgl, 1.5 - 2 feet bgl, and 4 - 6 feet bgl. No petroleum hydrocarbon odors were evident in the samples collected from SWMU 1-30. The highest PID reading (6.7 ppm) was observed from 4 - 6 feet bgl. The lithology encountered consisted of silty clay fill from 0 - 4 feet bgl and clayey sand from 4 - 6 feet bgl. The sampling terminated at 6 feet bgl. The borehole was plugged with bentonite chips.

SWMU 1-31

On October 16, 2012 location SWMU 1-31 was sampled using a hand auger. The samples were collected from the auger bucket. One soil sample was collected from 0 - 0.5 feet bgl. Petroleum hydrocarbon odors were not evident in the samples collected from SWMU 1-31. A PID reading of 3.9 ppm was observed from 0 - 0.5 feet bgl. The lithology encountered consisted

of silty clay / gravel from 0 - 0.5 feet bgl. The boring was terminated at 0.5 feet bgl due to refusal in gravel. Soils not used for laboratory analyses were placed back in the borehole.

SWMU 1-32

On October 16, 2012 location SWMU 1-32 was sampled using a hand auger. The samples were collected from the auger bucket. Two soil samples were collected from 0 - 0.5 feet bgl (duplicate). Petroleum hydrocarbon odors were not evident in the samples collected from SWMU 1-32. A PID reading of 0.7 ppm was observed from 0 - 0.5 feet bgl. The lithology encountered consisted of silty clay / gravel from 0 - 0.5 feet bgl. The boring was terminated at 0.5 feet bgl due to refusal in gravel. Soils not used for laboratory analyses were placed back in the borehole.

SWMU 1-33

On October 16, 2012 location SWMU 1-33 was sampled. Sample collection was accomplished using a hand auger. The samples were collected from the auger bucket. One soil sample was collected from 0 - 0.5 feet bgl. Petroleum hydrocarbon odors were not evident in the samples collected from SWMU 1-33. A PID reading of 3.1 ppm was observed from 0 - 0.5 feet bgl. The lithology encountered consisted of silty clay / gravel from 0 - 0.5 feet bgl. The boring was terminated at 0.5 feet bgl due to refusal in gravel. Soils not used for laboratory analyses were placed back in the borehole.

SWMU 1-34

On October 16, 2012 location SWMU 1-34 was sampled using a hand auger. The samples were collected from the auger bucket. One soil sample was collected from 0 - 0.5 feet bgl. Petroleum hydrocarbon odors were not evident in the samples collected from SWMU 1-34. A PID reading of 3.2 ppm was observed from 0 - 0.5 feet bgl. The lithology encountered consisted of silty clay / gravel from 0 - 0.5 feet bgl. The boring was terminated at 0.5 feet bgl due to refusal in gravel. Soils not used for laboratory analyses were placed back in the borehole.

SWMU 1-35

On October 12, 2012 the drilling rig was set up on location SWMU 1-35. Sample collection was accomplished using the HSA drilling method and split spoon samplers. Three soil samples were collected from 0 - 0.5 feet bgl, 1.5 - 2 feet bgl, and 4 - 6 feet bgl. No petroleum hydrocarbon odors were evident in the samples collected from SWMU 1-35. The highest PID

reading (4.7 ppm) was observed from 2 - 4 feet bgl. The lithology encountered consisted of silty clay fill from 0 - 4 feet bgl and silty clay / clayey silt from 4 - 6 feet bgl. The sampling terminated at 6 feet bgl. The borehole was plugged with bentonite chips.

SWMU 1-36

On October 16, 2012 location SWMU 1-36 was sampled using a hand auger. The sample was collected from the auger bucket. One soil sample was collected from 0 - 0.5 feet bgl.

Petroleum hydrocarbon odors were not evident in the samples collected from SWMU 1-36. A PID reading of 1.9 ppm was observed from 0 - 0.5 feet bgl. The lithology encountered consisted of silty clay / gravel from 0 - 0.5 feet bgl. The boring was terminated at 0.5 feet bgl due to refusal in gravel. Soils not used for laboratory analyses were placed back in the borehole.

SWMU 1-37

On October 10, 2012 the drilling rig was set up on location SWMU 1-37. This was an additional deep boring installed southwest of boring SWMU 1-2. Sample collection was accomplished using the HSA drilling method and split spoon samplers. Seven soil samples were collected from 0 - 0.5 feet bgl, 1.5 - 2 feet bgl, 8 - 8.5 feet bgl, 8.5 - 9 feet bgl, 12 - 13 feet bgl, 13 - 14 feet bgl, and 17 - 18 feet bgl. No petroleum hydrocarbon odors were evident in the samples collected from SWMU 1-37. The highest PID reading (16.6 ppm) was observed from 6 - 8 feet bgl.

The lithology encountered consisted of surficial silty clay from 0 - 7 feet bgl. High plastic clay was encountered from 7 - 16 feet bgl. Encountered at 8.5 - 9 feet bgl and 12 - 13 feet bgl were saturated clayey sands. No petroleum hydrocarbon discoloration or odors were associated with these sands. The boring was terminated in a very dense, dry, gray, clay / mudstone (Painted Desert Member of Petrified Forest formation). The sampling terminated at 18 feet bgl. A temporary well was installed with the screened interval ranging from 10 - 15 feet bgl. A groundwater sample was collected on October 11, 2012. The well was pulled and the borehole was grouted on October 11, 2012.

SWMU 1-38

On October 11, 2012 the drilling rig was set up on location SWMU 1-38. This additional location was selected west of SWMU1-4 to help define the lateral extent of any impacts observed in borings SWMU 1-4 and 1-24. Sample collection was accomplished using the HSA drilling method and split spoon samplers. Three soil samples were collected from 0 - 0.5 feet bgl,

1.5 - 2 feet bgl, and 6 - 8 feet bgl. No petroleum hydrocarbon odors were evident in the samples collected from SWMU 1-38. The highest PID reading (11.7 ppm) was observed from 6 - 8 feet bgl. The lithology encountered consisted of silt / silty clay from 0 - 2 feet bgl and silty clay 2 - 6 feet bgl. A very dense, dry, reddish brown / gray, mudstone (Painted Desert Member of Petrified Forest Formation) was encountered from 6 - 8 feet bgl. The sampling terminated at 8 feet bgl. The borehole was plugged with bentonite chips.

SWMU 1-39

On October 16, 2012 location SWMU 1-39 was sampled using a hand auger. The samples were collected from the auger bucket. One soil sample was collected from 0 - 0.5 feet bgl. Petroleum hydrocarbon odors were not evident in the samples collected from SWMU 1-39. The PID reading (4.4 ppm) was observed from 0 - 0.5 feet bgl. The lithology encountered consisted of silt / gravel fill from 0 - 0.5 feet bgl. The boring was terminated at 0.5 feet bgl due to refusal in gravel. Soils not used for laboratory analyses were placed back in the borehole.

4.3.2 Old API Separator

The deeper soil borings (i.e., those scheduled to penetrate deeper than two feet) were drilled using the HAS drilling method and a general description of the exploratory drilling activities is as follows. The drilling equipment was decontaminated between each borehole, as described in Appendix B. All scheduled deep soil borings were drilled to a minimum depth of 10 feet pursuant to the investigation work plan with the exception of locations SWMU 14-5 and SWMU 14-8, which had to be installed with a hand auger due to access limitations. None of the soil borings encountered bedrock near the OAPIS even though the boring at SWMU 14-1 reached a depth of 50 feet bgl. Additional soil borings (SWMU 14-6, SWMU 14-21, SWMU 14-22, SWMU 14-23, and SWMU 14-24) were completed to delineate the lateral extent of potential impacts to the east, south, and west of the OAPIS.

Discrete soil samples were collected for laboratory analysis from the following intervals:

- 0-0.5' (all borings);
- 1.5-2.0' (all borings except SWMU 14-20 where refusal was reached at a depth of 1 foot);
- From the 6" interval at the top of saturation, if encountered;

- A sample from each boring in the interval with the greatest apparent degree of contamination, based on field observations and field screening;
- The 6" interval at the bottom of each boring except SWMU 14-23 where there was no sample recovery in the bottom 4 foot of the boring; however, saturation was encountered in this boring and a sample was collected from the 6" interval at the top of saturation instead pursuant to the investigation work plan; and
- Additional soil samples were collected from:
 - Zones that are sandy or silty; and
 - Intervals with apparent impacts based on field screening in addition to the interval with the greatest apparent impacts

The installation of soil borings and collection of soil samples is discussed below in numerical order for the samples collected near the OAPIS. 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 3.

SWMU 14-1

On July 16, 2012 the drilling rig was set up on location SWMU 14-1. Sample collection was accomplished using the HSA drilling method and split spoon samplers. Three soil samples were collected from the following intervals on July 16, 2012; 0 - 0.5 feet bgl, 1.5 - 2 feet bgl, and 10 - 12 feet bgl. Sampling was stopped for the day at 30 feet bgl.

On July 17, 2012 the crew returned to SWMU 14-1. There was no groundwater observed in the borehole. Sampling resumed and an additional sample was collected from the interval 48 - 50 feet bgl. The sampling was terminated at 50 feet bgl.

No petroleum hydrocarbon odors were observed in the soil samples from SWMU 14-1. The highest PID reading (105.9 ppm) was observed from 10 - 12 feet bgl.

The lithology encountered consisted of surficial silty clay from 0 - 8 feet bgl. High plastic clay was encountered from 8 - 12 feet bgl. A low to moderate plastic silty clay was encountered from 12 - 36 feet bgl. A fine grain, poorly cemented, reddish brown sandstone was encountered from 36 - 38 feet bgl. Encountered from 38 to 50 feet bgl was silty clay / clay with low plasticity and very stiff. The borehole was grouted on July 18, 2012.

SWMU 14-2

On July 17, 2012 the drilling rig was set up on location SWMU 14-2. Sample collection was accomplished using the HSA drilling method and split spoon samplers. Six soil samples were collected from 0 - 0.5 feet bgl, 1.5 - 2 feet bgl, 8 - 10 feet bgl (duplicate), 16 - 18 feet bgl, and 24 - 25 feet bgl. Petroleum hydrocarbon odors were evident in the samples collected from 1.5 - 13 feet bgl. Discoloration (black staining) was apparent from 1.5 - 13 feet bgl. The highest PID reading (330 ppm) was observed from 8 - 10 feet bgl.

The lithology encountered consisted of surficial clay / gravel from 0 - 1.5 feet bgl. Moderate plastic clay was encountered from 1.5 - 2 feet bgl. Low plastic, silty clay was encountered from 2 - 13 feet bgl. Moderate plastic, stiff, reddish brown clay was encountered from 13 - 25 feet bgl. A temporary PVC well screen was installed on July 17 and it was replaced with a permanent well completion on July 19, 2012.

SWMU 14-3

On July 18, 2012 the drilling rig was set up on location SWMU 14-3. Sample collection was accomplished using the HSA drilling method and split spoon samplers. Five soil samples were collected from 0 - 0.5 feet bgl, 1.5 - 2 feet bgl, 8 - 10 feet bgl, 12 - 14 feet bgl, and 25.5 - 26 feet bgl. Petroleum hydrocarbon odors were apparent in the samples collected from 2 - 20 feet bgl. Discoloration (black staining) was apparent from 2 - 14 feet bgl. The highest PID reading (343 ppm) was observed from 8 - 10 feet bgl.

The lithology encountered consisted of surficial silty clay from 0 - 14 feet bgl. Moderate plastic clay was encountered from 14 - 24 feet bgl. Groundwater was observed in the sampling spoon from the 14 - 16 feet bgl interval. Low plastic silty clay was encountered from 24 - 26 feet bgl. The sampling was terminated at 26 feet bgl. A groundwater sample was collected from the augers. The borehole was grouted.

SWMU 14-4

On July 17, 2012 the drilling rig was set up on location SWMU 14-4. Sample collection was accomplished using the HSA drilling method and split spoon samplers. Four soil samples were collected from 0 - 0.5 feet bgl, 1.5 - 2 feet bgl, 10 - 12 feet bgl, and 19.5 - 20 feet bgl. Petroleum hydrocarbon odors were apparent in the samples collected from 6 - 14 feet bgl. Discoloration was apparent from 8 - 10 feet bgl. The highest PID reading (711 ppm) was observed from 10 - 12 feet bgl.

The lithology encountered consisted of surficial silty clay from 0 - 14 feet bgl. Moderate plastic clay was encountered from 14 - 20 feet bgl. The sampling was terminated at 20 feet bgl. Groundwater was not observed in this boring.

SWMU 14-5

On July 19, 2012 location SWMU 14-5 was sampled using a hand auger. The samples were collected from the auger bucket. Three soil samples were collected from 0 - 0.5 feet bgl (duplicate) and 1.5 - 2 feet bgl. Petroleum hydrocarbon odors were not evident in the samples collected from SWMU 14-5. The highest PID reading (7.4 ppm) was observed from 1.5 - 2 feet bgl. The lithology encountered consisted of gravel / clay from 0 - 2 feet bgl. The boring was terminated at 2 feet bgl. Soils not used for laboratory analyses were placed back in the borehole.

SWMU 14-6

On October 9, 2012 the drilling rig was set up on location SWMU 14-6. Sample collection was accomplished using the HSA drilling method and split spoon samplers. Four soil samples were collected from 0 - 0.5 feet bgl, 1.5 - 2 feet bgl, 10 - 12 feet bgl, and 17 - 18 feet bgl. Petroleum hydrocarbon odors were apparent in the samples collected from 4 - 14 feet bgl. Discoloration (black staining) was apparent from 4 - 8 feet bgl. The highest PID reading (367 ppm) was observed from 10 - 12 feet bgl.

The lithology encountered consisted of surficial silty clay from 0 - 8 feet bgl. A high plastic clay was encountered from 8 - 18 feet bgl. Sampling was terminated at 18 feet bgl and the borehole was grouted. Groundwater was not observed in this boring.

SWMU 14-7

On July 18, 2012 the drilling rig was set up on location SWMU 14-7. Sample collection was accomplished using the HSA drilling method and split spoon samplers. Four soil samples were collected from 0 - 0.5 feet bgl, 1.5 - 2 feet bgl, 6 - 8 feet bgl, and 23.5 - 24 feet bgl. Petroleum hydrocarbon odors were apparent in the samples collected from 0 - 18 feet bgl. The highest PID reading (935 ppm) was observed from 6 - 8 feet bgl.

The lithology encountered consisted of gravel / clay fill from 0 - 2 feet bgl and then silty clay from 2 - 6 feet bgl. High plastic clay was encountered from 6 - 16 feet bgl. Clayey sand / sandy clay was encountered from 16 - 20 feet bgl. High plastic, very stiff, dry, reddish brown clay was

encountered from 20 to 24 feet bgl. The sampling was terminated at 24 feet bgl and the borehole was grouted. Groundwater was not observed in this boring.

SWMU 14-8

On July 19, 2012 location SWMU 14-8 was sampled using a hand auger. The samples were collected from the auger bucket. Three soil samples were collected from 0 - 0.5 feet bgl and 1.5 - 2 feet bgl (duplicate). Petroleum hydrocarbon odors and discoloration were evident in the samples collected from 0 - 2 feet bgl. The highest PID reading (3,717 ppm) was observed from 1.5 - 2 feet bgl. The lithology encountered consisted of gravel / clay / sand from 0 - 2 feet bgl. The boring was terminated at 2 feet bgl. Soils not used for laboratory analyses were placed back in the borehole.

SWMU 14-9

On July 18, 2012 the drilling rig was set up on location SWMU 14-9. Sample collection was accomplished using the HSA drilling method and split spoon samplers. Five soil samples were collected from 0 - 0.5 feet bgl (duplicate), 1.5 - 2 feet bgl, 4 - 6 feet bgl, and 13 - 14 feet bgl. Petroleum hydrocarbon odors were apparent in the samples collected from 1 - 8 feet bgl. The highest PID reading (1959 ppm) was observed from 4 - 6 feet bgl.

The lithology encountered consisted of silt / gravel / clay fill from 0 - 4 feet bgl. A moderate to low plastic sandy / silty clay was encountered from 4 - 10 feet bgl. High plastic, stiff, brown clay was encountered from 10 - 13 feet bgl. The sampling was terminated at 14 feet bgl in low plastic, stiff, silty clay. The borehole was grouted. Groundwater was not observed in this boring.

SWMU 14-10

On July 19, 2012 location SWMU 14-10 was sampled using a hand auger. The samples were collected from the auger bucket. Two soil samples were collected from 0 - 0.5 feet bgl and 1.5 - 2 feet bgl. No petroleum hydrocarbon odors or discoloration were evident in the samples collected from SWMU 14-10. The highest PID reading (0.4 ppm) was observed from 1.5 - 2 feet bgl. The lithology encountered consisted of gravel / clay fill from 0 - 2 feet bgl. The boring was terminated at 2 feet bgl. Soils not used for laboratory analyses were placed back in the borehole.

SWMU 14-11

On July 19, 2012 location SWMU 14-11 was sampled using a hand auger. The samples were collected from the auger bucket. Two soil samples were collected from 0 - 0.5 feet bgl and 1.5 - 2 feet bgl. No petroleum hydrocarbon odors or discoloration were evident in the samples collected from SWMU 14-11. The highest PID reading (38.5 ppm) was observed from 1.5 - 2 feet bgl. The lithology encountered consisted of gravel / clay fill from 0 - 2 feet bgl. The boring was terminated at 2 feet bgl. Soils not used for laboratory analyses were placed back in the borehole.

SWMU 14-12

On July 19, 2012 location SWMU 14-12 was sampled using a hand auger. The samples were collected from the auger bucket. Two soil samples were collected from 0 - 0.5 feet bgl and 1.5 - 2 feet bgl. Petroleum hydrocarbon odors and discoloration (e.g., black staining) were evident in the samples collected from 0 - 2 feet bgl. The highest PID reading (1,094 ppm) was observed from 1.5 - 2 feet bgl. The lithology encountered consisted of high plastic, soft clay from 0 - 2 feet bgl. The boring was terminated at 2 feet bgl. Soils not used for laboratory analyses were placed back in the borehole.

SWMU 14-13

On July 19, 2012 location SWMU 14-13 was sampled using a hand auger. The samples were collected from the auger bucket. Two soil samples were collected from 0 - 0.5 feet bgl and 1.5 - 2 feet bgl. Petroleum hydrocarbon odors and discoloration (e.g., black staining) were evident in the samples collected from 0 - 2 feet bgl. The highest PID reading (975 ppm) was observed from 1 - 2 feet bgl. The lithology encountered consisted of high plastic, soft clay from 0 - 2 feet bgl with a sand lens present from 0.75 - 1.25 feet bgl. The boring was terminated at 2 feet bgl. Soils not used for laboratory analyses were placed back in the borehole.

SWMU 14-14

On July 19, 2012 location SWMU 14-14 was sampled using a hand auger. The samples were collected from the auger bucket. Two soil samples were collected from 0 - 0.5 feet bgl and 1.5 - 2 feet bgl. Petroleum hydrocarbon odors and discoloration (e.g., black staining) were evident in the samples collected from 0 - 2 feet bgl. The highest PID reading (1,028 ppm) was observed from 1 - 2 feet bgl. The lithology encountered consisted of low plastic, soft clay from

0 - 1 feet bgl and fine grain clayey sand from 1 - 2 feet bgl. The boring was terminated at 2 feet bgl. Soils not used for laboratory analyses were placed back in the borehole.

SWMU 14-15

On July 19, 2012 location SWMU 14-15 was sampled using a hand auger. The samples were collected from the auger bucket. Two soil samples were collected from 0 - 0.5 feet bgl and 1.5 - 2 feet bgl. Petroleum hydrocarbon odors and discoloration (e.g., black staining) were evident in the sample collected from 1 - 2 feet bgl. The highest PID reading (5,000 ppm) was observed from 1 - 2 feet bgl. The lithology encountered consisted of sandy fill from 0 - 1 feet bgl and fine grain clayey sand from 1 - 2 feet bgl. The boring was terminated at 2 feet bgl. Soils not used for laboratory analyses were placed back in the borehole.

SWMU 14-16

On July 19, 2012 location SWMU 14-16 was sampled using a hand auger. The samples were collected from the auger bucket. Two soil samples were collected from 0 - 0.5 feet bgl and 1.5 - 2 feet bgl. Petroleum hydrocarbon odors and discoloration (e.g., black staining) were evident in the sample collected from 1 - 2 feet bgl. The highest PID reading (375.5 ppm) was observed from 1 - 2 feet bgl. The lithology encountered consisted of silt / sand fill from 0 - 1 feet bgl and high plastic clay from 1 - 2 feet bgl. The boring was terminated at 2 feet bgl. Soils not used for laboratory analyses were placed back in the borehole.

SWMU 14-17

On July 19, 2012 location SWMU 14-17 was sampled using a hand auger. The samples were collected from the auger bucket. Two soil samples were collected from 0 - 0.5 feet bgl and 1.5 - 2 feet bgl. Petroleum hydrocarbon odors and discoloration (e.g., black staining) were evident in the sample collected from 1 - 2 feet bgl. The highest PID reading (898 ppm) was observed from 1 - 2 feet bgl. The lithology encountered consisted of silt / clay fill from 0 - 1 feet bgl and high plastic clay from 1 - 2 feet bgl. The boring was terminated at 2 feet bgl. Soils not used for laboratory analyses were placed back in the borehole.

SWMU 14-18

On July 19, 2012 location SWMU 14-18 was sampled using a hand auger. The samples were collected from the auger bucket. Two soil samples were collected from 0 - 0.5 feet bgl and 1.5 - 2 feet bgl. Petroleum hydrocarbon odors and discoloration (e.g., black staining) were

evident in the sample collected from 1 - 2 feet bgl. The highest PID reading (2,537 ppm) was observed from 1 - 2 feet bgl. The lithology encountered consisted of silt / sand / gravel fill from 0 - 1 feet bgl and fine grain clayey sand from 1 - 2 feet bgl. The boring was terminated at 2 feet bgl. Soils not used for laboratory analyses were placed back in the borehole.

SWMU 14-19

On July 19, 2012 location SWMU 14-19 was sampled using a hand auger. The samples were collected from the auger bucket. Two soil samples were collected from 0 - 0.5 feet bgl and 1.5 - 2 feet bgl. No petroleum hydrocarbon odors or discoloration (e.g., black staining) were evident in the samples collected from SWMU 14-19. The highest PID reading (5.1 ppm) was observed from 1 - 2 feet bgl. The lithology encountered consisted of silt / sand / clay fill from 0 - 2 feet bgl. The boring was terminated at 2 feet bgl. Soils not used for laboratory analyses were placed back in the borehole.

SWMU 14-20

On July 19, 2012 location SWMU 14-20 was sampled using a hand auger. The samples were collected from the auger bucket. Two soil samples were collected from 0 - 0.5 feet bgl (duplicate). No petroleum hydrocarbon odors or discoloration were evident in the sample collected from SWMU 14-20. A PID reading of 2.0 ppm was observed from 0 - 0.5 feet bgl. The lithology encountered consisted of very compacted gravel / sand fill. The boring was terminated at 0.5 feet bgl due to refusal. Soils not used for laboratory analyses were placed back in the borehole.

SWMU 14-21

On October 9, 2012 the drilling rig was set up on location SWMU 14-21. Sample collection was accomplished using the HSA drilling method and split spoon samplers. Three soil samples were collected from 0 - 0.5 feet bgl, 1.5 - 2 feet bgl, and 8 - 10 feet bgl. No petroleum hydrocarbon odors or discoloration were evident in the sample collected from SWMU 14-21. The highest PID reading (10.5 ppm) was observed from 0 - 1 feet bgl.

The lithology encountered consisted of low plastic silty clay from 0 - 10 feet bgl. The sampling was terminated at 10 feet bgl and the borehole was grouted. Groundwater was not observed in this boring.

SWMU 14-22

On October 9, 2012 the drilling rig was set up on location SWMU 14-22. Sample collection was accomplished using the HSA drilling method and split spoon samplers. Five soil samples were collected from 0 - 0.5 feet bgl, 1.5 - 2 feet bgl, 4 - 6 feet bgl (duplicate) and 8 - 10 feet bgl. No petroleum hydrocarbon odors or discoloration were evident in the sample collected from SWMU 14-22. The highest PID reading (7.9 ppm) was observed from 4 - 6 feet bgl.

The lithology encountered consisted of low to moderate plastic silty clay from 0 - 10 feet bgl. The sampling was terminated at 10 feet bgl and the borehole was grouted. Groundwater was not observed in this boring.

SWMU 14-23

On October 10, 2012 the drilling rig was set up on location SWMU 14-23. Sample collection was accomplished using the HSA drilling method and split spoon samplers. Four soil samples were collected from 0 - 0.5 feet bgl, 1.5 - 2 feet bgl, 12 - 14 feet bgl, and 14 - 16 feet bgl. Petroleum hydrocarbon odors were apparent in the samples collected from 6 - 18 feet bgl. The highest PID reading (398 ppm) was observed from 12 - 14 feet bgl.

The lithology encountered consisted of silty clay fill from 0 - 6 feet bgl. A clayey silt / sand was encountered from 6 - 8 feet bgl. Moderate plastic, silty clay was encountered from 8 - 10 feet bgl. A high plastic silty clay was encountered from 10 - 16 feet bgl. Moderate plastic, very dense sandy clay was encountered from 16 to 18 feet bgl with water observed within the sampling spoon. There was no recovery of the samples collected from 18 - 22 feet bgl. The boring was terminated at 22 feet bgl. A temporary well was installed with the screened interval being set from 15 - 20 feet bgl. The formation did not yield water to the well. The well was pulled on October 11, 2012 and the borehole was grouted.

SWMU 14-24

On October 17, 2012 location SWMU 14-24 was sampled using a hand auger. The samples were collected from the auger bucket. Two soil samples were collected from 0 - 0.5 feet bgl and 1.5 - 2 feet bgl. No petroleum hydrocarbon odors or discoloration were evident in the samples collected from SWMU 14-24. The highest PID reading (4.0 ppm) was observed from 1 - 2 feet bgl. The lithology encountered consisted of a low plastic silty clay. The boring was terminated at 2 feet bgl. Soils not used for laboratory analyses were placed back in the borehole.

4.4 Monitoring Well Construction and Groundwater Sampling

This section describes the methods and details of monitoring well construction and the collection of groundwater samples. The description includes the dates of well construction. The wells and groundwater samples are discussed in numerical order of the associated soil borings. Copies of the boring and well construction logs are provided in Appendix D. The well development and purging procedures and groundwater sample collection procedures are discussed in Appendix B. The locations of the monitoring wells and borings from which groundwater samples were collected appear on Figures 2 and 3.

4.4.1 Aeration Basin

SWMU 1-2

On October 2, 2012 the drilling rig was set up on location SWMU 1-2. The soil boring was drilled using the HSA drilling method. Saturated, fine grain clayey sand was encountered from 10 - 11.5 feet bgl. A saturated, fine grain, clayey sand was encountered from 14 - 16 feet bgl. Two saturated, clayey sand seams were observed within the clay at 17 - 17.25 feet bgl and 18.50 - 18.75 feet bgl. The boring was terminated in dense, dry, gray/reddish brown mudstone /sandstone (Petrified Forest Formation) at 20 feet bgl. A groundwater sample was collected from within the augers and the borehole was grouted.

SWMU 1-3

On October 2, 2012 the drilling rig was set up on location SWMU 1-3. The boring was completed using the HSA drilling method. A saturated, clayey sand seam was encountered from 11 - 11.25 feet bgl. A damp to saturated, sandy clay / clayey sand was encountered from 17 - 19.5 feet bgl. The boring was terminated in very dense, dry, reddish brown mudstone (Petrified Forest Formation) –at a depth of 20 feet bgl. A temporary well screen (two-inch rigid PVC with 0.01 inch slots) was installed at this location with the screened interval ranging from 15 - 20 feet bgl. A groundwater sample was collected on October 3, 2012. The well was pulled and the borehole was grouted.

SWMU 1-4

On October 3, 2012 the drilling rig was set up on location SWMU 1-4. The HSA drilling method was used to drill the soil boring. A moist to saturated, clayey sand seam was encountered from 10 - 12 feet bgl. Moist to saturated sandy clay / clayey sand was encountered from 17 - 20 feet

bgl. The boring was terminated in dry, reddish brown / gray mudstone (Petrified Forest Formation) –at a depth of 24 feet bgl. A temporary well screen (two-inch rigid PVC with 0.01 inch slots) was installed at this location with the screened interval ranging from 16 - 21 feet bgl. A groundwater sample (volatiles and semi-volatiles only were collected due to low sample volume) was collected on October 4, 2012. A groundwater sample (metals) was collected on October 5, 2012. The well was pulled and the borehole was grouted.

SWMU 1-5

On October 3, 2012 the drilling rig was set up on location SWMU 1-5. The soil boring was drilled using the HSA drilling method. Saturated, clayey sand was encountered from 26 - 27 feet bgl. The boring was terminated in very dense, dry, gray, weathered mudstone (Petrified Forest Formation) –at a depth of 28 feet bgl. A temporary well screen (two-inch rigid PVC with 0.01 inch slots) was installed on October 4, 2012 at this location with the screened interval ranging from 23 - 28 feet bgl. A groundwater sample (volatiles and semi-volatiles only due to low sample volume) was collected on October 5, 2012. The well was pulled and the borehole was grouted.

SWMU 1-6

On October 4, 2012 the drilling rig was set up on location SWMU 1-6. The boring was completed using the HSA drilling method. Saturated clayey sand was encountered from 4 - 7.5 feet bgl and 9 - 11 feet bgl. The borehole was terminated in very dense, dry, reddish brown and gray mudstone (Petrified Forest Formation) –at a depth of 12 feet bgl. A temporary well screen (two-inch rigid PVC with 0.01 inch slots) was installed with the screened interval ranging from 7 - 12 feet bgl. A groundwater sample was collected. The well was pulled and the borehole was grouted on October 5, 2012.

SWMU 1-7

On October 4, 2012 the drilling rig was set up on location SWMU 1-7. The HSA drilling method was used to drill the soil boring. High plastic clay with saturated clayey sand seams was encountered from 12 - 16 feet bgl. The boring was terminated in very dense, dry, reddish brown and gray clay / mudstone (Petrified Forest Formation) –at a depth of 18 feet bgl. A temporary well screen (two-inch rigid PVC with 0.01 inch slots) was installed with the screened interval ranging from 13 - 18 feet bgl. A groundwater sample was collected. The well was pulled and the borehole was grouted on October 5, 2012.

SWMU 1-8

On October 5, 2012 the drilling rig was set up on location SWMU 1-8. The soil boring was completed using the HSA drilling method. Saturated clayey sand was encountered from 4 - 6 feet bgl and from 13 - 19 feet bgl. The boring was terminated in very dense, dry to damp, reddish brown / gray mudstone (Petrified Forest Formation) –at a depth of 20 feet bgl. A temporary well screen (two-inch rigid PVC with 0.01 inch slots) was installed with the screened interval ranging from 13 - 18 feet bgl. A groundwater sample was collected. The well was pulled and the borehole was grouted on October 5, 2012.

SWMU 1-24

On October 8, 2012 the drilling rig was set up on location SWMU 1-24. This location was an additional deep boring installed between SWMU 1-4 to the south and SWMU 1-5 to the north to better define potential impacts in this area. The boring was completed using the HSA drilling method. Damp, clayey sand was encountered within the silty clay at the 10.5 - 11.5 feet bgl interval. The interval from 24 - 28 feet contained clayey silt and sand and was observed to be saturated to very moist. Damp, very dense clayey sand / gravel was encountered from 30 - 34 feet bgl. The boring terminated at 34 feet bgl. A temporary well screen (two-inch rigid PVC with 0.01 inch slots) was installed on October 9, 2012 with the screened interval ranging from 16 - 26 feet bgl. A groundwater sample was collected on October 10, 2012. The well was pulled and the borehole was grouted on October 11, 2012.

SWMU 1-37

On October 10, 2012 the drilling rig was set up on location SWMU 1-37. This was an additional deep boring installed southwest of boring SWMU1-2. The boring was completed using the HSA drilling method. Encountered at 8.5 - 9 feet bgl and 12 - 13 feet bgl were saturated clayey sands. The boring was terminated in a very dense, dry, gray, clay / mudstone (Petrified Forest Formation) 18 feet bgl. A temporary well screen (two-inch rigid PVC with 0.01 inch slots) was installed with the screened interval ranging from 10 - 15 feet bgl. A groundwater sample was collected on October 11, 2012. The well was pulled and the borehole was grouted on October 11, 2012.

4.4.2 Old API Separator

SWMU 14-2 / OAPIS-1

On July 17, 2012 the drilling rig was set up on location SWMU 14-2. The boring was installed using the HSA drilling method. No damp or saturated intervals were encountered during drilling. A temporary well screen (two-inch rigid PVC with 0.01 inch slots) was installed with the screened interval ranging from 15 - 25 feet bgl. Water slowly entered the temporary well screen and on July 19, 2012 a groundwater sample was collected from the well. The temporary PVC well was pulled on July 19, 2012.

A permanent well was subsequently installed at this location on July 19, 2012. In order to accommodate the screen placement, the borehole was advanced to a depth of 26 feet bgl. Slotted (0.01 inch) 2-inch rigid PVC well screen was placed at the bottom of the boring and extended for 10 feet (16.0 to 26.0 feet) to ensure that the entire saturated zone was open to the monitoring well. The 10/30 sand filter pack was installed to 2.0 feet over the top of the screen. As the sand was installed in the well bore the hollow stem augers were removed. Approximately 14 feet of bentonite was placed over the filter pack and hydrated. The surface completion consists of a stickup completion, which includes a protective PVC casing with cap that was secured in the concrete pad.

SWMU 14-3

On July 18, 2012 the drilling rig was set up on location SWMU 14-3. The boring was installed using the HSA drilling method. Groundwater was observed in the sampling spoon from the 14 - 16 feet bgl interval, while no particular zone of saturation was observed while drilling the boring. The boring was terminated at 26 feet bgl. A groundwater sample was collected from the augers and the borehole was grouted to the surface on the same day.

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 February 2012, updated June 2012 and in the Environmental Protection Agency's (EPA) Regional Screening Levels dated November 2012.

For non-residential properties (e.g., the Gallup Refinery), the soil screening levels must be protective of 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 4. Table 5 provides a list of the available NMED and EPA soil screening levels for non-residential properties. While Tables 4 and 5 indicate the various depths to which the individual soil screening levels are applicable, Tables 7 and 8 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 WQCC 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 highlighted.

The aforementioned Tables 4 and 5 have soil screening levels for the soil-to-groundwater pathway that are based on a dilution/attenuation factor (DAF) of 1.0 and 461. The soil screening level based on a DAF of 1.0 is a reference value only used to document the final calculation of site-specific soil screening levels. A review of site conditions 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 C.

The screening levels that are compared to individual soil sample results from SWMU No. 1 (Aeration Basin) are presented in Table 7 and the soil samples results for SWMU No. 14 (OAPIS) are presented in Table 8. The screening levels included in Table 7 and 8 are based on residential and non-residential land use and include a screening level to evaluate the potential for constituents to migrate to groundwater using a site-specific DAF. For the non-residential screening levels, the construction worker 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 Tables 7 and 8 have not been segregated based on depth of the soil sample as discussed above for Tables 4 and 5. The screening levels that are compared to individual groundwater sample results from SWMU No. 1 (Aeration Basin) are presented in Table 9 and the groundwater samples results for SWMU No. 14 (OAPIS) are presented in Table 10. It should also be noted that the soil sample results for chromium are compared to the screening levels for both chromium III and VI, as speciation has not been conducted to determine if the detected chromium is chromium III or chromium VI.

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 Tables 7 and 8, 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 samples are selected from Table 6-2 of the NMED guidance.

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 OAPIS and Aeration Basin, the screening level for “unknown oil” was selected for comparison to the diesel and motor oil range soil analytical results.

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, 4-nitrophenol, 3+4-methylphenol, and sec-butylbenzene. 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, 4-isopropyltoluene, 3+4-methylphenol, 2-nitrophenol, 4-nitrophenol, sec-butylbenzene. None of these 10 constituents are classified as a 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 Aeration Basin and OAPIS. 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 volatile organic compounds;
- SW-846 Method 8270 semi-volatile organic compounds; and
- SW-846 Method 8015B 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 6010
Arsenic	SW-846 method 6010
Barium	SW-846 method 6010
Beryllium	SW-846 method 6010
Cadmium	SW-846 method 6010
Chromium	SW-846 method 6010
Cobalt	SW-846 method 6010
Cyanide	SW-846 method 335.3/335.2 mod
Iron	SW-846 method 6010
Lead	SW-846 method 6010
Mercury	SW-846 method 7470/7471
Manganese	SW-846 method 6010
Nickel	SW-846 method 6010
Selenium	SW-846 method 6010
Silver	SW-846 method 6010
Vanadium	SW-846 method 6010
Zinc	SW-846 method 6010

The analytical results for soil samples collected at the Aeration Basin are summarized in Table 7 and the results for soils collected at the OAPIS are summarized in Table 8. 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 12 – 29. The concentrations shown on Figures 12 – 29 that exceed the screening levels in Tables 7 and 8 are underlined on the figures [i.e., concentrations above residential and/or DAF (461) screening levels]. The laboratory analytical reports are included in Appendix E and the data validation of the results, which includes the analytical results for the associated QA/QC samples, is included in Appendix F.

The constituents that have concentrations in soils above screening levels as measured in samples collected from within either the Aeration Basin or the OAPIS are discussed below. The results for the Aeration Basin are presented first, followed by the results for the OAPIS.

6.1.1 Aeration Basin Soil Results

1,2,4-Trimethylbenzene was detected in one sample [SWMU 1-1 (2-4')] at a concentration above the DAF screening level (9.68 mg/kg) but none of the results exceed the residential screening level (62 mg/kg). The detected concentrations range from 0.00104 mg/kg to 44 mg/kg and are shown on Figure 12.

1-Methylnaphthalene was detected in two soil samples [SWMU 1-1 (2 - 4') and SWMU 1-1 (10 - 12')] at concentrations above the DAF screening level of 2.35 mg/kg. The detected concentrations range from 0.0456 to 35 mg/kg and do not exceed either the residential or non-residential (i.e., construction worker) screening levels. The analytical results are shown on Figure 13.

Benzene was detected in two soil samples [SWMU 1-1 (2 - 4') and SWMU 1-28 (1.5 - 2.0')] at concentrations above the DAF screening level (0.796 mg/kg) but none of the results exceed the residential or non-residential soil screening levels. The detected concentrations range from 0.00109 mg/kg to 3.2 mg/kg and are presented on Figure 14.

Naphthalene was detected in one sample [SWMU 1-1 (2 - 4')] at a concentration of 13 mg/kg, which exceeds the DAF screening level of 1.64 mg/kg, but does not exceed the residential or non-residential screening levels. The naphthalene concentrations are shown on Figure 15.

Diesel Range Organics (DRO) was detected in one sample [SWMU 1-1 (2 - 4')] at a concentration of 4,700 mg/kg, which exceeds the screening level of 1,000 mg/kg. The detected results ranged from 12 to 4,700 mg/kg and are shown on Figure 16.

Arsenic was detected in three soil samples at concentrations above the residential soil screening level of 3.9 mg/kg. These reported concentrations of 4.6 mg/kg, 4.7 mg/kg and 4.9 mg/kg, which are all estimated values due to the values being less than the practical quantitation limit, occur in samples SWMU 1-16 (7.5-8.0'), SWMU 1-17 (0-0.5'), and SWMU 1-18 (0-0.5'), respectively.

6.1.2 Old API Separator Soil Results

1,1,2-Trichloroethane was detected in one sample [SWMU 14-17 (1.5 – 2')] at a concentration (1.0 mg/kg), which exceeds the DAF screening level (0.0514 mg/kg) but did not exceed the residential or non-residential screening levels. The 1,1,2-trichloroethane analytical results are shown on Figure 17.

1,2,4-Trimethylbenzene was detected in eight samples [SWMU 14-6 (10 - 12'), SWMU 14-7 (6 - 8'), SWMU 14-12 (0 - 0.5'), SWMU 14-12 (1.5 – 2.0'), SWMU 14-14 (0 - 0.5'), SWMU 14-15 (1.5 – 2.0'), SWMU 14-17 (1.5 – 2.0'), and SWMU 14-18 (1.5 – 2.0')] at concentrations above the DAF screening level (9.68 mg/kg) but none exceed the residential or non-residential screening levels. The detected concentrations range from 0.000507 mg/kg to 44 mg/kg and are shown on Figure 18.

1,2-Dibromo-3-chloropropane was detected in three samples [SWMU 14-7 (0 - 0.5'), SWMU 14-7 (1.5 – 2.0'), and SWMU 14-12 (0 – 0.5')] at concentrations above the residential and DAF screening levels in one sample but only above the DAF screening level in two of the samples. The detected concentrations range from 0.000593 mg/kg to 2.2 mg/kg and are shown on Figure 19.

1,2-Dibromoethane (EDB) was detected in 18 samples [SWMU 14-2 (1.5 – 2.0'), SWMU 14-2 (8 - 10'), SWMU 14-3 (12 - 14'), SWMU 14-3 (8 - 10'), SWMU 14-4 (10 - 12'), SWMU 14-7 (0 - .5'), SWMU 14-7 (6 - 8'), SWMU 14-8 (1.5 -2.0'), SWMU 14-9 (4 - 6'), SWMU 14-12 (0 - 0.5'), SWMU 14-12 (1.5 – 2.0'), SWMU 14-13 (0 - 0.5'), SWMU 14-13 (1.5 – 2.0'), SWMU 14-14 (0 - 0.5'), SWMU 14-14 (1.5 – 2.0'), SWMU 14-16 (1.5 – 2.0'), SWMU 14-17 (1.5 – 2.0'), and SWMU 14-18 (1.5 – 2.0')] at concentrations above the DAF screening level (0.0071 mg/kg)

with three sample results above the residential screening level. The detected concentrations range from 0.12 mg/kg to 1.2 mg/kg and are shown on Figure 20.

1,2-Dichloropropane was detected in two samples [SWMU 14-12 (0 – 0.5') and SWMU14-18 (1.5 – 2.0')] at concentrations above the DAF screening level (0.494 mg/kg) but none exceed the residential or non-residential screening levels. The detected concentrations range from 0.089 mg/kg to 0.82 mg/kg and are shown on Figure 21.

1-Methylnaphthalene was detected in 18 samples [SWMU 14-2 (1.5 – 2.0'), SWMU 14-2 (8 -10'), SWMU 14-3 (12 - 14'), SWMU 14-3 (8 - 10'), SWMU 14-4 (10 - 12'), SWMU 14-6 (10 - 12'), SWMU 14-7 (6 - 8'), SWMU 14-9 (4 - 6'), SWMU 14-12 (0 - 0.5'), SWMU 14-12 (1.5 - 2.0'), SWMU 14-13 (0 - 0.5'), SWMU 14-13 (1.5 – 2.0'), SWMU 14-14 (0 - 0.5'), SWMU 14-14 (1.5 - 2.0'), SWMU 14-15 (1.5 - 2.0'), SWMU 14-16 (1.5 – 2.0'), SWMU 14-17 (1.5 – 2.0'), and SWMU 14-18 (1.5 -2.0')] at concentrations above the DAF screening level (2.35 mg/kg), but none exceed the non-residential or residential screening levels. The detected concentrations range from 0.000458 mg/kg to 45 mg/kg and are shown on Figure 22.

2-Methylnaphthalene was detected in one sample [SWMU 14-4 (10 – 12')] at a concentration of 90.0 mg/kg, which exceeds the DAF screening level (64.5 mg/kg) but did not exceed the residential or non-residential screening levels. The 2-methylnaphthalene analytical results are shown on Figure 23.

Benzene was detected in nine samples [SWMU 14-6 (10 - 12'), SWMU 14-7 (6-8'), SWMU 14-12 (0 - 0.5'), SWMU 14-12 (1.5 – 2.0'), SWMU 14-14 (1.5 – 2.0'), SWMU 14-15 (1.5 - 2.0'), SWMU 14-17 (1.5 – 2.0'), SWMU 14-18 (1.5 – 2.0'), and SWMU 14-23 (12 - 14')] at concentrations above the DAF screening level (0.796 mg/kg), but none exceed the non-residential or residential screening levels. The detected concentrations range from 0.00072 mg/kg to 5.9 mg/kg and are shown on Figure 24.

Ethylbenzene was detected in six samples [SWMU 14-6 (10 - 12'), SWMU 14-12 (0 - 0.5'), SWMU 14-12 (1.5 – 2.0'), SWMU 14-15 (1.5 - 2.0'), SWMU 14-17 (1.5 – 2.0'), and SWMU 14-18 (1.5 – 2.0')] at concentrations above the DAF screening level (5.98 mg/kg), but none exceed the non-residential or residential screening levels. The detected concentrations range from 0.000542 mg/kg to 23 mg/kg and are shown on Figure 25.

Naphthalene was detected in 14 samples [SWMU 14-2 (8 - 10'), SWMU 14-3 (12 - 14'), SWMU 14-3 (8 - 10'), SWMU 14-4 (10 - 12'), SWMU 14-6 (10 - 12'), SWMU 14-7 (6 - 8'), SWMU 14-12 (0 - 0.5'), SWMU 14-12 (1.5 - 2.0'), SWMU 14-13 (0 - 0.5'), SWMU 14-14 (0 - 0.5'), SWMU 14-15 (1.5 - 2.0'), SWMU 14-16 (1.5 - 2.0'), SWMU 14-17 (1.5 - 2.0'), and SWMU 14-18 (1.5 - 2.0')] at concentrations above the DAF screening level (1.64 mg/kg), but none exceed the non-residential or residential screening levels. The detected concentrations range from 0.000458 mg/kg to 17 mg/kg and are shown on Figure 26.

Xylenes were detected in two samples [SWMU 14-12 (0 - 0.5'), and SWMU 14-15 (1.5 - 2.0')] at concentrations above the DAF screening level (72.1 mg/kg), but none exceed the non-residential or residential screening levels. The detected concentrations range from 0.00282 mg/kg to 120 mg/kg and are shown on Figure 27.

Bis(2-chloroethyl)ether was detected in two samples [SWMU 14-9 (4 - 6') and SWMU 14-15 (1.5 - 2.0')] at concentrations above the DAF screening level (0.0121 mg/kg), but none exceed the non-residential or residential screening levels. The detected concentrations range from 0.18 mg/kg to 0.43 mg/kg and are shown on Figure 28.

DRO was detected in 21 samples [SWMU 14-2 (1.5 - 2.0'), SWMU 14-2 (8 - 10'), SWMU 14-3 (8 - 10'), SWMU 14-6 (10 - 12'), SWMU 14-7 (0 - 0.5'), SWMU 14-7 (1.5 - 2.0'), SWMU 14-8 (1.5 - 2.0'), SWMU 14-9 (1.5 - 2.0'), SWMU 14-9 (4 - 6'), SWMU 14-12 (0 - 0.5'), SWMU 14-12 (1.5 - 2.0'), SWMU 14-13 (1.5 - 2.0'), SWMU 14-14 (0 - 0.5'), SWMU 14-14 (1.5 - 2.0'), SWMU 14-15 (0 - 0.5'), SWMU 14-15 (1.5 - 2.0'), SWMU 14-16 (1.5 - 2'), SWMU 14-7 (0 - 0.5'), SWMU 14-17 (1.5 - 2.0'), SWMU 14-18 (0 - 0.5'), and SWMU 14-18 (1.5 - 2.0')] at concentrations above the screening level (1,000 mg/kg). The detected concentrations range from 19 mg/kg to 15,000 mg/kg and are shown on Figure 29.

Arsenic was detected in eight soil samples at concentrations ranging from 1.6 to 3.0 mg/kg. All of these results are less than the lowest screening level (residential) of 3.9 mg/kg. They are also estimated values as they were detected at concentrations less than the practical quantitation limit.

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; and
- SW-846 Method 8015B gasoline, diesel, and motor oil range organics.

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

Analyte	Analytical Method
Antimony	SW-846 method 200.8
Arsenic	SW-846 method 200.8
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
Cyanide	SW--846 method 335.3/335.2 mod
Lead	SW-846 method 200.8
Mercury	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

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 Tables 9 and 10. 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 30 and 31. The concentrations shown on Figures 30 and 31 that exceed the screening levels are underlined on the figures. The results for the associated QA/QC samples and the data validation are provided in Appendix F. The laboratory analytical reports are included in Appendix E.

6.2.1 Aeration Basin Groundwater Results

All of the groundwater samples collected at the Aeration Basin were collected from temporary well completions and there are numerous metals detected at concentrations above their

respective screening levels. Arsenic was detected above the screening level of 0.01 mg/l in seven samples (SWMU 1-2 GW, SWMU 1-3 GW, SWMU 1-4 GW, SWMU 1-6 GW, SWMU 1-7 GW, SWMU 1-8 GW, and SWMU 1-24 GW). The detected concentrations range from 0.0082 mg/l to 0.063 mg/l and are shown on Figure 30.

Barium was detected above the screening level of 1.0 mg/l in six samples (SWMU 1-2 GW, SWMU 1-4 GW, SWMU 1-6 GW, SWMU 1-7 GW, SWMU 1-8 GW, and SWMU 1-24 GW). The detected concentrations range from 0.24 mg/l to 56 mg/l and are shown on Figure 30.

Beryllium was detected above the screening level of 0.004 mg/l in six samples (SWMU 1-2 GW, SWMU 1-3 GW, SWMU 1-6 GW, SWMU 1-7 GW, SWMU 1-8 GW, and SWMU 1-24 GW). The detected concentrations range from 0.0065 mg/l to 0.21 mg/l.

Chromium (total) was detected above the screening level of 0.05 mg/l in five samples (SWMU 1-2 GW, SWMU 1-6 GW, SWMU 1-7 GW, SWMU 1-8 GW, and SWMU 1-24 GW). The detected concentrations range from 0.015 mg/l to 0.31 mg/l.

Cobalt was detected above the screening level of 0.05 mg/l in five samples (SWMU 1-2 GW, SWMU 1-6 GW, SWMU 1-7 GW, SWMU 1-8 GW, and SWMU 1-24 GW). The detected concentrations range from 0.011 mg/l to 0.53 mg/l.

Iron (total) was detected above the screening level of 1.0 mg/l in seven samples (SWMU 1-2 GW, SWMU 1-3 GW, SWMU 1-6 GW, SWMU 1-7 GW, SWMU 1-8 GW, SWMU 1-24 GW, and SWMU 1-37 GW). The detected concentrations range from 0.32 mg/l to 160 mg/l.

Lead was detected above the screening level of 0.015 mg/l in six samples (SWMU 1-2 GW, SWMU 1-3 GW, SWMU 1-6 GW, SWMU 1-7 GW, SWMU 1-8 GW, and SWMU 1-24 GW). The detected concentrations range from 0.0041 mg/l to 1.7 mg/l and are shown on Figure 30.

Manganese was detected above the screening level of 0.2 mg/l in seven samples (SWMU 1-2 GW, SWMU 1-3 GW, SWMU 1-4 GW, SWMU 1-6 GW, SWMU 1-7 GW, SWMU 1-8 GW, SWMU 1-24 GW, and SWMU 1-37 GW). The detected concentrations range from 0.99 mg/l to 95 mg/l and are shown on Figure 30.

Nickel was detected above the screening level of 0.2 mg/l in six samples (SWMU 1-2 GW, SWMU 1-3 GW, SWMU 1-6 GW, SWMU 1-7 GW, SWMU 1-24 GW, and SWMU 1-37 GW). The detected concentrations range from 0.11 mg/l to 0.95 mg/l and are shown on Figure 30.

Selenium was detected above the screening level of 0.05 mg/l in one sample (SWMU 1-2 GW). The detected concentrations range from 0.0072 mg/l to 0.059 mg/l.

Vanadium was detected above the screening level of 0.183 mg/l in one sample (SWMU 1-24 GW). Only the one sample had a detected concentration of 0.2 mg/l.

Fluoride was detected above the screening level of 1.6 mg/l in four samples (SWMU 1-2 GW, SWMU 1-4 GW, SWMU 1-6 GW, and SWMU 1-24 GW). The detected concentrations range from 0.78 mg/l to 13 mg/l.

1,2,4-Trimethylbenzene was detected above the screening level of 0.015 mg/l in one sample (SWMU 1-4 GW). The detected concentrations range from 0.0069 mg/l to 0.032 mg/l and are shown on Figure 31.

1-Methylnaphthalene was detected above the screening level of 0.0097 mg/l in three samples (SWMU 1-4 GW, SWMU 1-8 GW and SWMU 1-24). The detected concentrations range from 0.0098 mg/l to 0.011 mg/l and are shown on Figure 31.

Benzene was detected above the screening level of 0.005 mg/l in three samples (SWMU 1-2 GW, SWMU 1-4 GW, and SWMU 1-24 GW). The detected concentrations range from 0.0011 mg/l to 0.024 mg/l and are shown on Figure 31.

Methyl tert-butyl ether (MTBE) was detected above the screening level of 0.125 mg/l in two samples (SWMU 1-8 GW and SWMU 1-37 GW). The detected concentrations range from 0.014 mg/l to 0.31 mg/l and are shown on Figure 31.

Naphthalene was detected above the screening level of 0.00143 mg/l in three samples (SWMU 1-4 GW, SWMU 1-8 GW, and SWMU 1-24 GW). The detected concentrations range from 0.0023 mg/l to 0.032 mg/l and are shown on Figure 31.

2,4-Dimethylphenol was detected above the screening level of 0.73 mg/l in one sample (SWMU 1-4 GW). The detected concentrations range from 0.026 mg/l to 0.85 mg/l and are shown on Figure 31.

DRO was detected at elevated concentrations in four samples (SWMU 1-4 GW, SWMU 1-6 GW, SWMU 1-24 GW, and SWMU 1-37 GW). The detected concentrations range from 1.0 mg/l to 4.4 mg/l and the results are shown on Figure 31.

6.2.2 Old API Separator Groundwater Results

Two of the groundwater samples (SWMU 14-2 GW and SWMU 14-3 GW) were collected from temporary well completions and a third groundwater sample (SWMU 14-OAPIS-1 GW) was collected from a permanent well completion installed in soil boring SWMU 14-2. There are numerous metals detected at concentrations above their respective screening levels in the two groundwater samples collected from the temporary well completions, but only two metals above screening levels in the sample collected from the permanent well. Arsenic was detected above the screening level of 0.01 mg/l in two samples (SWMU 14-2 GW and SWMU 14-3 GW). The detected concentrations range from 0.012 mg/l to 0.024 mg/l and are shown on Figure 30.

Barium was detected above the screening level of 1.0 mg/l in one sample (SWMU 14-3 GW). The detected concentrations range from 0.54 mg/l to 2.8 mg/l and are shown on Figure 30.

Beryllium was detected above the screening level of 0.004 mg/l in one sample (SWMU 14-3 GW). The detected concentrations range from 0.0021 mg/l to 0.042 mg/l.

Chromium (total) was detected above the screening level of 0.05 mg/l in two samples (SWMU 14-2 GW and SWMU 14-3 GW). The detected concentrations range from 0.012 mg/l to 0.38 mg/l.

Cobalt was detected above the screening level of 0.05 mg/l in one sample (SWMU 14-3 GW). The detected concentrations range from 0.038 mg/l to 0.12 mg/l.

Cyanide was detected above the screening level of 0.2 mg/l in one sample (SWMU 14-2 GW). The detected concentrations range from 0.09 mg/l to 0.216 mg/l.

Iron was detected above the screening level of 1.0 mg/l in three samples (SWMU 14-2 GW, SWMU 14-3 GW, and SWMU 14-OAPIS-1 GW). The detected concentrations range from 5.6 mg/l to 120 mg/l.

Lead was detected above the screening level of 0.015 mg/l in two samples (SWMU 14-2 GW and SWMU 14-3 GW). The detected concentrations range from 0.044 mg/l to 0.19 mg/l and are shown on Figure 30.

Manganese was detected above the screening level of 0.2 mg/l in three samples (SWMU 14-2 GW, SWMU 14-3 GW, and SWMU 14-OAPIS-1 GW). The detected concentrations range from 1.3 mg/l to 45 mg/l and are shown on Figure 30.

Vanadium was detected above the screening level of 0.183 mg/l in one sample (SWMU 14-3 GW). The detected concentrations range from 0.029 mg/l to 0.52 mg/l.

1,2,4-Trimethylbenzene was detected above the screening level of 0.015 mg/l in two samples (SWMU 14-2 GW and SWMU 14-3 GW). The detected concentrations range from 0.082 mg/l to 0.085 mg/l and are shown on Figure 31.

1-Methylnaphthalene was detected above the screening level of 0.0097 mg/l in two samples (SWMU 14-2 GW and SWMU 14-3 GW). The detected concentrations range from 0.061 mg/l to 0.17 mg/l and are shown on Figure 31.

2-Methylnaphthalene was detected above the screening level of 0.027 mg/l in two samples (SWMU 14-2 GW and SWMU 14-3 GW). The detected concentrations range from 0.039 mg/l to 0.11 mg/l and are shown on Figure 31.

Benzene was detected above the screening level of 0.005 mg/l in three samples (SWMU 14-2 GW, SWMU 14-3 GW, and SWMU 14-OAPIS-1 GW). The detected concentrations range from 0.013 mg/l to 0.097 mg/l and are shown on Figure 31.

MTBE was detected above the screening level of 0.125 mg/l in three samples (SWMU 14-2 GW, SWMU 14-3 GW, and SWMU 14-OAPIS-1 GW). The detected concentrations range from 0.25 mg/l to 0.44 mg/l and are shown on Figure 31.

Methylene chloride was detected above the screening level of 0.005 mg/l in one sample (SWMU 14-3 GW). It was detected in only the one sample at a concentration of 0.0075 mg/l.

Naphthalene was detected above the screening level of 0.00143 mg/l in two samples (SWMU 14-2 GW and SWMU 14-3 GW). The detected concentrations range from 0.042 mg/l to 0.045 mg/l and are shown on Figure 31.

DRO was detected at elevated concentrations in two samples (SWMU 14-2 GW and SWMU 14-OAPIS-1 GW). The detected concentrations range from 6.5 mg/l to 83 mg/l and are shown on Figure 31.

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 11 and fluid levels measured prior to purging are presented in Table 2.

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 Tables 12 and 13 for SWMUs No. 1 and No. 14, respectively. As directed by NMED, the soil analytical results for sample SWMU 1-1 (2-4') has also been included in the SWMU 14 soil results due to its location near to SWMU 14. 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 1.36×10^{-3} assuming residential land use and 6.3×10^{-5} for non-residential land use at SWMU No. 1. The cumulative carcinogenic risk is 1.41×10^{-3} assuming residential land use and 6.93×10^{-5} for non-residential land use at SWMU No. 14. The hazard index for residential land use is 0.56 and for non-residential land use is 0.126 at SWMU No. 1. The hazard index for residential land use is 1.30 and for non-residential land use is 0.384 at SWMU No. 14.

$$\text{Site Risk} = \left(\frac{\text{conc}_x}{\text{SSL}_x} + \frac{\text{conc}_y}{\text{SSL}_y} + \frac{\text{conc}_z}{\text{SSL}_z} + \dots + \frac{\text{conc}_i}{\text{SSL}_i} \right) \times 10^{-5}$$

$$\text{Site Hazard Index (HI)} = \left(\frac{\text{conc}_x}{\text{SSL}_x} + \frac{\text{conc}_y}{\text{SSL}_y} + \frac{\text{conc}_z}{\text{SSL}_z} + \dots + \frac{\text{conc}_i}{\text{SSL}_i} \right) \times 1$$

A cumulative risk evaluation for groundwater is presented in Tables 14 and 15 for SWMUs No. 1 and No. 14, respectively. The evaluation was conducted by taking the maximum reported concentration of each constituent detected in groundwater, which is based on the totals analyses for metals, and dividing by the risk-based residential screening levels, as shown in the equation above in the discussion for soil. The cumulative carcinogenic risk level is calculated to be 1.74×10^{-3} for SWMU No. 1 and 1.48×10^{-3} for SWMU No. 14. The hazard index is 147.04 for SWMU 1 and 79.55 for SWMU 14.

7.1.1 Aeration Basin

Soils

Four organic constituents (1,2,4-trimethylbenzene, 1-methylnaphthalene, benzene, and naphthalene), and DRO were detected in three soil samples at concentrations exceeding their respective DAF soil screening levels. Two of the soil samples with constituents detected at concentrations above the DAF screening levels are found in soil boring SWMU 1-1, which is located on the southeastern boundary of the Aeration Basin. The sample intervals with concentrations above the DAF screening level include 2-4' and 10-12', with most exceedences in the 2-4' interval. The 2-4' interval is logged as fill material composed of silty clay and the deeper 10-12' interval is clay. This boring was terminated at 14 feet, after encountering bedrock at 13' bgl. There was no indication of saturated conditions in this boring; however, contaminants have migrated to this location immediately adjacent to the Aeration Basin. Similar constituents are found in soils investigated a short distance to the south, near the OAPIS (see Section 7.1.2 below).

Benzene was the only constituent detected above the DAF screening level in soil boring SWMU 1-28 at a depth of 1.5 – 2.0' bgl (2.53 mg/kg vs. 0.796 mg/kg). Soil boring SWMU 1-28 is located on the northern boundary of the Aeration Basin and the 1.5 – 2.0' interval is composed of a clayey gravelly sand, which was damp, but not saturated. The boring was terminated at 4 feet bgl in the same material. The PID readings were low and there was no odor throughout the boring. Boring SWMU 1-28 was originally scheduled as a hand auger location, but it was completed with the HSA drilling rig to allow penetration below 2 feet in order to assess potential impacts observed in the adjacent deep soil boring (SWMU 1-6). Boring SWMU 1-6 had an elevated PID reading of 37.5 ppm in the 2-4 interval; however, no constituents exceeded any of the soil screening levels in the soil samples collected from 2-4' or 4-6' intervals in boring SWMU 1-6.

Overall, there were few exceedences of the DAF screening levels in the soil samples collected around the Aeration Basin. Only 3 (SWMU 1-1 (2-4'), SWMU 1-1 (10-12'), and SWMU 1-28 (1.5-2')) out of 103 soil samples collected around the Aeration Basin exceeded DAF screening levels. The vertical impacts to soil were found to extend to the uppermost groundwater-bearing horizons in some borings around the Aeration Basin as discussed below.

Groundwater

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 that surround the Aeration Basin. The metal screening levels were exceeded in every soil boring from which a groundwater sample was collected. It is possible that these results are affected by high turbidity levels in the water samples collected from the temporary well completions installed in the soil borings.

Seven organic constituents (1-methylnaphthalene, 2-methylnaphthalene, 1,2,4-trimethylbenzene, benzene, MTBE, naphthalene, and 2,4-dimethylphenol), and DRO were detected in groundwater samples collected from soil borings at concentrations above screening levels. At least one organic constituent was found at concentrations above the screening levels in borings SWMU 1-2, SWMU 1-4, SWMU 1-6, SWMU 1-8, SWMU 1-24, and SWMU 1-37. Soil boring SWMU 1-1 was installed near the southeast corner of the Aeration Basin and encountered bedrock at a depth of 13 feet bgl, but groundwater was not present at this location.

Soil boring SWMU 1-2 was drilled along the southwest side of the Aeration Basin and encountered bedrock at a depth of 19.5 feet bgl. There were several saturated soil intervals encountered in this boring including clayey sand from 8 to 11 feet, 14 to 16 feet, 17 to 17.25 feet, and 18.25 to 18.5 feet bgl. Benzene was the only organic constituent detected at a concentration above the screening level in SWMU 1-2 (0.017 mg/l vs. 0.005 mg/l). Additional soil boring SWMU 1-37 was installed southwest of the Aeration Basin to delineate potential impacts observed when drilling soil boring SWMU 1-2. Benzene did decrease to below the screening level in the groundwater sample collected at SWMU 1-37, but MTBE increased to a concentration slightly over the screening level (0.13 mg/l vs. 0.125 mg/l) and DRO was detected at 1.0 mg/l, which exceeds the screening level of 0.2 mg/l. In boring SWMU 1-37, bedrock was encountered at 16 feet bgl and two intervals of saturated clayey sand were present at 8.5 - 9 feet and 12 - 13 feet bgl.

Moving further around the edge of the Aeration Basin to just north of the southwest corner, SWMU 1-3 was drilled to bedrock at a depth of 19.5 feet bgl. A thin clayey sand zone at 11-11.25 feet and a second at 18-19.5 feet were both saturated in boring SWMU 1-3. None of the organic constituents exceeded their screening levels at SWMU 1-3. The stratigraphic relationship between the clayey sand zones appearing in SWMU 1-2, SWMU 1-3, SWMU 1-24, and SWMU 1-5 appear on cross section C-C' (Figure 8).

The next deep soil boring drilled (SWMU 1-4) is located further north, on the west side of the Aeration Basin. This boring encountered bedrock at a depth of 23 feet bgl and had saturated intervals of clayey sand at 10-12 feet and clayey sand/sandy clay at 17-20 feet bgl. Six organic constituents (benzene, 2,4-dimethylphenol, 1-methylnaphthalene, 2-methylnaphthalene, 1,2,4-trimethylbenzene, and naphthalene) and DRO were found at concentrations in groundwater above their screening levels. Based on the field indication of impacts at SWMU 1-4, an additional soil boring (SWMU 1-24) was completed between SWMU 1-4 and SWMU 1-5. SWMU 1-24 was drilled to a depth of 34 feet, but bedrock was not encountered. A saturated interval of clayey silt/sand was identified from 24 to 28 feet bgl. A groundwater sample collected from this boring found benzene, 1-methylnaphthalene, DRO, and naphthalene at concentrations above their screening levels.

Based on the field evidence of potential impacts at borings SWMU 1-4 and SWMU 1-24, two additional soil borings (SWMU 1-20 and SWMU 1-38) were drilled west of the Aeration Basin. At location SWMU 1-20 (located southwest of SWMU 1-4), bedrock was encountered at a depth of only 10 feet bgl and there was no indication of saturation in the boring or the clayey sand deposits, which were identified in SWMU 1-4. No groundwater sample was collected at SWMU 1-20 as the boring was dry. Soil boring SWMU 1-38 was drilled west-northwest of SWMU 1-4 and bedrock was encountered at a depth of only 6 feet bgl. Once again, the clayey sand deposits, which were saturated in boring SWMU 1-4, were not present at this location to the west of the Aeration Basin. No groundwater sample was collected at SWMU 1-38 because the boring was dry. Based on the results of borings SWMU 1-20 and SWMU 1-38, it does not appear that the saturated zones found in SWMU 1-4 and SWMU 1-24 extend beyond the base of the slope on the west side of the Aeration Basin where borings SWMU 1-20 and SWMU 1-38 were completed.

Soil boring SWMU 1-5 was drilled on the northwest corner of the Aeration Basin where bedrock was encountered at a depth of 27 feet bgl. A thin layer of saturated clayey sand (26 - 27' bgl) was identified on top of the bedrock. The temporary well completion produced very little water and no organic constituents were detected above their screening levels.

Soil boring SWMU 1-6 was drilled along the northern edge of the Aeration Basin and bedrock was found at a depth of 11 feet bgl. Two saturated clayey sand zones were identified at 4 - 6 feet and 10 - 11 feet bgl. DRO was the only organic analysis to exceed the screening level.

On the east side of the Aeration Basin, approximately 150 feet south of the northern most extent of the Aeration Basin, soil boring SWMU 1-7 was drilled to a depth of 18 feet bgl. Bedrock was encountered at 16 feet bgl. The only indication of saturation was in thin sand seams in the clay that immediately overlies the bedrock. No organic constituents were found to exceed their screening levels in the groundwater sample collected at SWMU 1-7.

Soil boring SWMU 1-8 was completed on the east side of the Aeration Basin near the New API Separator. Bedrock was encountered at depth of 19 feet bgl and there was one relatively thick saturated interval of clayey sand found on top of the bedrock from a depth of approximately 13 feet to 19 feet bgl. 1-Methylnaphthalene, MTBE and naphthalene were found in the groundwater sample collected from this boring at concentrations above their screening levels; however, there are additional monitoring wells in this area (e.g., NAPIS-1 located east of the new API Separator) that can be used to provide delineation to the east.

While there are detections of seven organic constituents and DRO in groundwater samples collected immediately surrounding the Aeration Basin, the concentrations are not significantly above the screening levels (i.e., generally less than one order of magnitude above the screening level). The saturated intervals in most locations consist of clayey sand, which was found to not be very productive during sample collection activities. The clayey sand intervals do not appear to be laterally continuous at most locations based on the inability to correlate zones between most of the soil borings completed around the perimeter of the Aeration Basin. It also appears that the source of recharge to the saturated intervals found in the borings around the Aeration Basin is the wastewater, which has been maintained in the Aeration Basin. As the Aeration Basin is removed from service and the liquids are removed, it is probable that the saturation observed in borings SWMU 1-2, SWMU 1-3, SWMU 1-4, SWMU 1-5, SWMU 1-6, SWMU 1-7, SWMU 1-8, SWMU 1-24, and SWMU 1-37 will dissipate.

7.1.2 Old API Separator

Soils

Twelve organic constituents [1,1,2-Trichloroethane, 1,2,4-trimethylbenzene, 1,2-dibromo-3-chloropropane, 1,2-dibromoethane (EDB), 1,2-dichloropropane, 1-methylnaphthalene, 2-methylnaphthalene, benzene, ethylbenzene, naphthalene, xylenes, and bis(2-chloroethyl)ether] and DRO were detected in soils at concentrations above their DAF screening levels. Two constituents (1,2-dibromo-3-chloropropane and 1,2-dibromomethane) had concentrations above

the residential soil screening levels, but below the non-residential screening levels. The highest concentrations were found in soil samples collected directly beneath the former location of the OAPIS at borings SWMU 14-12, SWMU 14-13, and SWMU 14-14, and at borings immediately adjacent to the OAPIS (e.g., SWMU 14-15, SWMU 14-16, and SWMU 14-17). In addition, there is an area of elevated concentrations at depths of 8 to 12 feet bgl located near the west end of the former OAPIS, near borings SWMU 14-6 and SWMU 14-7, and extending north towards the location of the former benzene strippers.

Concentrations of these organic constituents decrease away from the OAPIS and the lateral extent of the impacts to soil were delineated to the south in soil borings SWMU 14-21 and SWMU 14-22. All constituents except benzene were found below their respective DAF screening levels to the east of the OAPIS in boring SWMU 1-23. Benzene was detected at 1.1 mg/kg vs. a DAF screening level of 0.796 mg/kg in silty clay at a depth of 12 – 14 feet in SWMU 14-23. All constituents were found at concentrations below their screening levels in the western most soil boring (SWMU 14-1), which was drilled to a depth of 50 feet in an attempt to hit bedrock or saturation. The extent of impacts to soil was not defined to the north toward the Aeration Basin, as demonstrated by impacts found in soil boring SWMU 14-3, which is located approximately half way between the former OAPIS and the Aeration Basin. It is possible that the impacts to soil may extend continuously between the OAPIS and the Aeration Basin, which are separated by only a short distance of approximately 60 feet. The vertical impacts to soil were found to extend to the uppermost groundwater-bearing horizons in borings SWMU 14-2 and SWMU 14-3.

Groundwater

Groundwater samples were collected from temporary well completions in two soil borings (SWMU 14-2 and SWMU 14-3) and one permanent monitoring well (OAPIS-1), which was installed in boring SWMU 14-2. Similarly as observed above for the temporary well completions around the Aeration Basin, many metals were detected above residential / tap water screening levels in the groundwater samples collected at the temporary well. The number of metals detected at concentrations above their screening levels in the groundwater sample collected from the permanent well completion (OAPIS-1) was significantly less than the number detected in the groundwater sample collected from the initial temporary well completion in this same soil boring (SWMU 14-2). It is possible that these results are affected by high turbidity levels in the water samples collected from the temporary well completions.

Seven organic constituents (benzene, 1-methylnaphthalene, 2-methylnaphthalene, 1,2,4-trimethylbenzene, Methylene chloride, MTBE, and naphthalene) and DRO were detected at concentrations above their screening levels in groundwater samples collected from both locations [SMWU 14-2 (OAPIS-1) and SMWU 14-3]. Soil boring SWMU 14-2 was drilled to a depth of 26 feet, but did not encounter bedrock, nor was there any distinct saturated interval logged in this boring. Soil boring SWMU 14-3 was also drilled to a depth of 26 feet and did not encounter bedrock. An indication of potential saturation was observed near the top of a clay horizon in SWMU 14-3 at 14 feet bgl. Groundwater production was very slow from both of these locations, indicating the lack of a true aquifer.

The lateral extent of potential impacts to groundwater was defined by a series of dry soil borings drilled to the west, south and east of the OAPIS. SWMU 14-1, the western most soil boring near the OAPIS was drilled to a depth of 50 feet and never did encounter bedrock. There was no indication of saturation in SWMU 14-1 and the boring failed to produce any water. Two borings (SWMU 14-21 and SWMU 14-22) were drilled south of the OAPIS and no elevated PID readings or indication of saturation was logged in either boring. Soil boring SWMU 14-23 was drilled east of the OAPIS and did encounter a sandy clay zone at 16 feet bgl that was wet, but a temporary well completion in the boring failed to produce any water.

7.2 Recommendations

An additional soil boring to the north of the Aeration Basin near soil boring SWMU 1-6 could be completed to provide full delineation of both soil and groundwater impacts to the north of the Aeration Basin. Also an additional boring to the southwest of location SWMU 1-37 could provide additional control in this area for potential groundwater impacts. The area between the OAPIS and the Aeration Basin is relatively small and does not warrant additional investigation to determine if there is possible separation of impacts sourced from the two different SWMUs.

An additional soil boring could be installed east of the OAPIS near SWMU 1-23 to provide full delineation of soil impacts observed in this area. Additional soil data to the southwest of SWMU 14-6 could be used to better define soil impacts observed in this area of the site.

Section 8

References

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Tables

TABLE 1
Western Refining - Gallup Refinery - Historical Groundwater Analyses

Bold and highlighted values represent values above the applicable standards.		BTEX Parameters					Metals Parameters									
		Benzene (mg/L)	Toluene (mg/L)	Ethyl Benzene (mg/L)	Total Xylenes (mg/L)	MTBE (mg/L)	Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Calcium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Magnesium (mg/L)
WQCC 20NMAC 6.2.3103 (Oct 2006)		0.01	0.75	0.75	0.62	NE	0.1	1.0	0.01	NE		0.05	1.0	1.0	0.05	NE
40 CFR 141.62 MCL (May 2009)		0.005	1	0.7	10	NE	0.01	2.0	0.005	NE		0.1	1.3	NE	0.015	NE
EPA RSL for Tap Water (Nov 2012)		0.00041	0.86	0.0013	0.19	0.012	0.000045	2.9		NE		NE	0.62	11	NE	NE
Well ID	DATE SAMPLED															
GWM-1	10/26/2006						0.077	0.53	<0.002	380		<0.006	NL	NL	NL	93
	10/27/2006	0.012	<0.001	>0.001	<0.003	0.16										
	5/24/2007	0.016	<0.001	<0.001	<0.003	0.23	0.081	0.44	<0.002	360		<0.006	NL	NL	<0.005	87
	7/10/2008	0.011	0.0021	0.0039	0.019	0.12	0.07	0.45	<0.002	350		<0.006	0.014	14	0.01	81
	7/27/2009	0.0089	0.002	0.0074	0.034	0.085	0.114	0.53	<0.002	310		<0.006	<0.006	14	0.0072	78
	3/3/2010*	0.012	0.005	0.011	0.05	0.078	0.098	0.42	<0.002	280		<0.006	0.0072	15	0.0078	57
	7/20/2010	0.008	0.002	0.0068	0.03	0.077	0.16	1.2	<0.002	310		<0.006	0.019	20	0.011	70
	9/16/2010	0.0075	0.0049	0.0067	0.03	0.053	0.12	0.87	<0.002	310		<0.006	0.0098	15	0.012	76
	11/2/2010	0.0069	0.0023	0.0035	0.022	0.062	0.14	1.4	<0.002	310		<0.006	<0.006	7.9	0.0095	75
	2/16/2011	0.0095	0.0034	0.0054	0.023	0.057	0.16	0.94	<0.002	310		0.0089	0.0089	17	0.0098	71
	6/15/2011	0.0074	0.0027	0.0053	0.026	0.047	0.14	1.5	<0.002	270		<0.006	<0.006	17	0.01	65
	9/26/2011	0.0096	0.0052	0.0059	0.03	0.051	0.12	1.5		290		<0.006	<0.006	17	<0.005	67
	12/14/2011	0.0085	0.0019	0.0042	0.014	0.054										
	12/17/2011						0.097	0.67		<10		<0.006	0.029	15	0.023	2.5
	3/20/2012	0.0057	<0.001	0.0019	0.007	0.054	0.073	1.1			<0.002	<0.006	<0.006	8.9	0.0058	2.5
GWM-2	9/6/2010									430						76
	9/16/2010	<0.001	<0.001	<0.001	<0.003	0.011										
	10/4/2010	<0.001	<0.001	<0.001	<0.003	0.011										
	2/16/2011	<0.001	<0.001	<0.001	<0.0015	0.0083				420						77
	6/15/2011	<0.001	<0.001	<0.001	<0.0015	0.003				460						74
										570						120
	9/26/2011	<0.001	<0.001	<0.001	<0.0015	0.0026				620						110
	12/14/2011	<0.001	<0.001	<0.001	<0.001	0.0027				620						120
	3/20/2012	<0.005	<0.005	<0.005	<0.001	<0.012										
GWM-3	9/16/2010	<0.001	<0.001	<0.001	<0.003	0.009				540						120
	10/4/2010	<0.001	<0.001	<0.001	<0.003	0.0092				450						89
	2/16/2011	<0.001	<0.001	<0.001	<0.0015	0.0081				450						81
	6/15/2011	<0.001	<0.001	<0.001	<0.0015	0.002				470						83
	9/26/2011	<0.001	<0.001	<0.001	<0.002	<0.0025				500						91
	12/14/2011	<0.001	<0.01	<0.001	<0.002	<0.0025				440						79
	3/20/2012	<0.005	<0.005	<0.005	<0.001	<0.012										

TABLE 1
Western Refining - Gallup Refinery - Historical Groundwater Analyses

Bold and highlighted values represent values above the applicable standards.		Metals Parameters (cont.)								8260b Parameters							
		Manganese (mg/L)	Selenium (mg/L)	Potassium (mg/L)	Silver (mg/L)	Sodium (mg/L)	Silver (mg/L)	Mercury (mg/L)	Uranium (mg/L)	Zinc (mg/L)	1,2,4-Trimethyl benzene (mg/L)	1,3,5-Trimethyl benzene (mg/L)	Naphthalene (mg/L)	1-Methyl naphthalene (mg/L)	2-Methyl naphthalene (mg/L)	Acetone (mg/L)	Isopropyl benzene (mg/L)
WQCC 20NMAC 6.2.3103 (Oct 2006)			0.05	NE	0.05	NE		0.002	0.03	10	NE	NE	0.03	NE	NE	NE	NE
40 CFR 141.62 MCL (May 2009)			0.05	NE	NE	NE		0.002	0.03	NE	NE	NE	NE	NE	NE	NE	NE
EPA RSL for Tap Water (Nov 2012)			0.078	NE	NE			0.00063	0.047	4.7	0.015	0.087	0.00014	0.00097	0.027	12	NE
Well ID	DATE SAMPLED																
GWM-1	10/26/2006		NL	4.2		1400		<0.0002	NL	NL							
	10/27/2006																
	5/24/2007		<0.05	3.7	<0.005	1300		<0.0002	NL	NL	<0.01	<0.01	<0.02	<0.04	<0.04	<0.1	<0.01
	7/10/2008		<0.05	3.3	<0.005	1400		<0.0002	NL	<0.05	0.0046	<0.002	<0.002	<0.008	<0.008	<0.02	<0.002
	7/27/2009		NL	3.0	<0.005	1300		<0.0002	0.0159	0.025	0.0064	0.0011	0.0024	0.0097	<0.004	<0.01	0.0026
	3/3/2010*		<0.05	2.9	<0.005	1200		<0.0002	0.0224	0.03	0.0081	<0.005	<0.01	<0.02	<0.02	<0.05	<0.005
	7/20/2010		<0.05	3.1	<0.005	1200		<0.0002	0.011	0.031	0.013	<0.001	0.0035	0.0072	<0.004	0.012	0.0016
	9/16/2010		<0.05	2.8	<0.005	1200		<0.0002	0.015	0.023	0.012	0.0019	NA	NA	NA	NA	NA
	11/2/2010		<0.05	2.9	<0.005	1100		<0.0002	0.009	0.025	0.0075	<0.001	<0.02	0.011	<0.004	<0.01	<0.001
	2/16/2011		0.02	4.3	<0.005	1200		<0.002	0.015	0.038	0.008	<0.001	<0.002	0.01	<0.004	<0.01	0.0014
	6/15/2011		0.015	<5.0	<0.005	1000		<0.0002	0.0084	0.026	0.018	0.0031	0.0055	0.024	0.0062	<0.01	0.0018
	9/26/2011		0.0082	3.2		1100		<0.0002	0.007	0.025	0.019	0.0029	0.0044	0.028	<0.004	<0.01	0.0019
	12/14/2011										0.004	<0.001	<0.002	0.0052	<0.004	<0.01	0.0013
	12/17/2011		0.0047	4.0		1100		<0.002	0.02	0.041							
	3/20/2012	0.0058	0.01				<0.005	<0.001	0.0069	0.016	0.0018	<0.001	<0.002	<0.004	<0.004	0.011	<0.001
GWM-2	9/6/2010			3.2		950											
	9/16/2010																
	10/4/2010			3.0		910											
	2/16/2011			3.7		1000											
	6/15/2011			4.2		1600											
	9/26/2011			4.2		1600											
	12/14/2011			4.1		1500											
	3/20/2012																
GWM-3	9/16/2010			8.2		1400											
	10/4/2010			7.6		1300											
	2/16/2011			7.9		1200											
	6/15/2011			5.7		1200											
	9/26/2011			5.1		1300											
	12/14/2011			4.6		1300											
	3/20/2012																

TABLE 1
Western Refining - Gallup Refinery - Historical Groundwater Analyses

Bold and highlighted values represent values above the applicable standards.		8260b Parameters (cont.)			General Chemical Parameters										
		n-Butyl benzene (mg/L)	n-Propyl benzene (mg/L)	2,4-Dimethyl phenol (mg/L)	Fluoride (mg/L)	Chloride (mg/L)	Bromide (mg/L)	Nitrite (mg/L)	Nitrate (mg/L)	Phosphorus (mg/L)	Sulfate (mg/L)	pH	Specific Conductance (µmhos/cm)	DRO (mg/L)	GRO (mg/L)
WQCC 20NMAC 6.2.3103 (Oct 2006)		NE	NE	NE	1.6	250.0	NE	NE	10	NE	600.0	6 to 9	NE	0.2 ¹	NE
40 CFR 141.62 MCL (May 2009)		NE	NE	NE	4.0	NE	NE	1	10	NE	NE	NE	NE	NE	NE
EPA RSL for Tap Water (Nov 2012)		0.78	NE	0.27	NE	NE	NE	1.6	25	0.00031	NE	NE	NE	NE	NE
Well ID	DATE SAMPLED														
GWM-1	10/26/2006				2.0	3700	NL	<2.0	<2.0	<2.5	120	6.87	NR	NR	NR
	10/27/2006														
	5/24/2007	<0.01	<0.01	<0.01	1.9	1800	NL	<2.0	<2.0	<0.5	120	NL	NL	NL	NL
	7/10/2008	<0.002	<0.002	0.028	1.7	1800	NL	<2.0	<2.0	<0.5	110	6.92	7400	NR	NR
	7/27/2009	<0.001	0.0002	0.064	2.1	1600	NL	<4.0	<4.0	<0.5	73	7.03	6200	NR	NR
	3/3/2010*	<0.005	<0.005	NL	2.1	1600	2.7	<4.0	<4.0	<0.5	88	NR	NR	3.9	0.88
	7/20/2010	0.0019	0.0015	0.052	2.9	1500	2.6	<4.0	<4.0	<2.5	57	7.18	6400	NR	NR
	9/16/2010	NA	NA	NA	2.9	1400	NL	<4.0	<4.0	<5.0	48	NR	NR	7.7	0.71
	11/2/2010	0.0016	0.0012	NL	3.5	1300	NL	<1.0	<1.0	<5.0	26	NR	NR	6.0	0.68
	2/16/2011	<0.001	0.0018	NL	2.8	1400	2.5	2.1	<0.5	<0.5	47	NR	NR	5.4	0.7
	6/15/2011	<0.01	0.0028	NL	2.6	1200	2.6	<2.0	<2.0	<2.5	64	NR	NR	4.0	0.53
	9/26/2011	<0.01	0.0027	NL	3.5	1300	1.5	<4.0	<4.0	<2.5	47	NR	NR	3.9	0.65
	12/14/2011	<0.001	0.0022	NL	1.2	1300	2.5	<1.0	<1.0	<10	54	NR	NR	2.9	0.81
	12/17/2011														
	3/20/2012	<0.001	0.0011	NL	3.6	1200	3.2	<0.5	<0.5	<2.5	130	NR	NR	3.5	1
GWM-2	9/6/2010														
	9/16/2010				0.46	1400	NL	<4.0	<4.0	<5.0	700	NR	NR	<1.0	<0.05
	10/4/2010				0.52	1800	3.4	<4.0	<4.0	<0.5	740	NR	NR	<1.0	<0.05
	2/16/2011				0.43	910	3.3	2.6	2.6	<0.5	660	NR	NR	<1.0	<0.05
	6/15/2011				3.1	2200	4.9	66	66	<2.5	1100	NR	NR	<1.0	<0.05
	9/26/2011				16	2200	4.9	52	52	<2.5	1200	NR	NR	<1.0	<0.05
	12/14/2011				0.48	2100	4	25	25	<10	1000	NR	NR	<1.0	<0.05
	3/20/2012				3.6	1500	4.4	<0.5	<0.5	<2.5	1300	NR	NR	2.4	<0.25
GWM-3	9/16/2010				4.7	2000	NL	66	66	<5.0	1500	NR	NR	3.7	0.066
	10/4/2010				5.9	1800	2.3	61	61	<0.5	1500	NR	NR	1.3	0.12
	2/16/2011				4.2	1100	2.1	61	61	<0.5	1900	NR	NR	<1.0	<0.05
	6/15/2011				5.5	610	2.3	<2.0	<2.0	<2.5	1900	NR	NR	1.1	0.12
	9/26/2011				5.3	1000	2.5	130	130	<2.5	2500	NR	NR	2.7	<0.05
	12/14/2011				5.0	1400	2.5	51	51	<10	1800	NR	NR	1.3	<0.05
	3/20/2012				4.9	1300	2.8	<0.5	<0.5	<2.5	1600	NR	NR	2.7	<0.25

9/26/2011 Quarterly sampling combined with Annual sampling event

DEFINITIONS:

NE = Not Established
NA = Not Analyzed
NL = Not Listed on laboratory analysis

STANDARDS:

WQCC 20 NMAC 6.23103 - Standards for Ground Water of 10,000 mg/l TDS Concentration or Less.
a) Human Health Standards; b) Other Standards for Domestic Water
40 CFR 141.62 Detection Limites for Inorganic Contaminatnts
¹ NMED Table 6-2. TPH Screening Guidelines for Potable Ground Water (GW-1) (June 2012)

TABLE 2
Groundwater Level Measurements
Western Refining Southwest, Inc. - Gallup Refinery
Gallup, New Mexico

Well ID	Measure- ment date	Ground Level Elevations (ft)	Well Casing Rim Elevations (ft)	Total Well Depth (ft)	Depth to Water ⁽¹⁾	Groundwater Elevation (ft)	Screened Interval Depth Top to Bottom (ft)
GWM-1	2/18/2008	6,910.22	6,912.61	26.20	19.91	6,892.70	17.5 - 23.5
	5/21/2008	6,910.22	6,912.61		19.47	6,893.14	
	9/10/2008	6,910.22	6,912.61		20.24	6,892.37	
	11/3/2008	6,910.22	6,912.61		20.55	6,892.06	
	2/11/2009	6,910.22	6,912.61		19.81	6,892.80	
	5/4/2009	6,910.22	6,912.61		19.56	6,893.05	
	8/10/2009	6,910.22	6,912.61		20.32	6,892.29	
	10/27/2009	6,910.22	6,912.61		20.57	6,892.04	
	3/3/2010	6,910.22	6,912.61		19.81	6,892.80	
	6/3/2010	6,910.22	6,912.61		18.14	6,894.47	
	9/16/2010	6,910.22	6,912.61		17.90	6,894.71	
	11/2/2010	6,910.22	6,912.61		18.41	6,894.20	
	2/16/2011	6,910.22	6,912.61		15.99	6,896.62	
	6/15/2011	6,910.22	6,912.61		15.82	6,896.79	
	9/26/2011	6,910.22	6,912.61		16.42	6,896.19	
	12/14/2011	6,910.22	6,912.61		16.08	6,896.53	
	6/12/2012	6,910.22	6,912.61		15.56	6,897.05	
	8/21/2012	6,910.22	6,912.61		16.29	6,896.32	
	11/28/2012	6,910.22	6,912.61		14.50	6,898.11	
	3/18/2013	6,910.22	6,912.61		16.87	6,895.74	
	6/12/2013	6,910.22	6,912.61		17.45	6,895.16	
	9/3/2013	6,910.22	6,912.61		17.88	6,894.73	
	11/11/2013	6,910.22	6,912.61		18.41	6,894.20	
	3/11/2014	6,910.22	6,912.61		18.92	6,893.69	
	6/5/2014	6,910.22	6,912.61		19.1	6,893.51	
	9/12/2014	6,910.22	6,912.61		19.56	6,893.05	
	11/11/2014	6,910.22	6,912.61		20.08	6,892.53	

TABLE 2
Groundwater Level Measurements
Western Refining Southwest, Inc. - Gallup Refinery
Gallup, New Mexico

Well ID	Measure- ment date	Ground Level Elevations (ft)	Well Casing Rim Elevations (ft)	Total Well Depth (ft)	Depth to Water ⁽¹⁾	Groundwater Elevation (ft)	Screened Interval Depth Top to Bottom (ft)
GWM-2	2/18/2008	6,910.32	6,913.09	18.81	18.45	6,894.64	3.2 - 16.2
	3/17/2008	6,910.32	6,913.09		DRY	DRY	
	5/21/2008	6,910.32	6,913.09		DRY	DRY	
	9/10/2008	6,910.32	6,913.09		DRY	DRY	
	11/3/2008	6,910.32	6,913.09		DRY	DRY	
	2/11/2009	6,910.32	6,913.09		DRY	DRY	
	5/4/2009	6,910.32	6,913.09		DRY	DRY	
	8/10/2009	6,910.32	6,913.09		DRY	DRY	
	10/27/2009	6,910.32	6,913.09		DRY	DRY	
	3/3/2010	6,910.32	6,913.09		DRY	DRY	
	6/3/2010	6,910.32	6,913.09		17.57	6,895.52	
	9/16/2010	6,910.32	6,913.09		17.30	6,895.79	
	11/2/2010	6,910.32	6,913.09		18.87	6,894.22	
	2/16/2011	6,910.32	6,913.09		15.08	6,898.01	
	6/15/2011	6,910.32	6,913.09		15.02	6,898.07	
	9/26/2011	6,910.32	6,913.09		15.89	6,897.20	
	12/14/2011	6,910.32	6,913.09		15.40	6,897.69	
	6/12/2012	6,910.32	6,913.09		14.96	6,898.13	
	8/21/2012	6,910.32	6,913.09		15.79	6,897.30	
	11/28/2012	6,910.32	6,913.09		13.83	6,899.26	
	3/18/2013	6,910.32	6,913.09		16.77	6,896.32	
	6/12/2013	6,910.32	6,913.09		17.10	6,895.99	
	9/3/2013	6,910.32	6,913.09		17.88	6,895.21	
	11/11/2013	6,910.32	6,913.09		18.39	6,894.70	
	3/11/2014	6,910.32	6,913.09		DRY	DRY	
	6/5/2014	6,910.32	6,913.09		DRY	DRY	
	9/12/2014	6,910.32	6,913.09		DRY	DRY	
	11/11/2014	6,910.32	6,913.09		DRY	DRY	

TABLE 2
Groundwater Level Measurements
Western Refining Southwest, Inc. - Gallup Refinery
Gallup, New Mexico

Well ID	Measure- ment date	Ground Level Elevations (ft)	Well Casing Rim Elevations (ft)	Total Well Depth (ft)	Depth to Water ⁽¹⁾	Groundwater Elevation (ft)	Screened Interval Depth Top to Bottom (ft)
GWM-3	2/18/2008	6,907.35	6,910.25	17.80	DRY	DRY	3 - 15
	5/21/2008	6,907.35	6,910.25		DRY	DRY	
	9/10/2008	6,907.35	6,910.25		DRY	DRY	
	11/3/2008	6,907.35	6,910.25		DRY	DRY	
	2/11/2009	6,907.35	6,910.25		DRY	DRY	
	5/4/2009	6,907.35	6,910.25		DRY	DRY	
	8/10/2009	6,907.35	6,910.25		DRY	DRY	
	10/27/2009	6,907.35	6,910.25		DRY	DRY	
	3/3/2010	6,907.35	6,910.25		DRY	DRY	
	6/3/2010	6,907.35	6,910.25		17.17	6,893.08	
	9/16/2010	6,907.35	6,910.25		16.92	6,893.33	
	11/2/2010	6,907.35	6,910.25		17.83	6,892.42	
	2/16/2011	6,907.35	6,910.25		12.84	6,897.41	
	6/15/2011	6,907.35	6,910.25		14.20	6,896.05	
	9/26/2011	6,907.35	6,910.25		15.64	6,894.61	
	12/14/2011	6,907.35	6,910.25		14.35	6,895.90	
	6/12/2012	6,907.35	6,910.25		14.70	6,895.55	
	8/21/2012	6,907.35	6,910.25		15.45	6,894.80	
	11/28/2012	6,907.35	6,910.25		13.60	6,896.65	
	3/18/2013	6,907.35	6,910.25		DRY	DRY	
	6/12/2013	6,907.35	6,910.25		DRY	DRY	
	9/3/2013	6,907.35	6,910.25		DRY	DRY	
	11/11/2013	6,907.35	6,910.25		DRY	DRY	
	3/11/2014	6,907.35	6,910.25		DRY	DRY	
	6/5/2014	6,907.35	6,910.25		DRY	DRY	
	9/12/2014	6,907.35	6,910.25		DRY	DRY	
	11/11/2014	6,907.35	6,910.25		DRY	DRY	

TABLE 2
Groundwater Level Measurements
Western Refining Southwest, Inc. - Gallup Refinery
Gallup, New Mexico

Well ID	Measure- ment date	Ground Level Elevations (ft)	Well Casing Rim Elevations (ft)	Total Well Depth (ft)	Depth to Water ⁽¹⁾	Groundwater Elevation (ft)	Screened Interval Depth Top to Bottom (ft)
NAPIS 1 (KA-1R)	4/11/2008	6,913.62	6,913.86	13.53	8.58	6,905.28	3.7 -13.7
	7/11/2008	6,913.62	6,913.86		8.98	6,904.88	
	11/4/2008	6,913.62	6,913.86		8.83	6,905.03	
	3/23/2009	6,913.62	6,913.86		8.92	6,904.94	
	5/28/2009	6,913.62	6,913.86		8.67	6,905.19	
	8/11/2009	6,913.62	6,913.86		9.06	6,904.80	
	11/23/2009	6,913.62	6,913.86		10.28	6,903.58	
	3/8/2010	6,913.62	6,913.86		8.69	6,905.17	
	6/8/2010	6,913.62	6,913.86		8.37	6,905.49	
	9/15/2010	6,913.62	6,913.86		7.77	6,906.09	
	11/2/2010	6,913.62	6,913.86		7.62	6,906.24	
	3/2/2011	6,913.62	6,913.86		7.47	6,906.39	
	6/15/2011	6,913.62	6,913.86		7.96	6,905.90	
	9/27/2011	6,913.62	6,913.86		7.30	6,906.56	
	12/14/2011	6,913.62	6,913.86		7.45	6,906.41	
	6/12/2012	6,913.62	6,913.86		7.39	6,906.47	
	8/21/2012	6,913.62	6,913.86		7.07	6,906.79	
	11/28/2012	6,913.62	6,913.86		8.04	6,905.82	
	3/18/2013	6,913.62	6,913.86		7.84	6,906.02	
	6/12/2013	6,913.62	6,913.86		7.88	6,905.98	
	9/3/2013	6,913.62	6,913.86		6.64	6,907.22	
	11/12/2013	6,913.62	6,913.86		6.65	6,907.21	
	3/11/2014	6,913.62	6,913.86		6.78	6,907.08	
	6/5/2014	6,913.62	6,913.86		6.86	6,907.00	
	9/12/2014	6,913.62	6,913.86		6.85	6,907.01	
	11/11/2014	6,913.62	6,913.86		6.96	6,906.90	

TABLE 2
Groundwater Level Measurements
Western Refining Southwest, Inc. - Gallup Refinery
Gallup, New Mexico

Well ID	Measure- ment date	Ground Level Elevations (ft)	Well Casing Rim Elevations (ft)	Total Well Depth (ft)	Depth to Water ⁽¹⁾	Groundwater Elevation (ft)	Screened Interval Depth Top to Bottom (ft)
NAPIS 2 (KA-2R)	4/11/2008	6,913.40	6,912.65	13.61	8.83	6,903.82	4.2 - 14.2
	7/11/2008	6,913.40	6,912.65		8.96	6,903.69	
	11/4/2008	6,913.40	6,912.65		9.23	6,903.42	
	3/23/2009	6,913.40	6,912.65		9.35	6,903.30	
	5/28/2009	6,913.40	6,912.65		9.22	6,903.43	
	8/11/2009	6,913.40	6,912.65		9.39	6,903.26	
	11/23/2009	6,913.40	6,912.65		9.72	6,902.93	
	3/8/2010	6,913.40	6,912.65		9.19	6,903.46	
	6/8/2010	6,913.40	6,912.65		8.93	6,903.72	
	9/15/2010	6,913.40	6,912.65		8.57	6,904.08	
	11/2/2010	6,913.40	6,912.65		8.55	6,904.10	
	3/2/2011	6,913.40	6,912.65		9.14	6,903.51	
	6/15/2011	6,913.40	6,912.65		8.67	6,903.98	
	9/27/2011	6,913.40	6,912.65		8.18	6,904.47	
	12/14/2011	6,913.40	6,912.65		8.20	6,904.45	
	6/12/2012	6,913.40	6,912.65		9.40	6,903.25	
	8/21/2012	6,913.40	6,912.65		7.95	6,904.70	
	11/28/2012	6,913.40	6,912.65		8.09	6,904.56	
	3/18/2013	6,913.40	6,912.65		9.19	6,903.46	
	6/12/2013	6,913.40	6,912.65		9.00	6,903.65	
	9/3/2013	6,913.40	6,912.65		8.34	6,904.31	
	11/12/2013	6,913.40	6,912.65		8.20	6,904.45	
	3/11/2014	6,913.40	6,912.65		8.03	6,904.62	
	6/5/2014	6,913.40	6,912.65		8.2	6,904.45	
	9/12/2014	6,913.40	6,912.65		8.1	6,904.55	
	11/11/2014	6,913.40	6,912.65		8.2	6,904.45	

TABLE 2
Groundwater Level Measurements
Western Refining Southwest, Inc. - Gallup Refinery
Gallup, New Mexico

Well ID	Measure- ment date	Ground Level Elevations (ft)	Well Casing Rim Elevations (ft)	Total Well Depth (ft)	Depth to Water ⁽¹⁾	Groundwater Elevation (ft)	Screened Interval Depth Top to Bottom (ft)
NAPIS 3 (KA-3R)	4/11/2008	6,913.38	6,912.76	30.42	14.98	6,897.78	25.4 - 30-4
	7/11/2008	6,913.38	6,912.76		9.72	6,903.04	
	11/4/2008	6,913.38	6,912.76		8.71	6,904.05	
	3/23/2009	6,913.38	6,912.76		9.93	6,902.83	
	6/15/2009	6,913.38	6,912.76		8.59	6,904.17	
	8/31/2009	6,913.38	6,912.76		8.39	6,904.37	
	11/23/2009	6,913.38	6,912.76		21.62	6,891.14	
	3/8/2010	6,913.38	6,912.76		9.24	6,903.52	
	6/10/2010	6,913.38	6,912.76		8.87	6,903.89	
	9/15/2010	6,913.38	6,912.76		7.31	6,905.45	
	11/2/2010	6,913.38	6,912.76		8.65	6,904.11	
	3/2/2011	6,913.38	6,912.76		8.11	6,904.65	
	6/15/2011	6,913.38	6,912.76		7.89	6,904.87	
	9/27/2011	6,913.38	6,912.76		7.74	6,905.02	
	12/14/2011	6,913.38	6,912.76		8.30	6,904.46	
	6/12/2012	6,913.38	6,912.76		7.41	6,905.35	
	8/21/2012	6,913.38	6,912.76		8.56	6,904.20	
	11/28/2012	6,913.38	6,912.76		8.30	6,904.46	
	3/18/2013	6,913.38	6,912.76		9.10	6,903.66	
	6/12/2013	6,913.38	6,912.76		8.64	6,904.12	
	9/3/2013	6,913.38	6,912.76		8.92	6,903.84	
	11/12/2013	6,913.38	6,912.76		8.61	6,904.15	
	3/11/2014	6,913.38	6,912.76		8.9	6,903.86	
	6/5/2014	6,913.38	6,912.76		8.85	6,903.91	
	9/12/2014	6,913.38	6,912.76		7.97	6,904.79	
	11/11/2014	6,913.38	6,912.76		9.18	6,903.58	

TABLE 2
Groundwater Level Measurements
Western Refining Southwest, Inc. - Gallup Refinery
Gallup, New Mexico

Well ID	Measure- ment date	Ground Level Elevations (ft)	Well Casing Rim Elevations (ft)	Total Well Depth (ft)	Depth to Water ⁽¹⁾	Groundwater Elevation (ft)	Screened Interval Depth Top to Bottom (ft)
KA-3	11/4/2008	6,913.29	6,912.52	23.20	9.01	6,903.51	15 - 25
	3/23/2009	6,913.29	6,912.52		9.23	6,903.29	
	5/28/2009	6,913.29	6,912.52		9.12	6,903.40	
	8/31/2009	6,913.29	6,912.52		9.36	6,903.16	
	11/23/2009	6,913.29	6,912.52		9.60	6,902.92	
	3/8/2010	6,913.29	6,912.52		8.74	6,903.78	
	6/10/2010	6,913.29	6,912.52		8.39	6,904.13	
	9/15/2010	6,913.29	6,912.52		8.69	6,903.83	
	11/2/2010	6,913.29	6,912.52		8.52	6,904.00	
	3/2/2011	6,913.29	6,912.52		8.51	6,904.01	
	6/15/2011	6,913.29	6,912.52		8.44	6,904.08	
	9/27/2011	6,913.29	6,912.52		8.11	6,904.41	
	12/14/2011	6,913.29	6,912.52		8.08	6,904.44	
	6/12/2012	6,913.29	6,912.52		7.97	6,904.55	
	8/21/2012	6,913.29	6,912.52		7.98	6,904.54	
	11/28/2012	6,913.29	6,912.52		7.97	6,904.55	
	3/18/2013	6,913.29	6,912.52		9.07	6,903.45	
	6/12/2013	6,913.29	6,912.52		8.88	6,903.64	
	9/3/2013	6,913.29	6,912.52		8.35	6,904.17	
	11/12/2013	6,913.29	6,912.52		7.91	6,904.61	
	3/11/2014	6,913.29	6,912.52		8.03	6,904.49	
	6/5/2014	6,913.29	6,912.52		7.95	6,904.57	
	9/12/2014	6,913.29	6,912.52		9	6,903.52	
	11/11/2014	6,913.29	6,912.52		8	6,904.52	
OAPIS-1	10/15/2012	6,914.37	6,916.73	28.30	10.6	6,906.13	16 - 26
	3/18/2013	6,914.37	6,916.73		11.18	6,905.55	
	6/12/2013	6,914.37	6,916.73		11.50	6,905.23	
	9/3/2013	6,914.37	6,916.73		10.69	6,906.04	
	11/11/2013	6,914.37	6,916.73		10.90	6,905.83	
	3/11/2014	6,914.37	6,916.73		11.5	6,905.23	
	6/5/2014	6,914.37	6,916.73		11.75	6,904.98	
	9/12/2014	6,914.37	6,916.73		11.11	6,905.62	
	11/11/2014	6,914.37	6,916.73		17.21	6,899.52	

1 - no free product measured in any wells

TABLE 3
SWMU 1 Soil Boring Samples - Vapor Screening Results
Western Refining Company Southwest, Inc. - Gallup Refinery
Gallup, New Mexico

Sample Interval Depth	SWMU 1-1	SWMU 1-2	SWMU 1-3	SWMU 1-4	SWMU 1-5	SWMU 1-6	SWMU 1-7	SWMU 1-8	SWMU 1-9	SWMU 1-10	SWMU 1-11	SWMU 1-12	SWMU 1-13	SWMU 1-14	SWMU 1-15	SWMU 1-16	SWMU 1-17	SWMU 1-18	SWMU 1-19	SWMU 1-20
0 – 2'	12.9	3	17.3	2.9	6.8	10.5	7.6	26.5	3.2/7.0	10.1/6.1	38.9/3.7	63/4.4	3.1	5.7/4.7	5.7/9.3	7.7/5.7	9.5/6.7	8.2/5.2	4.1	21.7
2 – 4'	245	3.7	21.3	3.8	8.1	37.5	4.8	9.9					35.7							4.6
4 – 6'	NR	6.1	10.3	3.0	8.4	15.9	5.1	13.5					15.6							2.5
6 – 8'	333	2.8	18.9	3.1	2.5	5.8/4.9	4.0	8.8												2.8
8 –10'	144	NR	14.2	3.1	3.8	7.8	1.7	10.0												3.9
10 – 12'	399	4.7/4.3	16.3/12.3	7.8	9.8	9.6/0.8	0.5	15.8												1.5
12 – 14'	148/199	3.2	7.4	13.2	8.2		0.4	161												
14 – 16'		3.7	8.9	NR	11.0		5.9	9.9												
16 – 18'		7.2	11.3/10.7	11.8/16.4	16.1		2.8	8.3												
18 – 20'		2.9/2.3	5.4/6.1	8.5	12.8			14.0/10.5												
20 – 22'				8.5	5.7															
22 – 24'				5.6/5.2	5.5															
24 – 26'					10.9															
26 – 28'					3.0/4.1															

Sample Interval Depth	SWMU 1-21	SWMU 1-22	SWMU 1-23	SWMU 1-24	SWMU 1-25	SWMU 1-26	SWMU 1-27	SWMU 1-28	SWMU 1-29	SWMU 1-30	SWMU 1-31	SWMU 1-32	SWMU 1-33	SWMU 1-34	SWMU 1-35	SWMU 1-36	SWMU 1-37	SWMU 1-38	SWMU 1-39
0 – 2'	1.4	4.9/6.8	3.7	4.6	4.1/4.7	6.5	14.5	4.0	3.6	4.6	3.9	0.7	3.1	3.2	0.8	1.9	4.9	10.3	4.4
2 – 4'				6.4			18.2	4.8		6.6					4.7		13.6	8.5	
4 – 6'				14.4						6.7					1.7		12.8	8.2	
6 – 8'				22.9													16.6	11.7	
8 –10'				13.3													8.8		
10 – 12'				15.7													14.6		
12 – 14'				11.7													14.6/11.4		
14 – 16'				17.8													12.3		
16 – 18'				28.0													NR		
18 – 20'				27.0															
20 – 22'				27.1															
22 – 24'				17.7															
24 – 26'				19.5															
26 – 28'				22.8															
28 – 30'				16.7															
30 – 32'				13.2															
32 – 34'				10.9															

UNITS - PPM
NR = No Recover

TABLE 3
SWMU 14 Soil Boring Samples - Vapor Screening Results
Western Refining Company Southwest, Inc. - Gallup Refinery
Gallup, New Mexico

Sample Interval Depth	SWMU 14-1	OAPIS-1 (SWMU 14-2)	SWMU 14-3	SWMU 14-4	SWMU 14-5	SWMU 14-6	SWMU 14-7	SWMU 14-8	SWMU 14-9	SWMU 14-10	SWMU 14-11	SWMU 14-12
0 – 2'	5.0/12.6	2.9/280	14.3/6.2	5.9/6.2	5.7/7.4	0.7	141/197	8.2/3717	4.9/106	0.3/0.4	5.3/38.5	949/1094
2 – 4'	7.2	56.8	101	28.2		3.9	293		1712			
4 – 6'	13.9	69.4	122	23.1		306	365		1959			
6 – 8'	13.2	87.5	104	19.2		364	935		582			
8 –10'	21.0	330	343	581		345	649		10.9			
10 – 12'	105.9	294	155	711		367	NR		11.3			
12 – 14'	12.4	14.6	326	34.5		13.6	265		10.8			
14 – 16'	10.9	5.7	NM	8.7		10.5	108					
16 – 18'	10.9	10.7	NM	6.5		4.6	74					
18 – 20'	14.9	NM	NM	2.5			9.9					
20 – 22'	15.8	17.9	8.5				3.2					
22 – 24'	13.0	12.8	5.4				3.3					
24 – 26'	13.7	13.2	2.3									
26 – 28'	9.5											
28 – 30'	9.6											
30 – 32'	5.0											
32 – 34'	10.3											
34 – 36'	9.9											
36 – 38'	3.0											
38 – 40'	8.2											
40 – 42'	2.1											
42 – 44'	3.1											
44 – 46'	4.0											
46 – 48'	4.3											
48 – 50'	3.2											

Sample Interval Depth												
	SWMU 14-13	SWMU 14-14	SWMU 14-15	SWMU 14-16	SWMU 14-17	SWMU 14-18	SWMU 14-19	SWMU 14-20	SWMU 14-21	SWMU 14-22	SWMU 14-23	SWMU 14-24
0 – 2'	300/975	567/1028	2.8/5000	10.8/375.5	10.9/898	5.0/2537	4.4/5.1	2.0	10.5	2.9	11.0	3.0/4.0
2 – 4'									4.6	7.3	14.8	
4 – 6'									8.6	7.9	13.6	
6 – 8'									7.6	7.3	385.0	
8 –10'									4.5	4.9	112.0	
10 – 12'											315.0	
12 – 14'											398.0	
14 – 16'											52.0	
16 – 18'											120.0	
18 – 20'											NR	
20 – 22'											NR	

UNITS - PPM
NR - No Recovery
NM - No Measurement

TABLE 4
Residential Soil Screening Levels
Western Refining Southwest, Inc. - Gallup Refinery
Gallup, New Mexico

Analyte					Cross Media Soil-to-Ground Water			Cross Media Soil-to-Ground Water		
	NMED		EPA		NMED	EPA		NMED	EPA	
	Residential Soil (mg/kg)	Endpoint	Residential Soil (mg/kg)	ResSoil key		GW_Risk-based SSL (mg/kg)	GW_MCL-based SSL (mg/kg)		GW_Risk-based SSL (461) (mg/kg)	GW_MCL-based SSL (461) (mg/kg)
Applicable depth interval	0-10'		0-2'		All depths			All depths		
Acenaphthene	3.44E+03	n	3.40E+03	n	1.69E+01	4.10E+00	-	7.79E+03	1.89E+03	-
Acenaphthylene	-	-	-	-	-	-	-	-	-	-
Acetone	6.66E+04	n	6.10E+04	n	3.86E+00	2.40E+00	-	1.78E+03	1.11E+03	-
Aniline	-	-	8.50E+01	c**	-	3.90E-03	-	-	1.80E+00	-
Anthracene	1.72E+04	n	1.70E+04	n	2.71E+02	4.20E+01	-	1.25E+05	1.94E+04	-
Antimony	3.13E+01	n	3.10E+01	n	6.61E-01	2.70E-01	0.27	3.05E+02	1.24E+02	1.24E+02
Arsenic	3.90E+00	c	3.90E-01	c*	1.31E-02	1.30E-03	0.29	6.05E+00	5.99E-01	1.34E+02
Azobenzene	-	-	5.10E+00	c	-	8.00E-04	-	-	3.69E-01	-
Barium	1.56E+04	n	1.50E+04	n	3.01E+02	1.20E+02	82	1.39E+05	5.53E+04	3.78E+04
Benz(a)anthracene	1.48E+00	c	1.50E-01	c	7.83E-02	1.00E-02	-	3.61E+01	4.61E+00	-
Benzene	1.54E+01	c	1.10E+00	c*	1.73E-03	2.00E-04	0.0026	7.96E-01	9.22E-02	1.20E+00
Benzo(a)pyrene	1.48E-01	c	1.50E-02	c	2.60E-02	3.50E-03	0.24	1.20E+01	1.61E+00	1.11E+02
Benzo(b)fluoranthene	1.48E+00	c	1.50E-01	c	2.65E-01	3.50E-02	-	1.22E+02	1.61E+01	-
Benzo(g,h,i)perylene	-	-	-	-	-	-	-	-	-	-
Benzo(k)fluoranthene	1.48E+01	c	1.50E+00	c	2.60E+00	3.50E-01	-	1.20E+03	1.61E+02	-
Benzoic acid	-	-	2.40E+05	nm	-	1.40E+01	-	-	6.45E+03	-
Benzyl alcohol	-	-	6.10E+03	n	-	3.70E-01	-	-	1.71E+02	-
Beryllium	1.56E+02	n	1.60E+02	n	5.77E+01	1.30E+01	3.2	2.66E+04	5.99E+03	1.48E+03
Bis(2-chloroethoxy)methane	-	-	1.80E+02	n	-	1.10E-02	-	-	5.07E+00	-
Bis(2-chloroethyl)ether	2.68E+00	c	2.10E-01	c	2.63E-05	3.10E-06	-	1.21E-02	1.43E-03	-
Bis(2-chloroisopropyl)ether	9.15E+01	c	4.60E+00	c	2.33E-03	1.10E-04	-	1.07E+00	5.07E-02	-
Bis(2-ethylhexyl)phthalate	3.47E+02	cs	3.50E+01	c*	8.62E+00	1.70E-02	1.4	3.97E+03	7.84E+00	6.45E+02
Bromobenzene	-	-	3.00E+02	n	-	3.60E-02	-	-	1.66E+01	-
Bromodichloromethane	5.41E+00	c	2.70E-01	c	2.71E-04	3.20E-05	0.022	1.25E-01	1.48E-02	1.01E+01
Bromoform	6.16E+02	c	6.20E+01	c*	6.04E-01	2.10E-03	0.021	2.78E+02	9.68E-01	9.68E+00
Bromomethane	1.65E+01	n	7.30E+00	n	1.92E-03	1.80E-03	-	8.86E-01	8.30E-01	-
4-Bromophenyl phenyl ether	-	-	-	-	-	-	-	-	-	-
2-Butanone (MEK)	3.71E+04	n	2.80E+04	n	1.27E+00	1.00E+00	-	5.87E+02	4.61E+02	-
Butyl benzyl phthalate	-	-	2.60E+02	c*	-	2.00E-01	-	-	9.22E+01	-
Cadmium	7.03E+01	n	7.00E+01	n	1.37E+00	-	-	6.33E+02	-	-
Carbazole	-	-	-	-	-	-	-	-	-	-
Carbon disulfide	1.53E+03	ns	8.20E+02	ns	2.83E-01	2.10E-01	-	1.30E+02	9.68E+01	-
Carbon tetrachloride	1.08E+01	c	6.10E-01	c	1.60E-03	1.50E-04	0.0019	7.39E-01	6.92E-02	8.76E-01
Chlorobenzene	3.76E+02	ns	2.90E+02	n	4.92E-02	4.90E-02	0.068	2.27E+01	2.26E+01	3.13E+01
Chloroethane	2.98E+04	ns	1.50E+04	ns	5.37E+00	5.90E+00	-	2.48E+03	2.72E+03	-
Chloroform	5.86E+00	c	2.90E-01	c	4.59E-04	5.30E-05	0.022	2.12E-01	2.44E-02	1.01E+01
Chloromethane	2.75E+02	n	1.20E+02	n	4.40E-02	4.90E-02	-	2.03E+01	2.26E+01	-
4-Chloro-3-methylphenol	-	-	6.10E+03	n	-	1.30E+00	-	-	5.99E+02	-
4-Chloroaniline	-	-	2.40E+00	c	-	1.30E-04	-	-	5.99E-02	-
4-Chlorophenyl phenyl ether	-	-	-	-	-	-	-	-	-	-
4-Chlorotoluene	-	-	1.60E+03	ns	-	1.80E-01	-	-	8.30E+01	-
2-Chloronaphthalene	6.11E+01	n	6.30E+03	ns	8.69E-04	2.90E+00	-	4.01E-01	1.34E+03	-
2-Chlorophenol	3.91E+02	n	3.90E+02	n	1.16E-01	5.70E-02	-	5.33E+01	2.63E+01	-
2-Chlorotoluene	1.56E+03	ns	1.60E+03	ns	5.58E-01	1.70E-01	-	2.57E+02	7.84E+01	-
Chromium III	1.17E+05	nl	1.20E+05	nm	9.86E+07	2.80E+07	-	4.54E+10	1.29E+10	-
Chromium VI	2.97E+00	c	2.90E-01	c	8.31E-03	5.90E-04	-	3.83E+00	2.72E-01	-
Chrysene	1.48E+02	c	1.50E+01	c	7.99E+00	1.10E+00	-	3.68E+03	5.07E+02	-
cis-1,2-DCE	1.56E+02	n	1.60E+02	n	1.84E-02	8.20E-03	2.10E-02	8.47E+00	3.78E+00	9.68E+00
cis-1,3-Dichloropropene	3.37E+01	c	-	-	1.24E-03	-	-	5.71E-01	-	-
Cobalt	-	-	2.30E+01	n	-	2.10E-01	-	-	9.68E+01	-
Cyanide	4.69E+01	n	4.70E+01	n	2.21E-01	9.40E-02	2	1.02E+02	4.33E+01	9.22E+02
1,1-Dichloroethane	6.45E+01	c	3.30E+00	c	5.98E-03	6.80E-04	-	2.75E+00	3.13E-01	-
1,1-Dichloroethene	4.49E+02	n	2.40E+02	n	1.16E-01	9.30E-02	0.0025	5.36E+01	4.29E+01	1.15E+00
1,1-Dichloropropene	-	-	-	-	-	-	-	-	-	-
1,2-Dibromo-3-chloropropane	1.86E+00	c	5.40E-03	c	1.10E-06	1.40E-07	8.60E-05	5.07E-04	6.45E-05	3.96E-02
1,2-Dibromoethane (EDB)	5.88E-01	c	3.40E-02	c	1.54E-05	1.80E-06	1.40E-05	7.10E-03	8.30E-04	6.45E-03

TABLE 4
Residential Soil Screening Levels
Western Refining Southwest, Inc. - Gallup Refinery
Gallup, New Mexico

Analyte					Cross Media Soil-to-Ground Water			Cross Media Soil-to-Ground Water		
	NMED		EPA		NMED	EPA		NMED	EPA	
	Residential Soil (mg/kg)	Endpoint	Residential Soil (mg/kg)	ResSoil key	DAF1 (mg/kg)	GW_Risk-based SSL (mgkg)	GW_MCL-based SSL (mg/kg)	DAF (461) (mg/kg)	GW_Risk-based SSL (461) (mg/kg)	GW_MCL-based SSL (461) (mg/kg)
Applicable depth interval	0-10'		0-2'		All depths			All depths		
1,2-Dichlorobenzene	2.31E+03	ns	1.90E+03	ns	2.80E-01	2.70E-01	0.58	1.29E+02	1.24E+02	2.67E+02
3,3'-Dichlorobenzidine	1.08E+01	c	1.10E+00	c	7.40E-03	7.10E-04	-	3.41E+00	3.27E-01	-
1,2-Dichloroethane (EDC)	7.89E+00	c	4.30E-01	c*	3.56E-04	4.20E-05	0.0014	1.64E-01	1.94E-02	6.45E-01
1,2-Dichloropropane	1.52E+01	c	9.40E-01	c*	1.07E-03	1.30E-04	0.0017	4.94E-01	5.99E-02	7.84E-01
1,3-Dichlorobenzene	-	-	-	-	-	-	-	-	-	-
1,3-Dichloropropane	-	-	1.60E+03	ns	-	9.90E-02	-	-	4.56E+01	-
1,4-Dichlorobenzene	3.17E+01	c	2.40E+00	c	3.19E-03	4.00E-04	0.072	1.47E+00	1.84E-01	3.32E+01
2,2-Dichloropropane	-	-	-	-	-	-	-	-	-	-
2,4-Dichlorophenol	1.83E+02	n	1.80E+02	n	9.98E-02	4.10E-02	-	4.60E+01	1.89E+01	-
2,4-Dimethylphenol	1.22E+03	n	1.20E+03	n	6.65E-01	3.20E-01	-	3.07E+02	1.48E+02	-
4,6-Dinitro-2-methylphenol	-	-	4.90E+00	n	-	2.00E-03	-	-	9.22E-01	-
2,4-Dinitrophenol	1.22E+02	n	1.20E+02	n	6.31E-02	3.40E-02	-	2.91E+01	1.57E+01	-
2,4-Dinitrotoluene	1.57E+01	c	1.60E+00	c*	2.25E-03	2.80E-04	-	1.04E+00	1.29E-01	-
2,6-Dinitrotoluene	6.11E+01	n	6.10E+01	n	3.85E-02	2.00E-02	-	1.77E+01	9.22E+00	-
Dibenz(a,h)anthracene	1.48E-01	c	1.50E-02	c	8.46E-02	1.10E-02	-	3.90E+01	5.07E+00	-
Dibenzofuran	-	-	7.80E+01	n	-	1.10E-01	-	-	5.07E+01	-
Dibromochloromethane	1.21E+01	c	6.80E-01	c	3.31E-04	3.90E-05	2.10E-02	1.52E-01	1.80E-02	9.68E+00
Dibromomethane	5.16E+01	n	2.50E+01	n	1.71E-03	1.90E-03	-	7.89E-01	8.76E-01	-
Dichlorodifluoromethane	1.68E+02	n	9.40E+01	n	3.72E-01	3.00E-01	-	1.71E+02	1.38E+02	-
Diethyl phthalate	4.89E+04	n	4.90E+04	n	9.66E+00	4.70E+00	-	4.45E+03	2.17E+03	-
Dimethyl phthalate	6.11E+05	nl	-	-	8.06E+01	-	-	3.71E+04	-	-
Di-n-butyl phthalate	6.11E+03	n	6.10E+03	n	6.97E+00	1.70E+00	-	3.21E+03	7.84E+02	-
Di-n-octyl phthalate	-	-	-	-	-	-	-	-	-	-
Ethylbenzene	6.84E+01	c	5.40E+00	c	1.30E-02	1.50E-03	7.80E-01	5.98E+00	6.92E-01	3.60E+02
Fluoranthene	2.29E+03	n	2.30E+03	n	1.22E+02	7.00E+01	-	5.61E+04	3.23E+04	-
Fluorene	2.29E+03	n	2.30E+03	n	2.03E+01	4.00E+00	-	9.36E+03	1.84E+03	-
Hexachlorobenzene	3.04E+00	c	3.00E-01	c	3.98E-03	5.30E-04	1.30E-02	1.83E+00	2.44E-01	5.99E+00
Hexachlorobutadiene	6.11E+01	n	6.20E+00	c**	1.28E-02	5.00E-04	-	5.91E+00	2.31E-01	-
Hexachlorocyclopentadiene	3.67E+02	n	3.70E+02	n	5.27E-01	7.00E-02	1.60E-01	2.43E+02	3.23E+01	7.38E+01
Hexachloroethane	4.28E+01	n	1.20E+01	c**	8.18E-03	4.80E-04	-	3.77E+00	2.21E-01	-
2-Hexanone	9.38E+02	ns	2.10E+02	n	7.65E+00	7.90E-03	-	3.53E+03	3.64E+00	-
Indeno(1,2,3-cd)pyrene	1.48E+00	c	1.50E-01	c	8.63E-01	1.20E-01	-	3.98E+02	5.53E+01	-
Iron	5.48E+04	n	5.50E+04	n	6.46E+02	2.70E+02	-	2.98E+05	1.24E+05	-
Isophorone	5.12E+03	c	5.10E+02	c*	1.92E-01	2.20E-02	-	8.84E+01	1.01E+01	-
Isopropylbenzene (cumene)	2.43E+03	ns	2.10E+03	ns	8.65E-01	6.40E-01	-	3.99E+02	2.95E+02	-
4-Isopropyltoluene	-	-	-	-	-	-	-	-	-	-
Lead	4.00E+02	IEUBK	4.00E+02	L	-	-	1.40E+01	-	-	6.45E+03
Manganese	1.86E+03	n	-	-	5.72E+01	-	-	2.64E+04	-	-
Mercury	1.56E+01	ns	1.00E+01	ns	3.27E-02	3.30E-02	0.1	1.51E+01	1.52E+01	4.61E+01
Methyl tert-butyl ether (MTBE)	9.01E+02	c	4.30E+01	c	2.41E-02	2.80E-03	-	1.11E+01	1.29E+00	-
Methylene chloride	4.09E+02	n	5.60E+01	c**	4.12E-02	2.50E-03	1.30E-03	1.90E+01	1.15E+00	5.99E-01
1-Methylnaphthalene	-	-	1.60E+01	c	-	5.10E-03	-	-	2.35E+00	-
2-Methylnaphthalene	-	-	2.30E+02	n	-	1.40E-01	-	-	6.45E+01	-
2-Methylphenol	-	-	3.10E+03	n	-	5.80E-01	-	-	2.67E+02	-
3+4-Methylphenol	-	-	-	-	-	-	-	-	-	-
4-Methyl-2-pentanone	-	-	5.30E+03	ns	-	2.30E-01	-	-	1.06E+02	-
2-Nitroaniline	-	-	6.10E+02	n	-	6.20E-02	-	-	2.86E+01	-
3-Nitroaniline	-	-	-	-	-	-	-	-	-	-
4-Nitroaniline	-	-	2.40E+01	c*	-	1.40E-03	-	-	6.45E-01	-
2-Nitrophenol	-	-	-	-	-	-	-	-	-	-
4-Nitrophenol	-	-	-	-	-	-	-	-	-	-
Naphthalene	4.30E+01	c	3.60E+00	c*	3.57E-03	4.70E-04	-	1.64E+00	2.17E-01	-
n-Butylbenzene	-	-	3.90E+03	ns	-	2.50E+00	-	-	1.15E+03	-
Nickel	1.56E+03	n	1.50E+03	n	4.77E+01	2.00E+01	-	2.20E+04	9.22E+03	-
Nitrobenzene	5.35E+01	c	4.80E+00	c*	6.24E-04	7.90E-05	-	2.88E-01	3.64E-02	-
N-Nitrosodi-n-propylamine	-	-	6.90E-02	c	-	7.00E-06	-	-	3.23E-03	-

TABLE 4
Residential Soil Screening Levels
Western Refining Southwest, Inc. - Gallup Refinery
Gallup, New Mexico

Analyte	NMED		EPA		Cross Media Soil-to-Ground Water			Cross Media Soil-to-Ground Water		
	Residential Soil (mg/kg)	Endpoint	Residential Soil (mg/kg)	ResSoil key	DAF1 (mg/kg)	EPA		DAF (461) (mg/kg)	EPA	
						GW_Risk-based SSL (mg/kg)	GW_MCL-based SSL (mg/kg)		GW_Risk-based SSL (461) (mg/kg)	GW_MCL-based SSL (461) (mg/kg)
Applicable depth interval	0-10'		0-2'		All depths			All depths		
N-Nitrosodiphenylamine	9.93E+02	c	9.90E+01	c	5.65E-01	5.70E-02	-	2.61E+02	2.63E+01	-
n-Propylbenzene	-	-	3.40E+03	ns	-	9.90E-01	-	-	4.56E+02	-
Pentachlorophenol	8.94E+00	c	8.90E-01	c	1.28E-02	3.60E-04	0.01	5.90E+00	1.66E-01	4.61E+00
Phenanthrene	1.83E+03	ns	-	-	2.86E+01	-	-	1.32E+04	-	-
Phenol	1.83E+04	n	1.80E+04	n	4.97E+00	2.60E+00	-	2.29E+03	1.20E+03	-
Pyrene	1.72E+03	n	1.70E+03	n	8.94E+01	9.50E+00	-	4.12E+04	4.38E+03	-
Pyridine	-	-	7.80E+01	n	-	5.30E-03	-	-	2.44E+00	-
sec-Butylbenzene	-	-	-	-	-	-	-	-	-	-
Selenium	3.91E+02	n	3.90E+02	n	9.65E-01	4.00E-01	2.60E-01	4.45E+02	1.84E+02	1.20E+02
Silver	3.91E+02	n	3.90E+02	n	1.57E+00	6.00E-01	-	7.22E+02	2.77E+02	-
Styrene	7.28E+03	ns	6.30E+03	ns	1.39E+00	1.20E+00	0.11	6.40E+02	5.53E+02	5.07E+01
1,2,3-Trichlorobenzene	-	-	4.90E+01	n	-	1.50E-02	-	-	6.92E+00	-
1,1,1,2-Tetrachloroethane	2.91E+01	c	1.90E+00	c	1.65E-03	1.90E-04	-	7.59E-01	8.76E-02	-
1,1,1-Trichloroethane	1.56E+04	ns	8.70E+03	ns	2.91E+00	2.60E+00	0.07	1.34E+03	1.20E+03	3.23E+01
1,1,2,2-Tetrachloroethane	8.02E+00	c	5.60E-01	c	2.13E-04	2.60E-05	-	9.82E-02	1.20E-02	-
1,1,2-Trichloroethane	2.81E+00	n	1.10E+00	c**	1.12E-04	7.70E-05	0.0016	5.14E-02	3.55E-02	7.38E-01
2,4,5-Trichlorophenol	6.11E+03	n	6.10E+03	n	1.04E+01	3.30E+00	-	4.78E+03	1.52E+03	-
2,4,6-Trichlorophenol	6.11E+01	n	4.40E+01	c**	1.04E-01	1.30E-02	-	4.78E+01	5.99E+00	-
1,2,3-Trichloropropane	4.97E-02	c	5.00E-03	c	2.50E-06	2.80E-07	-	1.15E-03	1.29E-04	-
1,2,4-Trichlorobenzene	7.30E+01	n	2.20E+01	c**	9.13E-03	2.90E-03	0.2	4.21E+00	1.34E+00	9.22E+01
1,2,4-Trimethylbenzene	-	-	6.20E+01	n	-	2.10E-02	-	-	9.68E+00	-
1,3,5-Trimethylbenzene	-	-	7.80E+02	ns	-	1.20E-01	-	-	5.53E+01	-
tert-Butylbenzene	-	-	-	-	-	-	-	-	-	-
Tetrachloroethene (PCE)	7.02E+00	c	2.20E+01	c**	4.30E-04	4.40E-03	0.0023	1.98E-01	2.03E+00	1.06E+00
Toluene	5.27E+03	ns	5.00E+03	ns	1.27E+00	5.90E-01	0.69	5.84E+02	2.72E+02	3.18E+02
trans-1,2-DCE	2.70E+02	n	1.50E+02	n	2.69E-02	2.50E-02	2.90E-02	1.24E+01	1.15E+01	1.34E+01
trans-1,3-Dichloropropene	-	-	-	-	-	-	-	-	-	-
Trichloroethene (TCE)	8.77E+00	n	9.10E-01	c**	1.05E-03	1.60E-04	0.0018	4.85E-01	7.38E-02	8.30E-01
Trichlorofluoromethane	1.41E+03	ns	7.90E+02	n	8.89E-01	6.90E-01	-	4.10E+02	3.18E+02	-
Vanadium	3.91E+02	n	3.90E+02	n	1.83E+02	7.80E+01	-	8.42E+04	3.60E+04	-
Vinyl chloride	7.28E-01	c	6.00E-02	c	5.42E-05	5.30E-06	0.00069	2.50E-02	2.44E-03	3.18E-01
Xylenes, Total	8.14E+02	ns	6.30E+02	ns	1.56E-01	1.90E-01	9.8	7.21E+01	8.76E+01	4.52E+03
Zinc	2.35E+04	n	2.30E+04	n	6.82E+02	2.90E+02	-	3.14E+05	1.34E+05	-

c - carcinogen

nl - noncarcinogen, SSL may exceed ceiling limit

n - noncarcinogen

nl - noncarcinogen, SSL may exceed both saturation and ceiling limit

cs - carcinogen, SSL November exceed saturation

* = where n SL < 100X c SL, ** = where n SL < 10X c SL

ns - noncarcinogen, SSL November exceed saturation

- no screenig value currently available

NMED - Risk Assessment Guidance for Site Investigations and Remediation (June 14, 2012)

EPA - Regional Screening Levels (November 2012)

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

Cross Media Soil-to-Ground Water					Cross Media Soil-to-Ground Water			Cross Media Soil-to-Ground Water		
Analyte	NMED		EPA		NMED	EPA		NMED	EPA	
	ConsWork (mg/kg)	ConsWork Soil (Endpoint)	Industrial (mg/kg)	IndSoil _key	DAF1 (mg/kg)	GW_Risk- based SSL (mg/kg)	GW_MCL- based SSL (mg/kg)	DAF (461) (mg/kg)	GW_Risk- based SSL (461) (mg/kg)	GW_MCL- based SSL (461) (mg/kg)
Applicable depth interval	0-10'		0-2'		All depths			All depths		
Acenaphthene	1.86E+04	n	3.30E+04	n	1.69E+01	4.10E+00	-	7.79E+03	1.89E+03	-
Acenaphthylene	-	-	-	-	-	-	-	-	-	-
Acetone	2.21E+05	nls	6.30E+05	nms	3.86E+00	2.40E+00	-	1.78E+03	1.11E+03	-
Aniline	-	-	3.00E+02	c*	-	3.90E-03	-	-	1.80E+00	-
Anthracene	6.68E+04	n	1.70E+05	nm	2.71E+02	4.20E+01	-	1.25E+05	1.94E+04	-
Antimony	1.24E+02	n	4.10E+02	n	6.61E-01	2.70E-01	0.27	3.05E+02	1.24E+02	1.24E+02
Arsenic	5.30E+01	n	1.60E+00	c	1.31E-02	1.30E-03	0.29	6.05E+00	5.99E-01	1.34E+02
Azobenzene	-	-	2.30E+01	c	-	8.00E-04	-	-	3.69E-01	-
Barium	4.35E+03	n	1.90E+05	nm	3.01E+02	1.20E+02	82	1.39E+05	5.53E+04	3.78E+04
Benz(a)anthracene	2.13E+02	c	2.10E+00	c	7.83E-02	1.00E-02	-	3.61E+01	4.61E+00	-
Benzene	1.38E+02	n	5.40E+00	c*	1.73E-03	2.00E-04	0.0026	7.96E-01	9.22E-02	1.20E+00
Benzo(a)pyrene	2.13E+01	c	2.10E-01	c	2.60E-02	3.50E-03	0.24	1.20E+01	1.61E+00	1.11E+02
Benzo(b)fluoranthene	2.13E+02	c	2.10E+00	c	2.65E-01	3.50E-02	-	1.22E+02	1.61E+01	-
Benzo(g,h,i)perylene	-	-	-	-	-	-	-	-	-	-
Benzo(k)fluoranthene	2.06E+03	c	2.10E+01	c	2.60E+00	3.50E-01	-	1.20E+03	1.61E+02	-
Benzoic acid	-	-	2.50E+06	nm	-	1.40E+01	-	-	6.45E+03	-
Benzyl alcohol	-	-	6.20E+04	n	-	3.70E-01	-	-	1.71E+02	-
Beryllium	1.44E+02	n	2.00E+03	n	5.77E+01	1.30E+01	3.2	2.66E+04	5.99E+03	1.48E+03
Bis(2-chloroethoxy)methane	-	-	1.80E+03	n	-	1.10E-02	-	-	5.07E+00	-
Bis(2-chloroethyl)ether	7.78E+01	c	1.00E+00	c	2.63E-05	3.10E-06	-	1.21E-02	1.43E-03	-
Bis(2-chloroisopropyl)ether	3.10E+03	cs	2.20E+01	c	2.33E-03	1.10E-04	-	1.07E+00	5.07E-02	-
Bis(2-ethylhexyl)phthalate	4.76E+03	n	1.20E+02	c	8.62E+00	1.70E-02	1.4	3.97E+03	7.84E+00	6.45E+02
Bromobenzene	-	-	1.80E+03	ns	-	3.60E-02	-	-	1.66E+01	-
Bromodichloromethane	1.43E+02	c	1.40E+00	c	2.71E-04	3.20E-05	0.022	1.25E-01	1.48E-02	1.01E+01
Bromoform	4.76E+03	n	2.20E+02	c*	6.04E-01	2.10E-03	0.021	2.78E+02	9.68E-01	9.68E+00
Bromomethane	1.64E+01	n	3.20E+01	n	1.92E-03	1.80E-03	-	8.86E-01	8.30E-01	-
4-Bromophenyl phenyl ether	-	-	-	-	-	-	-	-	-	-
2-Butanone (MEK)	8.43E+04	nls	2.00E+05	nms	1.27E+00	1.00E+00	-	5.87E+02	4.61E+02	-
Butyl benzyl phthalate	-	-	9.10E+02	c	-	2.00E-01	-	-	9.22E+01	-
Cadmium	2.77E+02	n	8.00E+02	n	1.37E+00	-	-	6.33E+02	-	-
Carbazole	-	-	-	-	-	-	-	-	-	-
Carbon disulfide	1.58E+03	ns	3.70E+03	ns	2.83E-01	2.10E-01	-	1.30E+02	9.68E+01	-
Carbon tetrachloride	2.26E+02	ns	3.00E+00	c	1.60E-03	1.50E-04	0.0019	7.39E-01	6.92E-02	8.76E-01
Chlorobenzene	4.06E+02	ns	1.40E+03	ns	4.92E-02	4.90E-02	0.068	2.27E+01	2.26E+01	3.13E+01
Chloroethane	2.61E+04	nls	6.10E+04	ns	5.37E+00	5.90E+00	-	2.48E+03	2.72E+03	-
Chloroform	1.54E+02	c	1.50E+00	c	4.59E-04	5.30E-05	0.022	2.12E-01	2.44E-02	1.01E+01
Chloromethane	2.41E+02	n	5.00E+02	n	4.40E-02	4.90E-02	-	2.03E+01	2.26E+01	-
4-Chloro-3-methylphenol	-	-	6.20E+04	n	-	1.30E+00	-	-	5.99E+02	-
4-Chloroaniline	-	-	8.60E+00	c	-	1.30E-04	-	-	5.99E-02	-
4-Chlorophenyl phenyl ether	-	-	-	-	-	-	-	-	-	-
4-Chlorotoluene	-	-	2.00E+04	ns	-	1.80E-01	-	-	8.30E+01	-
2-Chloronaphthalene	2.94E+02	n	8.20E+04	ns	8.69E-04	2.90E+00	-	4.01E-01	1.34E+03	-
2-Chlorophenol	1.55E+03	n	5.10E+03	n	1.16E-01	5.70E-02	-	5.33E+01	2.63E+01	-
2-Chlorotoluene	6.19E+03	ns	2.00E+04	ns	5.58E-01	1.70E-01	-	2.57E+02	7.84E+01	-
Chromium III	4.65E+05	nl	1.50E+06	nm	9.86E+07	2.80E+07	-	4.54E+10	1.29E+10	-
Chromium VI	6.56E+01	c	5.60E+00	c	8.31E-03	5.90E-04	-	3.83E+00	2.72E-01	-
Chrysene	2.06E+04	c	2.10E+02	c	7.99E+00	1.10E+00	-	3.68E+03	5.07E+02	-
cis-1,2-DCE	6.19E+02	c	2.00E+03	n	1.84E-02	8.20E-03	2.10E-02	8.47E+00	3.78E+00	9.68E+00
cis-1,3-Dichloropropene	2.09E+02	ns	-	-	1.24E-03	-	-	5.71E-01	-	-
Cobalt	-	-	3.00E+02	n	-	2.10E-01	-	-	9.68E+01	-
Cyanide	1.86E+02	n	6.10E+02	n	2.21E-01	9.40E-02	2	1.02E+02	4.33E+01	9.22E+02
1,1-Dichloroethane	1.70E+03	cs	1.70E+01	c	5.98E-03	6.80E-04	-	2.75E+00	3.13E-01	-
1,1-Dichloroethene	4.32E+02	ns	1.10E+03	n	1.16E-01	9.30E-02	0.0025	5.36E+01	4.29E+01	1.15E+00
1,1-Dichloropropene	-	-	-	-	-	-	-	-	-	-
1,2-Dibromo-3-chloropropane	5.07E+00	c	6.90E-02	c	1.10E-06	1.40E-07	8.60E-05	5.07E-04	6.45E-05	3.96E-02
1,2-Dibromoethane (EDB)	1.60E+01	c	1.70E-01	c	1.54E-05	1.80E-06	1.40E-05	7.10E-03	8.30E-04	6.45E-03
1,2-Dichlorobenzene	2.71E+03	ns	9.80E+03	ns	2.80E-01	2.70E-01	0.58	1.29E+02	1.24E+02	2.67E+02
3,3'-Dichlorobenzidine	3.64E+02	c	3.80E+00	c	7.40E-03	7.10E-04	-	3.41E+00	3.27E-01	-
1,2-Dichloroethane (EDC)	5.87E+01	n	2.20E+00	c*	3.56E-04	4.20E-05	0.0014	1.64E-01	1.94E-02	6.45E-01
1,2-Dichloropropane	2.50E+01	n	4.70E+00	c*	1.07E-03	1.30E-04	0.0017	4.94E-01	5.99E-02	7.84E-01

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

Analyte					Cross Media Soil-to-Ground Water			Cross Media Soil-to-Ground Water		
	NMED		EPA		NMED	EPA		NMED	EPA	
	ConsWork (mg/kg)	ConsWork Soil (Endpoint)	Industrial (mg/kg)	IndSoil _key	DAF1 (mg/kg)	GW_Risk- based SSL (mg/kg)	GW_MCL- based SSL (mg/kg)	DAF (461) (mg/kg)	GW_Risk- based SSL (461) (mg/kg)	GW_MCL- based SSL (461) (mg/kg)
1,3-Dichlorobenzene	-	-	-	-	-	-	-	-	-	-
1,3-Dichloropropane	-	-	2.00E+04	ns	-	9.90E-02	-	-	4.56E+01	-
1,4-Dichlorobenzene	8.31E+02	cs	1.20E+01	c	3.19E-03	4.00E-04	0.072	1.47E+00	1.84E-01	3.32E+01
2,2-Dichloropropane	-	-	-	-	-	-	-	-	-	-
2,4-Dichlorophenol	7.15E+02	n	1.80E+03	n	9.98E-02	4.10E-02	-	4.60E+01	1.89E+01	-
2,4-Dimethylphenol	4.76E+03	n	1.20E+04	n	6.65E-01	3.20E-01	-	3.07E+02	1.48E+02	-
4,6-Dinitro-2-methylphenol	-	-	4.90E+01	n	-	2.00E-03	-	-	9.22E-01	-
2,4-Dinitrophenol	4.76E+02	n	1.20E+03	n	6.31E-02	3.40E-02	-	2.91E+01	1.57E+01	-
2,4-Dinitrotoluene	4.76E+02	n	5.50E+00	c	2.25E-03	2.80E-04	-	1.04E+00	1.29E-01	-
2,6-Dinitrotoluene	2.38E+02	n	6.20E+02	n	3.85E-02	2.00E-02	-	1.77E+01	9.22E+00	-
Dibenz(a,h)anthracene	2.13E+01	c	2.10E-01	c	8.46E-02	1.10E-02	-	3.90E+01	5.07E+00	-
Dibenzofuran	-	-	1.00E+03	ns	-	1.10E-01	-	-	5.07E+01	-
Dibromochloromethane	3.32E+02	cs	3.30E+00	c	3.31E-04	3.90E-05	2.10E-02	1.52E-01	1.80E-02	9.68E+00
Dibromomethane	3.10E+03	ns	1.10E+02	n	1.71E-03	1.90E-03	-	7.89E-01	8.76E-01	-
Dichlorodifluoromethane	1.49E+02	ns	4.00E+02	n	3.72E-01	3.00E-01	-	1.71E+02	1.38E+02	-
Diethyl phthalate	1.91E+05	nl	4.90E+05	nm	9.66E+00	4.70E+00	-	4.45E+03	2.17E+03	-
Dimethyl phthalate	2.38E+06	nl	-	-	8.06E+01	-	-	3.71E+04	-	-
Di-n-butyl phthalate	2.38E+04	n	6.20E+04	n	6.97E+00	1.70E+00	-	3.21E+03	7.84E+02	-
Di-n-octyl phthalate	-	-	-	-	-	-	-	-	-	-
Ethylbenzene	1.83E+03	cs	2.70E+01	c	1.30E-02	1.50E-03	7.80E-01	5.98E+00	6.92E-01	3.60E+02
Fluoranthene	8.91E+03	n	2.20E+04	n	1.22E+02	7.00E+01	-	5.61E+04	3.23E+04	-
Fluorene	8.91E+03	ns	2.20E+04	n	2.03E+01	4.00E+00	-	9.36E+03	1.84E+03	-
Hexachlorobenzene	1.03E+02	c	1.10E+00	c	3.98E-03	5.30E-04	1.30E-02	1.83E+00	2.44E-01	5.99E+00
Hexachlorobutadiene	2.38E+02	n	2.20E+01	c*	1.28E-02	5.00E-04	-	5.91E+00	2.31E-01	-
Hexachlorocyclopentadiene	8.11E+02	n	3.70E+03	n	5.27E-01	7.00E-02	1.60E-01	2.43E+02	3.23E+01	7.38E+01
Hexachloroethane	1.67E+02	n	4.30E+01	c*	8.18E-03	4.80E-04	-	3.77E+00	2.21E-01	-
2-Hexanone	9.73E+02	ns	1.40E+03	n	7.65E+00	7.90E-03	-	3.53E+03	3.64E+00	-
Indeno(1,2,3-cd)pyrene	2.13E+02	c	2.10E+00	c	8.63E-01	1.20E-01	-	3.98E+02	5.53E+01	-
Iron	2.17E+05	nl	7.20E+05	nm	6.46E+02	2.70E+02	-	2.98E+05	1.24E+05	-
Isophorone	4.75E+04	n	1.80E+03	c*	1.92E-01	2.20E-02	-	8.84E+01	1.01E+01	-
Isopropylbenzene (cumene)	2.81E+03	ns	1.10E+04	ns	8.65E-01	6.40E-01	-	3.99E+02	2.95E+02	-
4-Isopropyltoluene	-	-	-	-	-	-	-	-	-	-
Lead	8.00E+02	IEUBK	8.00E+02	L	-	-	1.40E+01	-	-	6.45E+03
Manganese	4.40E+02	n	-	-	5.72E+01	-	-	2.64E+04	-	-
Mercury	1.36E+01	ns	4.30E+01	ns	3.27E-02	3.30E-02	0.1	1.51E+01	1.52E+01	4.61E+01
Methyl tert-butyl ether (MTBE)	2.49E+04	cs	2.20E+02	c	2.41E-02	2.80E-03	-	1.11E+01	1.29E+00	-
Methylene chloride	1.12E+03	ns	9.60E+02	c**	4.12E-02	2.50E-03	1.30E-03	1.90E+01	1.15E+00	5.99E-01
1-Methylnaphthalene	-	-	5.30E+01	c	-	5.10E-03	-	-	2.35E+00	-
2-Methylnaphthalene	-	-	2.20E+03	ns	-	1.40E-01	-	-	6.45E+01	-
2-Methylphenol	-	-	3.10E+04	n	-	5.80E-01	-	-	2.67E+02	-
3+4-Methylphenol	-	-	-	-	-	-	-	-	-	-
4-Methyl-2-pentanone	-	-	5.30E+04	ns	-	2.30E-01	-	-	1.06E+02	-
2-Nitroaniline	-	-	6.00E+03	n	-	6.20E-02	-	-	2.86E+01	-
3-Nitroaniline	-	-	-	-	-	-	-	-	-	-
4-Nitroaniline	-	-	8.60E+01	c*	-	1.40E-03	-	-	6.45E-01	-
2-Nitrophenol	-	-	-	-	-	-	-	-	-	-
4-Nitrophenol	-	-	-	-	-	-	-	-	-	-
Naphthalene	1.58E+02	n	1.80E+01	c*	3.57E-03	4.70E-04	-	1.64E+00	2.17E-01	-
n-Butylbenzene	-	-	5.10E+04	ns	-	2.50E+00	-	-	1.15E+03	-
Nickel	6.19E+03	n	2.00E+04	n	4.77E+01	2.00E+01	-	2.20E+04	9.22E+03	-
Nitrobenzene	3.32E+02	n	2.40E+01	c*	6.24E-04	7.90E-05	-	2.88E-01	3.64E-02	-
N-Nitrosodi-n-propylamine	-	-	2.50E-01	c	-	7.00E-06	-	-	3.23E-03	-
N-Nitrosodiphenylamine	3.36E+04	c	3.50E+02	c	5.65E-01	5.70E-02	-	2.61E+02	2.63E+01	-
n-Propylbenzene	-	-	2.10E+04	ns	-	9.90E-01	-	-	4.56E+02	-
Pentachlorophenol	3.10E+02	c	2.70E+00	c	1.28E-02	3.60E-04	0.01	5.90E+00	1.66E-01	4.61E+00
Phenanthrene	7.15E+03	n	-	-	2.86E+01	-	-	1.32E+04	-	-
Phenol	6.88E+04	n	1.80E+05	nm	4.97E+00	2.60E+00	-	2.29E+03	1.20E+03	-
Pyrene	6.68E+03	n	1.70E+04	n	8.94E+01	9.50E+00	-	4.12E+04	4.38E+03	-
Pyridine	-	-	1.00E+03	n	-	5.30E-03	-	-	2.44E+00	-
sec-Butylbenzene	-	-	-	-	-	-	-	-	-	-
Selenium	1.55E+03	n	5.10E+03	n	9.65E-01	4.00E-01	2.60E-01	4.45E+02	1.84E+02	1.20E+02

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

Camp, New Mexico					Cross Media Soil-to-Ground Water			Cross Media Soil-to-Ground Water		
Analyte	NMED		EPA		NMED	EPA		NMED	EPA	
	ConsWork (mg/kg)	ConsWork Soil (Endpoint)	Industrial (mg/kg)	IndSoil _key	DAF1 (mg/kg)	GW_Risk- based SSL (mg/kg)	GW_MCL- based SSL (mg/kg)	DAF (461) (mg/kg)	GW_Risk- based SSL (461) (mg/kg)	GW_MCL- based SSL (461) (mg/kg)
Silver	1.55E+03	n	5.10E+03	n	1.57E+00	6.00E-01	-	7.22E+02	2.77E+02	-
Styrene	9.99E+03	ns	3.60E+04	ns	1.39E+00	1.20E+00	0.11	6.40E+02	5.53E+02	5.07E+01
1,2,3-Trichlorobenzene	-	-	4.90E+02	ns	-	1.50E-02	-	-	6.92E+00	-
1,1,1,2-Tetrachloroethane	7.79E+02	cs	9.30E+00	c	1.65E-03	1.90E-04	-	7.59E-01	8.76E-02	-
1,1,1-Trichloroethane	1.48E+04	ns	3.80E+04	ns	2.91E+00	2.60E+00	0.07	1.34E+03	1.20E+03	3.23E+01
1,1,2,2-Tetrachloroethane	2.21E+02	c	2.80E+00	c	2.13E-04	2.60E-05	-	9.82E-02	1.20E-02	-
1,1,2-Trichloroethane	4.72E+02	ns	5.30E+00	c**	1.12E-04	7.70E-05	0.0016	5.14E-02	3.55E-02	7.38E-01
2,4,5-Trichlorophenol	2.38E+04	n	6.20E+04	n	1.04E+01	3.30E+00	-	4.78E+03	1.52E+03	-
2,4,6-Trichlorophenol	2.38E+02	n	1.60E+02	c**	1.04E-01	1.30E-02	-	4.78E+01	5.99E+00	-
1,2,3-Trichloropropane	7.23E+00	c	9.50E-02	c	2.50E-06	2.80E-07	-	1.15E-03	1.29E-04	-
1,2,4-Trichlorobenzene	6.87E+01	ns	9.90E+01	c**	9.13E-03	2.90E-03	0.2	4.21E+00	1.34E+00	9.22E+01
1,2,4-Trimethylbenzene	-	-	2.60E+02	ns	-	2.10E-02	-	-	9.68E+00	-
1,3,5-Trimethylbenzene	-	-	1.00E+04	ns	-	1.20E-01	-	-	5.53E+01	-
tert-Butylbenzene	-	-	-	-	-	-	-	-	-	-
Tetrachloroethene (PCE)	2.12E+02	cs	1.10E+02	c**	4.30E-04	4.40E-03	0.0023	1.98E-01	2.03E+00	1.06E+00
Toluene	1.34E+04	ns	4.50E+04	ns	1.27E+00	5.90E-01	0.69	5.84E+02	2.72E+02	3.18E+02
trans-1,2-DCE	2.73E+02	ns	6.90E+02	n	2.69E-02	2.50E-02	2.90E-02	1.24E+01	1.15E+01	1.34E+01
trans-1,3-Dichloropropene	-	-	-	-	-	-	-	-	-	-
Trichloroethene (TCE)	7.68E+00	cs	6.40E+00	c**	1.05E-03	1.60E-04	0.0018	4.85E-01	7.38E-02	8.30E-01
Trichlorofluoromethane	1.30E+03	ns	3.40E+03	ns	8.89E-01	6.90E-01	-	4.10E+02	3.18E+02	-
Vanadium	1.55E+03	n	5.20E+03	n	1.83E+02	7.80E+01	-	8.42E+04	3.60E+04	-
Vinyl chloride	1.49E+02	c	1.70E+00	c	5.42E-05	5.30E-06	0.00069	2.50E-02	2.44E-03	3.18E-01
Xylenes, Total	7.43E+02	ns	2.70E+03	ns	1.56E-01	1.90E-01	9.8	7.21E+01	8.76E+01	4.52E+03
Zinc	9.29E+04	n	3.10E+05	nm	6.82E+02	2.90E+02	-	3.14E+05	1.34E+05	-

c - carcinogen

nl - noncarcinogen, SSL may exceed ceiling limit

n - noncarcinogen

nls - noncarcinogen, SSL may exceed both saturation and ceiling limit

cs - carcinogen, SSL November exceed saturation

* = where n SL < 100X c SL, ** = where n SL < 10X c SL

ns - noncarcinogen, SSL November exceed saturation

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NMED - Risk Assessment Guidance for Site Investigations and Remediation (June 14, 2012)

EPA - Regional Screening Levels (November 2012)

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

Analyte	NMED			EPA		
	NMED WQCC Standards (mg/L)	NMED Tap Water mg/L	Tap Water key	EPA Screening Levels Tap Water (mg/L)	Tap Water key	MCL (mg/L)
Acenaphthene	-	2.19	n	4.00E-01	n	-
Acenaphthylene	-	-	-	-	-	-
Acetone	-	21.78289	n	1.20E+01	n	-
Aniline	-	-	-	1.20E-01	c**	-
Anthracene	-	10.95	n	1.30E+00	n	-
Antimony	-	0.0146	n	6.00E-03	n	0.006
Arsenic	0.1	0.000448	c	4.50E-04	c	0.01
Azobenzene	-	-	-	1.00E-03	c	-
Barium	1	7.3	n	2.90E+00	n	2
Benz(a)anthracene	-	0.000295	c	2.90E-04	c	-
Benzene	0.01	0.00413	c	3.90E-03	c*	0.005
Benzo(a)pyrene	0.0007	2.95E-05	c	2.90E-05	c	0.0002
Benzo(b)fluoranthene	-	0.000295	c	2.90E-04	c	-
Benzo(g,h,i)perylene	-	-	-	-	-	-
Benzo(k)fluoranthene	-	0.00295	c	2.90E-03	c	-
Benzoic acid	-	-	-	5.80E+01	n	-
Benzyl alcohol	-	-	-	1.50E+00	n	-
Beryllium	-	0.073	n	1.60E-02	n	0.004
Bis(2-chloroethoxy)methane	-	-	-	4.60E-02	n	-
Bis(2-chloroethyl)ether	-	0.000119	c	1.20E-04	c	-
Bis(2-chloroisopropyl)ether	-	0.0096	c	3.10E-03	c	-
Bis(2-ethylhexyl)phthalate	-	0.048	c	4.80E-02	c*	0.006
Bromobenzene	-	-	-	5.40E-02	n	-
Bromodichloromethane	-	0.001173	c	1.20E-03	c	0.08
Bromoform	-	0.085063	c	7.90E-02	c*	0.08
Bromomethane	-	0.008661	n	7.00E-03	n	-
4-Bromophenyl phenyl ether	-	-	-	-	-	-
Butyl benzyl phthalate	-	-	-	1.40E-01	c*	-
2-Butanone (MEK)	-	7.064516	n	4.90E+00	n	-
Cadmium	0.01	0.01825	n	-	-	-
Carbazole	-	-	-	-	-	-
Carbon disulfide	-	1.042857	n	7.20E-01	n	-
Carbon tetrachloride	0.01	0.004396	c	3.90E-03	c	0.005
Chlorobenzene	-	0.09125	n	7.20E-02	n	0.1
Chloroethane	-	20.85714	n	2.10E+01	n	-
Chloroform	0.1	0.001928	c	1.90E-03	c	0.08
Chloromethane	-	0.187714	n	1.90E-01	n	-
4-Chloro-3-methylphenol	-	-	-	1.10E+00	n	-
4-Chloroaniline	-	-	-	3.20E-03	c	-
4-Chlorophenyl phenyl ether	-	-	-	-	-	-
4-Chlorotoluene	-	-	-	1.90E-01	n	-
2-Chloronaphthalene	-	0.00121	n	5.50E-01	n	-
2-Chlorophenol	-	0.1825	n	7.10E-02	n	-
2-Chlorotoluene	-	0.73	n	1.80E-01	n	-

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

Analyte	NMED			EPA		
	NMED WQCC Standards (mg/L)	NMED Tap Water mg/L	Tap Water key	EPA Screening Levels Tap Water (mg/L)	Tap Water key	MCL (mg/L)
Chromium III	0.05	54.75	n	1.60E+00	n	-
Chromium VI	0.05	0.000431	c	3.10E-04	c	-
Chrysene	-	0.029499	c	2.90E-02	c	-
Cobalt	0.05	-	-	4.70E-03	n	-
Cyanide, Total	0.2	0.0219	n	1.40E-03	n	0.2
Dibenz(a,h)anthracene	-	2.95E-05	c	2.90E-05	c	-
Dibenzofuran	-	-	-	5.80E-03	n	-
Dibromochloromethane	-	0.001471	c	1.50E-03	c	0.08
cis-1,2-DCE	-	0.073	n	2.80E-02	n	0.07
trans-1,2-DCE	-	0.106829	n	8.60E-02	n	0.1
cis-1,3-Dichloropropene	-	0.004329	c	-	-	-
trans-1,3-Dichloropropene	-	-	-	-	-	-
Dibromomethane	-	0.008156	n	7.90E-03	n	-
1,2-Dibromo-3-chloropropane	-	3.16E-06	c	3.20E-06	c	0.0002
1,2-Dibromoethane (EDB)	0.0001	6.53E-05	c	6.50E-05	c	0.00005
1,2-Dichlorobenzene	-	0.370141	n	2.80E-01	n	0.6
1,3-Dichlorobenzene	-	-	-	-	-	-
1,4-Dichlorobenzene	-	0.004272	c	4.20E-03	c	0.075
3,3'-Dichlorobenzidine	-	0.001493	c	1.10E-03	c	-
Dichlorodifluoromethane	-	0.202778	n	1.90E-01	n	-
1,1-Dichloroethane	0.025	0.024176	c	2.40E-02	c	-
1,2-Dichloroethane (EDC)	0.01	0.001493	c	1.50E-03	c*	0.005
1,1-Dichloroethene	0.005	0.339535	n	2.60E-01	n	0.007
2,4-Dichlorophenol	-	0.1095	n	3.50E-02	n	-
1,2-Dichloropropane	-	0.00386	c	3.80E-03	c*	0.005
2,2-Dichloropropane	-	-	-	-	-	-
1,3-Dichloropropane	-	-	-	2.90E-01	n	-
1,1-Dichloropropene	-	-	-	-	-	-
Diethyl phthalate	-	29.2	n	1.10E+01	n	-
Dimethyl phthalate	-	365	n	-	-	-
2,4-Dimethylphenol	-	0.73	n	2.70E-01	n	-
4,6-Dinitro-2-methylphenol	-	-	-	1.20E-03	n	-
2,4-Dinitrophenol	-	0.073	n	3.00E-02	n	-
2,4-Dinitrotoluene	-	0.002168	c	2.00E-03	c	-
2,6-Dinitrotoluene	-	0.0365	n	1.50E-02	n	-
Di-n-butyl phthalate	-	3.65	n	6.70E-01	n	-
Di-n-octyl phthalate	-	-	-	-	-	-
Ethylbenzene	0.75	0.014761	c	1.30E-02	c	0.7
Fluoranthene	-	1.46	n	6.30E-01	n	-
Fluorene	-	1.46	n	2.20E-01	n	-
Hexachlorobenzene	-	0.00042	c	4.20E-04	c	0.001
Hexachlorobutadiene	-	0.008615	c	2.60E-03	c*	-
Hexachlorocyclopentadiene	-	0.219	n	2.20E-02	n	0.05
Hexachloroethane	-	0.0168	c	7.90E-03	c**	-

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

Analyte	NMED			EPA		
	NMED WQCC Standards (mg/L)	NMED Tap Water mg/L	Tap Water key	EPA Screening Levels Tap Water (mg/L)	Tap Water key	MCL (mg/L)
2-Hexanone	-	0.876	n	3.40E-02	n	-
Indeno(1,2,3-cd)pyrene	-	0.000295	c	2.90E-04	c	-
Iron, Total	1	25.55	n	1.10E+01	n	-
Isophorone	-	0.707368	c	6.70E-01	c*	-
Isopropylbenzene (Cumene)	-	0.67907	n	3.90E-01	n	-
4-Isopropyltoluene	-	-	-	-	-	-
Lead	0.05	-	-	-	L	0.015
Manganese	0.2	0.876	n	-	-	-
Mercury	0.002	0.000626	n	6.30E-04	n	0.002
Methyl tert-butyl ether (MTBE)	-	0.124661	c	1.20E-01	c	-
Methylene chloride	0.1	0.186383	n	9.90E-02	c**	0.005
1-Methylnaphthalene	-	-	-	9.70E-03	c	-
2-Methylnaphthalene	-	-	-	2.70E-02	n	-
2-Methylphenol	-	-	-	7.20E-01	n	-
3+4-Methylphenol	-	-	-	-	-	-
4-Methyl-2-pentanone	-	-	-	1.00E+00	n	-
Naphthalene	-	0.001431	c	1.40E-03	c*	-
n-Butylbenzene	-	-	-	7.80E-01	n	-
Nickel	0.2	0.73	n	3.00E+00	n	-
2-Nitroaniline	-	-	-	1.50E-01	n	-
3-Nitroaniline	-	-	-	-	-	-
4-Nitroaniline	-	-	-	3.30E-02	c*	-
2-Nitrophenol	-	-	-	-	-	-
4-Nitrophenol	-	-	-	-	-	-
Nitrobenzene	-	0.001217	c	1.20E-03	c*	-
N-Nitrosodimethylamine	-	4.22E-06	c	4.20E-06	c	-
N-Nitrosodi-n-propylamine	-	-	-	9.30E-05	c	-
N-Nitrosodiphenylamine	-	0.137143	c	1.00E-01	c	-
n-Propylbenzene	-	-	-	5.30E-01	n	-
Pentachlorophenol	-	0.00168	c	3.50E-04	c	0.001
Phenanthrene	-	1.095	n	-	-	-
Phenol	0.005	10.95	n	4.50E+00	n	-
Pyrene	-	1.095	n	8.70E-02	n	-
Pyridine	-	-	-	1.50E-02	n	-
sec-Butylbenzene	-	-	-	-	-	-
Selenium	0.05	0.1825	n	7.80E-02	n	0.05
Silver	0.05	0.1825	n	7.10E-02	n	-
Styrene	-	1.622222	n	1.10E+00	n	0.1
tert-Butylbenzene	-	-	-	-	-	-
Tetrachloroethene (PCE)	0.02	0.001081	c	9.70E-02	c**	0.005
1,1,1,2-Tetrachloroethane	-	0.005242	c	5.00E-03	c	-
Toluene	0.75	2.28125	n	8.60E-01	n	1
1,2,3-Trichlorobenzene	-	-	-	5.20E-02	n	-
1,2,4-Trichlorobenzene	-	0.004124	n	9.90E-03	c**	0.07

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

Analyte	NMED			EPA		
	NMED WQCC Standards (mg/L)	NMED Tap Water mg/L	Tap Water key	EPA Screening Levels Tap Water (mg/L)	Tap Water key	MCL (mg/L)
2,4,5-Trichlorophenol	-	3.65	n	8.90E-01	n	-
2,4,6-Trichlorophenol	-	0.0365	n	3.50E-02	c**	-
1,2,3-Trichloropropane	-	7.18E-06	c	6.50E-06	c	-
1,2,4-Trimethylbenzene	-	-	-	1.50E-02	n	-
1,1,1-Trichloroethane	0.06	9.125	n	7.50E+00	n	0.2
1,1,2,2-Tetrachloroethane	0.02	0.000671	c	6.60E-04	c	-
1,1,2-Trichloroethane	0.1	0.000416	n	2.40E-03	c**	0.005
Trichloroethene (TCE)	0.1	0.003395	n	4.40E-03	c**	0.005
Trichlorofluoromethane	-	1.288235	n	1.10E+00	n	-
1,3,5-Trimethylbenzene	-	-	-	8.70E-02	n	-
Vanadium	-	0.1825	n	7.80E-02	n	-
Vinyl chloride	0.001	0.000162	c	1.50E-04	c	0.002
Xylenes, Total	0.62	0.202778	n	1.90E-01	n	10
Zinc	10	10.95	n	4.70E+00	n	-
General Chemistry	-					
Chloride	-	-	-	-	-	-
Fluoride	1.6	1.46	n	0.93	n	-
Sulfate	-	-	-	-	-	-
Total Dissolved Solids	-	-	-	-	-	-
Diesel Range Organics (DRO)	-	-	-	-	-	-
Gasoline Range Organics (GRO)	-	-	-	-	-	-
Motor Oil Range Organics (MRO)	-	-	-	-	-	-

c - cancer, * = where n SL < 100X c SL, ** = where n SL < 10X c SL

n - noncancer

620 - Bolded value is applicable screening level

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EPA - Regional Screening Levels (November 2012); carc multiplies by 10

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

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

Analytes	Residential Soil Screening Level	Source	Non- Residential Soil Screening Level	Source	Leachate DAF (461) (mg/kg) SoilGW NMED	Source	Min	Background Concentrations (11)	Units	SWMU 1-1 (10-12')	SWMU 1-1 (13-14')	SWMU 1-1 (2-4')	SWMU 1-2 (10-11')	SWMU 1-2 (14-16')	SWMU 1-2 (17-17.25')	SWMU 1-2 (19.5-20')	SWMU 1-2 (6-8')	SWMU 1-3 (10-11')	SWMU 1-3 (11-11.25')	SWMU 1-3 (18.5-19.5')	SWMU 1-3 (19.5-20')	SWMU 1-3 (2-4')	SWMU 1-4 (10-12')	SWMU 1-4 (17-18')	
										1210372-002 10/5/2012	1210372-003 10/5/2012	1210372-001 10/5/2012	1210279-002 10/2/2012	1210279-003 10/2/2012	1210279-004 10/2/2012	1210279-005 10/2/2012	1210279-001 10/2/2012	1210279-009 10/2/2012	1210279-010 10/2/2012	1210279-011 10/2/2012	1210279-012 10/2/2012	1210279-008 10/2/2012	1210332-007 10/3/2012	1210332-002 10/3/2012	
Metals (mg/kg)																									
Antimony	3.13E+01	(1)	1.24E+02	(4)	3.05E+02	(7)	3.13E+01	-	mg/Kg	<12.5	<25	<12.5	<4.9996	<4.9997	<5	<5	<5.0001	<5	<5	<5	<5	<2.5	<12.5	<12.5	
Arsenic	3.90E+00	(1)	5.30E+01	(4)	6.05E+00	(7)	3.90E+00	-	mg/Kg	<3.1	<6.6	<3.1	<1.3	<1.3	<1.3	3.1J	<1.3	2.1J	1.9J	<1.3	<1.3	<13	<3.1	<3.1	
Barium	1.56E+04	(1)	4.35E+03	(4)	1.39E+05	(7)	4.35E+03	-	mg/Kg	300	630	450	220	680	180	1300	39	220	110	270	400	770	360	370	
Beryllium	1.56E+02	(1)	1.44E+02	(4)	2.66E+04	(7)	1.44E+02	-	mg/Kg	1.2	<1.5	<0.75	0.74	0.58	0.74	0.77	0.61	0.72	0.63	0.79	0.83	0.39	<0.75	<0.75	
Cadmium	7.03E+01	(1)	2.77E+02	(4)	6.33E+02	(7)	7.03E+01	-	mg/Kg	<0.5	<1	<0.5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.1	<0.5	<0.5	
Chromium III	1.17E+05	(1)	4.65E+05	(4)	4.54E+10	(7)	1.17E+05	-	mg/Kg	16	6.8	400	6	6.3	6.9	12	8.1	7.6	4.8	9.3	10	3.8	3.7	7.9	
Chromium VI	2.97E+00	(1)	6.56E+01	(4)	3.83E+00	(7)	2.97E+00	-	mg/Kg	16	6.8	400	6	6.3	6.9	12	8.1	7.6	4.8	9.3	10	3.8	3.7	7.9	
Cobalt	2.30E+01	(2)	3.00E+02	(5)	9.68E+01	(8)	2.30E+01	-	mg/Kg	7.5	8	8.1	3.3	3.5	3.8	11	3.9	3.6	3.2	5.4	5.7	2.4	2	3.9	
Cyanide	4.69E+01	(1)	1.86E+02	(4)	1.02E+02	(7)	4.69E+01	-	mg/Kg	<0.3	<0.3	1.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	1.6	
Iron	5.48E+04	(1)	2.17E+05	(4)	2.98E+05	(7)	5.48E+04	-	mg/Kg	23000	8100	16000	11000	12000	12000	17000	12000	11000	10000	16000	16000	4800	5300	10000	
Lead	4.00E+02	(1)	8.00E+02	(4)	6.45E+03	(8)	4.00E+02	-	mg/Kg	3.3	<2.5	80	3.9	3.5	4.8	3.9	3.5	3.4	4	4.8	2.8	<0.25	3.1	2.7	
Manganese	1.86E+03	(1)	4.40E+02	(4)	2.64E+04	(7)	4.40E+02	-	mg/Kg	290	2800	480	310	360	280	1200	230	420	380	510	610	340	550	570	
Mercury	1.56E+01	(1)	1.36E+01	(4)	1.51E+01	(7)	1.36E+01	-	mg/Kg	<0.033	<0.033	1.4	<0.033	<0.033	<0.033	<0.033	<0.033	<0.033	<0.033	<0.033	<0.033	<0.033	<0.033	<0.033	
Nickel	1.56E+03	(1)	6.19E+03	(4)	2.20E+04	(7)	1.56E+03	-	mg/Kg	15	8.3	15	5.6	5.7	6.7	16	6	5.7	5	10	12	3.8	2.9	6	
Selenium	3.91E+02	(1)	1.55E+03	(4)	4.45E+02	(7)	3.91E+02	-	mg/Kg	<12.5	<25	<12.5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<2.5	<12.5	<12.5	
Silver	3.91E+02	(1)	1.55E+03	(4)	7.22E+02	(7)	3.91E+02	-	mg/Kg	<1.25	<2.5	<1.25	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.25	<1.25	<1.25	
Vanadium	3.91E+02	(1)	1.55E+03	(4)	8.42E+04	(7)	3.91E+02	-	mg/Kg	25	30	20	12	13	12	14	16	15	10	11	10	11	<12.5	17	
Zinc	2.35E+04	(1)	9.29E+04	(4)	3.14E+05	(7)	2.35E+04	-	mg/Kg	29	<25	720	13	13	13	30	16	11	10	15	16	9.1	<12.5	17	
Volatile Organic Compounds - (EPA Method 8260) mg/kg																									
1,1,1,2-Tetrachloroethane	2.91E+01	(1)	7.79E+02	(4)	7.59E-01	(7)	7.59E-01	-	mg/Kg	<0.5	<0.05	<2.5	<0.0012	<0.0012	<0.0012	<0.001	<0.05	<0.0012	<0.0011	<0.0013	<0.0012	<0.001	<0.0011	<0.05	
1,1,1-Trichloroethane	1.56E+04	(1)	1.48E+04	(4)	1.34E+03	(7)	1.34E+03	-	mg/Kg	<0.5	<0.05	<2.5	<0.0012	<0.0012	<0.0012	<0.001	<0.05	<0.0012	<0.0011	<0.0013	<0.0012	<0.001	<0.0011	<0.05	
1,1,2,2-Tetrachloroethane	8.02E+00	(1)	2.21E+02	(4)	9.82E-02	(7)	9.82E-02	-	mg/Kg	<0.5	<0.05	<2.5	<0.0012	<0.0012	<0.0012	<0.001	<0.05	<0.0012	<0.0011	<0.0013	<0.0012	<0.001	<0.0011	<0.05	
1,1,2-Trichloroethane	2.81E+00	(1)	4.72E+02	(4)	5.14E-02	(7)	5.14E-02	-	mg/Kg	<0.5	<0.05	<2.5	<0.0012	<0.0012	<0.0012	<0.001	<0.05	<0.0012	<0.0011	<0.0013	<0.0012	<0.001	<0.0011	<0.05	
1,1-Dichloroethane	6.45E+01	(1)	1.70E+03	(4)	2.75E+00	(7)	2.75E+00	-	mg/Kg	<1	<0.1	<5	<0.0012	<0.0012	<0.0012	<0.001	<0.1	<0.0012	<0.0011	<0.0013	<0.0012	<0.001	<0.0011	<0.1	
1,1-Dichloroethene	4.49E+02	(1)	4.32E+02	(4)	5.36E+01	(7)	5.36E+01	-	mg/Kg	<0.5	<0.05	<2.5	<0.0012	<0.0012	<0.0012	<0.001	<0.05	<0.0012	<0.0011	<0.0013	<0.0012	<0.001	<0.0011	<0.05	
1,1-Dichloropropene	-	-	-	-	-	-	-	-	mg/Kg	<1	<0.1	<5	<0.0012	<0.0012	<0.0012	<0.001	<0.1	<0.0012	<0.0011	<0.0013	<0.0012	<0.001	<0.0011	<0.1	
1,2,3-Trichlorobenzene	4.90E+01	(2)	4.90E+02	(5)	6.92E+00	(8)	6.92E+00	-	mg/Kg	<1	<0.1	<5	<0.0012	<0.0012	<0.0012	<0.001	<0.1	<0.0012	<0.0011	<0.0013	<0.0012	<0.001	<0.0011	<0.1	
1,2,3-Trichloropropane	4.97E-02	(1)	7.23E+00	(4)	1.15E-03	(7)	1.15E-03	-	mg/Kg	<1	<0.1	<5	<0.0012	<0.0012	<0.0012	<0.001	<0.1	<0.0012	<0.0011	<0.0013	<0.0012	<0.001	<0.0011	<0.1	
1,2,4-Trichlorobenzene	7.30E+01	(1)	6.87E+01	(4)	4.21E+00	(7)	4.21E+00	-	mg/Kg	<0.5	<0.05	<2.5	<0.0012	<0.0012	<0.0012	<0.001	<0.05	<0.0012	<0.0011	<0.0013	<0.0012	<0.001	<0.0011	<0.05	
1,2,4-Trimethylbenzene	6.20E+01	(2)	2.60E+02	(5)	9.68E+00	(8)	9.68E+00	-	mg/Kg	<0.5	<0.05	17	<0.0012	<0.0012	<0.0012	<0									

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

Analytes	Residential Soil Screening Level	Source	Non- Residential Soil Screening Level	Source	Leachate DAF (461) (mg/kg) SoilGW NMED	Source	Min	Background Concentrations (11)	Units	SWMU 1-1 (10-12')	SWMU 1-1 (13-14')	SWMU 1-1 (2-4')	SWMU 1-2 (10-11')	SWMU 1-2 (14-16')	SWMU 1-2 (17-17.25')	SWMU 1-2 (19.5-20')	SWMU 1-2 (6-8')	SWMU 1-3 (10-11')	SWMU 1-3 (11-11.25')	SWMU 1-3 (18.5-19.5')	SWMU 1-3 (19.5-20')	SWMU 1-3 (2-4')	SWMU 1-4 (10-12')	SWMU 1-4 (17-18')
										1210372-002 10/5/2012	1210372-003 10/5/2012	1210372-001 10/5/2012	1210279-002 10/2/2012	1210279-003 10/2/2012	1210279-004 10/2/2012	1210279-005 10/2/2012	1210279-001 10/2/2012	1210279-009 10/2/2012	1210279-010 10/2/2012	1210279-011 10/2/2012	1210279-012 10/2/2012	1210279-008 10/2/2012	1210332-007 10/3/2012	1210332-002 10/3/2012
Bromodichloromethane	5.41E+00	(1)	1.43E+02	(4)	1.25E-01	(7)	1.25E-01	-	mg/Kg	<0.5	<0.05	<2.5	<0.0012	<0.0012	<0.0012	<0.001	<0.05	<0.0012	<0.0011	<0.0013	<0.0012	<0.001	<0.0011	<0.05
Bromoform	6.16E+02	(1)	4.76E+03	(4)	2.78E+02	(7)	2.78E+02	-	mg/Kg	<0.5	<0.05	<2.5	<0.0012	<0.0012	<0.0012	<0.001	<0.05	<0.0012	<0.0011	<0.0013	<0.0012	<0.001	<0.0011	<0.05
Bromomethane	1.65E+01	(1)	1.64E+01	(4)	8.86E-01	(7)	8.86E-01	-	mg/Kg	<1.5	<0.15	<7.5	<0.0012	<0.0012	<0.0012	<0.001	<0.15	<0.0012	<0.0011	<0.0013	<0.0012	<0.001	<0.0011	<0.15
Carbon disulfide	1.53E+03	(1)	1.58E+03	(4)	1.30E+02	(7)	1.30E+02	-	mg/Kg	<5	<0.5	<25	<0.0116	<0.0121	<0.0116	<0.0104	<0.5	<0.0123	<0.0108	<0.0129	<0.012	<0.0105	<0.0113	<0.5
Carbon tetrachloride	1.08E+01	(1)	2.26E+02	(4)	7.39E-01	(7)	7.39E-01	-	mg/Kg	<1	<0.1	<5	<0.0012	<0.0012	<0.0012	<0.001	<0.1	<0.0012	<0.0011	<0.0013	<0.0012	<0.001	<0.0011	<0.1
Chlorobenzene	3.76E+02	(1)	4.06E+02	(4)	2.27E+01	(7)	2.27E+01	-	mg/Kg	<0.5	<0.05	<2.5	<0.0012	<0.0012	<0.0012	<0.001	<0.05	<0.0012	<0.0011	<0.0013	<0.0012	<0.001	<0.0011	<0.05
Chloroethane	2.98E+04	(1)	2.61E+04	(4)	2.48E+03	(7)	2.48E+03	-	mg/Kg	<1	<0.1	<5	<0.0012	<0.0012	<0.0012	<0.001	<0.1	<0.0012	<0.0011	<0.0013	<0.0012	<0.001	<0.0011	<0.1
Chloroform	5.86E+00	(1)	1.54E+02	(4)	2.12E-01	(7)	2.12E-01	-	mg/Kg	<0.5	<0.05	<2.5	<0.0012	<0.0012	<0.0012	<0.001	<0.05	<0.0012	<0.0011	<0.0013	<0.0012	<0.001	<0.0011	<0.05
Chloromethane	2.75E+02	(1)	2.41E+02	(4)	2.03E+01	(7)	2.03E+01	-	mg/Kg	<1.5	<0.15	<7.5	<0.0012	<0.0012	<0.0012	<0.001	<0.15	<0.0012	<0.0011	<0.0013	<0.0012	<0.001	<0.0011	<0.15
cis-1,2-DCE	1.56E+02	(1)	6.19E+02	(4)	8.47E+00	(7)	8.47E+00	-	mg/Kg	<0.5	<0.05	<2.5	<0.0012	<0.0012	<0.0012	<0.001	<0.05	<0.0012	<0.0011	<0.0013	<0.0012	<0.001	<0.0011	<0.05
cis-1,3-Dichloropropene	3.37E+01	(1)	2.09E+02	(4)	5.71E-01	(7)	5.71E-01	-	mg/Kg	<0.5	<0.05	<2.5	<0.0012	<0.0012	<0.0012	<0.001	<0.05	<0.0012	<0.0011	<0.0013	<0.0012	<0.001	<0.0011	<0.05
Dibromochloromethane	1.21E+01	(1)	3.32E+02	(4)	1.52E-01	(7)	1.52E-01	-	mg/Kg	<0.5	<0.05	<2.5	<0.0012	<0.0012	<0.0012	<0.001	<0.05	<0.0012	<0.0011	<0.0013	<0.0012	<0.001	<0.0011	<0.05
Dibromomethane	5.16E+01	(1)	3.10E+03	(4)	7.89E-01	(7)	7.89E-01	-	mg/Kg	<1	<0.1	<5	<0.0012	<0.0012	<0.0012	<0.001	<0.1	<0.0012	<0.0011	<0.0013	<0.0012	<0.001	<0.0011	<0.1
Dichlorodifluoromethane	1.68E+02	(1)	1.49E+02	(4)	1.71E+02	(7)	1.49E+02	-	mg/Kg	<0.5	<0.05	<2.5	<0.0012	<0.0012	<0.0012	<0.001	<0.05	<0.0012	<0.0011	<0.0013	<0.0012	<0.001	<0.0011	<0.05
Ethylbenzene	6.84E+01	(1)	1.83E+03	(4)	5.98E+00	(7)	5.98E+00	-	mg/Kg	<0.5	<0.05	5.8	<0.0012	<0.0012	<0.0012	<0.001	<0.05	<0.0012	<0.0011	<0.0013	0.00125	<0.001	<0.0011	0.05
Hexachlorobutadiene	6.11E+01	(1)	2.38E+02	(4)	5.91E+00	(7)	5.91E+00	-	mg/Kg	<1	<0.1	<5	<0.0012	<0.0012	<0.0012	<0.001	<0.1	<0.0012	<0.0011	<0.0013	<0.0012	<0.001	<0.0011	<0.1
Isopropylbenzene	2.43E+03	(1)	2.81E+03	(4)	3.99E+02	(7)	3.99E+02	-	mg/Kg	<0.5	<0.05	<2.5	<0.0012	<0.0012	<0.0012	<0.001	<0.05	<0.0012	<0.0011	<0.0013	<0.0012	<0.001	<0.0011	<0.05
Methyl tert-butyl ether (MTBE)	9.01E+02	(1)	2.49E+04	(4)	1.11E+01	(7)	1.11E+01	-	mg/Kg	<0.5	<0.05	<2.5	0.00148	0.00518	0.00412	<0.001	<0.05	<0.0012	0.00115	0.00256	<0.0012	<0.001	<0.0011	<0.05
Methylene chloride	4.09E+02	(1)	1.12E+03	(4)	1.90E+01	(7)	1.90E+01	-	mg/Kg	<1.5	<0.15	<7.5	<0.0035	<0.0036	<0.0035	<0.0031	<0.15	<0.0037	<0.0033	<0.0039	<0.0036	<0.0031	<0.0034	<0.15
Naphthalene	4.30E+01	(1)	1.58E+02	(4)	1.64E+00	(7)	1.64E+00	-	mg/Kg	1.3	<0.1	13	<0.0023	<0.0024	<0.0023	<0.0021	<0.1	<0.0025	<0.0022	<0.0026	<0.0024	<0.0021	<0.0023	0.4
n-Butylbenzene	3.90E+03	(2)	5.10E+04	(5)	1.15E+03	(8)	1.15E+03	-	mg/Kg	<1.5	<0.15	<7.5	<0.0012	<0.0012	<0.0012	<0.001	<0.15	<0.0012	<0.0011	<0.0013	<0.0012	<0.001	<0.0011	<0.15
n-Propylbenzene	3.40E+03	(2)	2.10E+04	(5)	4.56E+02	(8)	4.56E+02	-	mg/Kg	<0.5	<0.05	2.8	<0.0012	<0.0012	<0.0012	<0.001	<0.05	<0.0012	<0.0011	<0.0013	<0.0012	<0.001	<0.0011	<0.05
sec-Butylbenzene	-	-	-	-	-	-	-	-	mg/Kg	<0.5	<0.05	<2.5	<0.0012	<0.0012	<0.0012	<0.001	<0.05	<0.0012	<0.0011	<0.0013	<0.0012	<0.001	<0.0011	<0.05
Styrene	7.28E+03	(1)	9.99E+03	(4)	6.40E+02	(7)	6.40E+02	-	mg/Kg	<0.5	<0.05	<2.5	<0.0012	<0.0012	<0.0012	<0.001	<0.05	<0.0012	<0.0011	<0.0013	<0.0012	<0.001	<0.0011	<0.05
tert-Butylbenzene	-	-	-	-	-	-	-	-	mg/Kg	<0.5	<0.05	<2.5	<0.0012	<0.0012	<0.0012	<0.001	<0.05	<0.0012	<0.0011	<0.0013	<0.0012	<0.001	<0.0011	<0.05
Tetrachloroethene (PCE)	7.02E+00	(1)	2.12E+02	(4)	1.98E-01	(7)	1.98E-01	-	mg/Kg	<0.5	<0.05	<2.5	<0.0012	<0.0012	<0.0012	<0.001	<0.05	<0.0012	<0.0011	<0.0013	<0.0012	<0.001	<0.0011	<0.05
Toluene	5.27E+03	(1)	1.34E+04	(4)	5.84E+02	(7)	5.84E+02	-	mg/Kg	<0.5	<0.05	<2.5	<0.0012	0.00151	<0.0012	0.00333	<0.05	<0.0012	<0.0011	0.00164	0.005	0.00187	<0.0011	<0.05
trans-1,2-DCE	2.70E+02	(1)	2.73E+02	(4)	1.24E+01	(7)	1.24E+01	-	mg/Kg	<0.5	<0.05	<2.5	<0.0012	<0.0012	<0.0012	<0.001	<0.05	<0.0012	<0.0011	<0.0013	<0.0012	<0.001	<0.0011	<0.05
trans-1,3-Dichloropropene	-	-	-	-	-	-	-	-	mg/Kg	<0.5	<0.05	<2.5	<0.0012	<0.0012	<0.0012	<0.001	<0.05	<0.0012	<0.0011	<0.0013	<0.0012	<0.001	<0.0011	<0.05
Trichloroethene (TCE)	8.77E+00	(1)	7.68E+00	(4)	4.85E-01	(7)	4.85E-01	-	mg/Kg	<0.5	<0.05	<2.5	<0.0012	<0.0012	<0.0012	<0.001	<0.05	<0.0012	<0.0011	<0.0013	<0.0012	<0.001	<0.0011	<0.05
Trichlorofluoromethane	1.41E+03	(1)	1.30E+03	(4)	4.10E+02	(7)	4.10E+02	-	mg/Kg	<0.5	<0.05	<2.5	<0.0012	<0.0012	<0.0012	<0.001	<0.05	<0.0012	<0.0011	<0.0013	<0.0012	<0.001	<0.0011	<0.05
Vinyl chloride	7.28E-01	(1)	1.49E+02	(4)	2.50E-02	(7)	2.50E-02	-	mg/Kg	<0.5	<0.05	<2.5	<0.0012	<0.0012	<0.0012	<0.001	<0.05	<0.0012	<0.0011	<0.0013	<0.0012	<0.001	<0.0011	<0.05
Xylenes, Total	8.14E+02	(1)	7.43E+02	(4)	7.21E+01	(7)	7.21E+01	-	mg/Kg	<1	<0.1	24	<0.0023	<0.0024	<0.0023	0.00212	<0.1	<0.0025	<0.0022	<0.0026	0.00344	<0.0021	<0.0023	0.35
Semi Volatile Organics - (EPA Method 8270) mg/kg																								
1,2,4-Trichlorobenzene	7.30E+01	(1)	6.87E+01	(4)	4.21E+00	(7)	4.21E+00	-	mg/Kg	<0.2008	<0.1987	<1.003	<0.1997	<0.1981	<0.1995	<0.2005	<0.2013	<0.2039	<0.1993	<0.1978	<0.2015	<0.2007	<0.4	<0.2006
1,2-Dichlorobenzene	2.31E+03	(1)	2.71E+03	(4)	1.29E+02	(7)	1.29E+02	-	mg/Kg	<0.2008	<0.1987	<1.003	<0.1997	<0.1981	<0.1995	<0.2005	<0.2013	<0.2039	<0.1993	<0.1978	<0.2015	<0.2007	<0.4	<0.2006
1,3-Dichlorobenzene	-	-	-	-	-	-	-	-	mg/Kg	<0.2008	<0.1987	<1.003	<0.1997	<0.1981	<0.1995	<0.2005	<0.2013	<0.2039	<0.1993	<0.1978	<0.2015	<0.2007	<0.4	<0.2006
1,4-Dichlorobenzene	3.17E+01	(1)	8.31E+02	(4)	1.47E+00	(7)	1.47E+00	-	mg/Kg	<0.2008	<0.1987	<1.003	<0.1997	<0.1981	<0.1995	<0.2005	<0.2013	<0.2039	<0.1993	<0.1978	<0.2015	<0.2007	<0.4	<0.2006
1-Methylnaphthalene	1.60E+02	(3)	5.30E+02	(6)	2.35E+00	(8)	2.35E+00	-	mg/Kg	7.9	<0.1987	43	<0.1997	<0.1981	<0.1995	<0.2005	<0.2013	<0.2039	<0.1993	<0.1978	<0.2015	<0.2007	<0.4	<0.2006
2,4,5-Trichlorophenol	6.11E+03	(1)	2.38E+04	(4)	4.78E+03	(7)	4.78E+03	-	mg/Kg	<0.2008	<0.1987	<1.003	<0.1997	<0.1981	<0.1995	<0.2005	<0.2013	<0.2039	<0.1993	<0.1978	<0.2015	<0.2007	<0.4	<0.2006
2,4,6-Trichlorophenol	6.11E+01	(1)	2.38E+02	(4)	4.78E+01	(7)	4.78E+01	-	mg/Kg	<0.2008	<0.1987	<1.003	<0.1997	<0.1981	<0.1995	<0.2005	<0.2013	<0.2039	<0.1993	<0.1978	<0.2015	<0.2007	<0.4	<0.2006
2,4-Dichlorophenol	1.83E+02	(1)	7.15E+02	(4)	4.60E+01	(7)	4.60E+01	-	mg/Kg	<0.4016	<0.3975	<2.006	<0.3995	&										

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

Analytes	Residential Soil Screening Level	Source	Non- Residential Soil Screening Level	Source	Leachate DAF (461) (mg/kg) SoilGW NMED	Source	Min	Background Concentrations (11)	Units	SWMU 1-1 (10-12')	SWMU 1-1 (13-14')	SWMU 1-1 (2-4')	SWMU 1-2 (10-11')	SWMU 1-2 (14-16')	SWMU 1-2 (17-17.25')	SWMU 1-2 (19.5-20')	SWMU 1-2 (6-8')	SWMU 1-3 (10-11')	SWMU 1-3 (11-11.25')	SWMU 1-3 (18.5-19.5')	SWMU 1-3 (19.5-20')	SWMU 1-3 (2-4')	SWMU 1-4 (10-12')	SWMU 1-4 (17-18')
										1210372-002 10/5/2012	1210372-003 10/5/2012	1210372-001 10/5/2012	1210279-002 10/2/2012	1210279-003 10/2/2012	1210279-004 10/2/2012	1210279-005 10/2/2012	1210279-001 10/2/2012	1210279-009 10/2/2012	1210279-010 10/2/2012	1210279-011 10/2/2012	1210279-012 10/2/2012	1210279-008 10/2/2012	1210332-007 10/3/2012	1210332-002 10/3/2012
3,3'-Dichlorobenzidine	1.08E+01	(1)	3.64E+02	(4)	3.41E+00	(7)	3.41E+00	-	mg/Kg	<0.251	<0.2484	<1.2538	<0.2497	<0.2476	<0.2493	<0.2506	<0.2516	<0.2549	<0.2492	<0.2473	<0.2519	<0.2508	<0.5	<0.2508
3+4-Methylphenol	-	-	-	-	-	-	-	-	mg/Kg	<0.2008	<0.1987	<1.003	<0.1997	<0.1981	<0.1995	<0.2005	<0.2013	<0.2039	<0.1993	<0.1978	<0.2015	<0.2007	<0.4	<0.2006
3-Nitroaniline	-	-	-	-	-	-	-	-	mg/Kg	<0.2008	<0.1987	<1.003	<0.1997	<0.1981	<0.1995	<0.2005	<0.2013	<0.2039	<0.1993	<0.1978	<0.2015	<0.2007	<0.4	<0.2006
4,6-Dinitro-2-methylphenol	4.90E+00	(2)	4.90E+01	(5)	9.22E-01	(8)	9.22E-01	-	mg/Kg	<0.502	<0.4969	<2.5075	<0.4993	<0.4952	<0.4987	<0.5012	<0.5032	<0.5099	<0.4983	<0.4946	<0.5039	<0.5017	<1	<0.5015
4-Bromophenyl phenyl ether	-	-	-	-	-	-	-	-	mg/Kg	<0.2008	<0.1987	<1.003	<0.1997	<0.1981	<0.1995	<0.2005	<0.2013	<0.2039	<0.1993	<0.1978	<0.2015	<0.2007	<0.4	<0.2006
4-Chloro-3-methylphenol	6.10E+03	(2)	6.20E+04	(5)	5.99E+02	(8)	5.99E+02	-	mg/Kg	<0.502	<0.4969	<2.5075	<0.4993	<0.4952	<0.4987	<0.5012	<0.5032	<0.5099	<0.4983	<0.4946	<0.5039	<0.5017	<1	<0.5015
4-Chloroaniline	2.40E+01	(3)	8.60E+01	(6)	5.99E-02	(8)	5.99E-02	-	mg/Kg	<0.502	<0.4969	<2.5075	<0.4993	<0.4952	<0.4987	<0.5012	<0.5032	<0.5099	<0.4983	<0.4946	<0.5039	<0.5017	<1	<0.5015
4-Chlorophenyl phenyl ether	-	-	-	-	-	-	-	-	mg/Kg	<0.2008	<0.1987	<1.003	<0.1997	<0.1981	<0.1995	<0.2005	<0.2013	<0.2039	<0.1993	<0.1978	<0.2015	<0.2007	<0.4	<0.2006
4-Nitroaniline	2.40E+02	(3)	8.60E+02	(6)	6.45E-01	(8)	6.45E-01	-	mg/Kg	<0.4016	<0.3975	<2.006	<0.3995	<0.3962	<0.3989	<0.4009	<0.4025	<0.4079	<0.3987	<0.3956	<0.4031	<0.4013	<0.8	<0.4012
4-Nitrophenol	-	-	-	-	-	-	-	-	mg/Kg	<0.251	<0.2484	<1.2538	<0.2497	<0.2476	<0.2493	<0.2506	<0.2516	<0.2549	<0.2492	<0.2473	<0.2519	<0.2508	<0.5	<0.2508
Acenaphthene	3.44E+03	(1)	1.86E+04	(4)	7.79E+03	(7)	3.44E+03	-	mg/Kg	<0.2008	<0.1987	<1.003	<0.1997	<0.1981	<0.1995	<0.2005	<0.2013	<0.2039	<0.1993	<0.1978	<0.2015	<0.2007	<0.4	<0.2006
Acenaphthylene	-	-	-	-	-	-	-	-	mg/Kg	<0.2008	<0.1987	<1.003	<0.1997	<0.1981	<0.1995	<0.2005	<0.2013	<0.2039	<0.1993	<0.1978	<0.2015	<0.2007	<0.4	<0.2006
Aniline	8.50E+02	(3)	3.00E+03	(6)	1.80E+00	(8)	1.80E+00	-	mg/Kg	<0.2008	<0.1987	<1.003	<0.1997	<0.1981	<0.1995	<0.2005	<0.2013	<0.2039	<0.1993	<0.1978	<0.2015	<0.2007	<0.4	<0.2006
Anthracene	1.72E+04	(1)	6.68E+04	(4)	1.25E+05	(7)	1.72E+04	-	mg/Kg	<0.2008	<0.1987	<1.003	<0.1997	<0.1981	<0.1995	<0.2005	<0.2013	<0.2039	<0.1993	<0.1978	<0.2015	<0.2007	<0.4	<0.2006
Azobenzene	5.10E+01	(3)	2.30E+02	(6)	3.69E-01	(8)	3.69E-01	-	mg/Kg	<0.2008	<0.1987	<1.003	<0.1997	<0.1981	<0.1995	<0.2005	<0.2013	<0.2039	<0.1993	<0.1978	<0.2015	<0.2007	<0.4	<0.2006
Benz(a)anthracene	1.48E+00	(1)	2.13E+02	(4)	3.61E+01	(7)	1.48E+00	-	mg/Kg	<0.2008	<0.1987	<1.003	<0.1997	<0.1981	<0.1995	<0.2005	<0.2013	<0.2039	<0.1993	<0.1978	<0.2015	<0.2007	<0.4	<0.2006
Benzo(a)pyrene	1.48E-01	(1)	2.13E+01	(4)	1.20E+01	(7)	1.48E-01	-	mg/Kg	<0.2008	<0.1987	<1.003	<0.1997	<0.1981	<0.1995	<0.2005	<0.2013	<0.2039	<0.1993	<0.1978	<0.2015	<0.2007	<0.4	<0.2006
Benzo(b)fluoranthene	1.48E+00	(1)	2.13E+02	(4)	1.22E+02	(7)	1.48E+00	-	mg/Kg	<0.2008	<0.1987	<1.003	<0.1997	<0.1981	<0.1995	<0.2005	<0.2013	<0.2039	<0.1993	<0.1978	<0.2015	<0.2007	<0.4	<0.2006
Benzo(g,h,i)perylene	-	-	-	-	-	-	-	-	mg/Kg	<0.2008	<0.1987	<1.003	<0.1997	<0.1981	<0.1995	<0.2005	<0.2013	<0.2039	<0.1993	<0.1978	<0.2015	<0.2007	<0.4	<0.2006
Benzo(k)fluoranthene	1.48E+01	(1)	2.06E+03	(4)	1.20E+03	(7)	1.48E+01	-	mg/Kg	<0.2008	<0.1987	<1.003	<0.1997	<0.1981	<0.1995	<0.2005	<0.2013	<0.2039	<0.1993	<0.1978	<0.2015	<0.2007	<0.4	<0.2006
Benzoic acid	2.40E+05	(2)	2.50E+06	(5)	6.45E+03	(8)	6.45E+03	-	mg/Kg	<0.502	<0.4969	<2.5075	<0.4993	<0.4952	<0.4987	<0.5012	<0.5032	<0.5099	<0.4983	<0.4946	<0.5039	<0.5017	<1	<0.5015
Benzyl alcohol	6.10E+03	(2)	6.20E+04	(5)	1.71E+02	(8)	1.71E+02	-	mg/Kg	<0.2008	<0.1987	<1.003	<0.1997	<0.1981	<0.1995	<0.2005	<0.2013	<0.2039	<0.1993	<0.1978	<0.2015	<0.2007	<0.4	<0.2006
Bis(2-chloroethoxy)methane	1.80E+02	(2)	1.80E+03	(5)	5.07E+00	(8)	5.07E+00	-	mg/Kg	<0.2008	<0.1987	<1.003	<0.1997	<0.1981	<0.1995	<0.2005	<0.2013	<0.2039	<0.1993	<0.1978	<0.2015	<0.2007	<0.4	<0.2006
Bis(2-chloroethyl)ether	2.68E+00	(1)	7.78E+01	(4)	1.21E-02	(7)	1.21E-02	-	mg/Kg	<0.2008	<0.1987	<1.003	<0.1997	<0.1981	<0.1995	<0.2005	<0.2013	<0.2039	<0.1993	<0.1978	<0.2015	<0.2007	<0.4	<0.2006
Bis(2-chloroisopropyl)ether	9.15E+01	(1)	3.10E+03	(4)	1.07E+00	(7)	1.07E+00	-	mg/Kg	<0.2008	<0.1987	<1.003	<0.1997	<0.1981	<0.1995	<0.2005	<0.2013	<0.2039	<0.1993	<0.1978	<0.2015	<0.2007	<0.4	<0.2006
Bis(2-ethylhexyl)phthalate	3.47E+02	(1)	4.76E+03	(4)	3.97E+03	(7)	3.47E+02	-	mg/Kg	<0.502	<0.4969	<2.5075	<0.4993	<0.4952	<0.4987	<0.5012	<0.5032	<0.5099	<0.4983	<0.4946	<0.5039	<0.5017	<1	<0.5015
Butyl benzyl phthalate	2.60E+03	(3)	9.10E+03	(6)	9.22E+01	(8)	9.22E+01	-	mg/Kg	<0.2008	<0.1987	<1.003	<0.1997	<0.1981	<0.1995	<0.2005	<0.2013	<0.2039	<0.1993	<0.1978	<0.2015	<0.2007	<0.4	<0.2006
Carbazole	-	-	-	-	-	-	-	-	mg/Kg	<0.2008	<0.1987	<1.003	<0.1997	<0.1981	<0.1995	<0.2005	<0.2013	<0.2039	<0.1993	<0.1978	<0.2015	<0.2007	<0.4	<0.2006
Chrysene	1.48E+02	(1)	2.06E+04	(4)	3.68E+03	(7)	1.48E+02	-	mg/Kg	<0.2008	<0.1987	<1.003	<0.1997	<0.1981	<0.1995	<0.2005	<0.2013	<0.2039	<0.1993	<0.1978	<0.2015	<0.2007	<0.4	<0.2006
Dibenz(a,h)anthracene	1.48E-01	(1)	2.13E+01	(4)	3.90E+01	(7)	1.48E-01	-	mg/Kg	<0.2008	<0.1987	<1.003	<0.1997	<0.1981	<0.1995	<0.2005	<0.2013	<0.2039	<0.1993	<0.1978	<0.2015	<0.2007	<0.4	<0.2006
Dibenzofuran	7.80E+01	(2)	1.00E+03	(5)	5.07E+01	(8)	5.07E+01	-	mg/Kg	<0.2008	<0.1987	<1.003	<0.1997	<0.1981	<0.1995	<0.2005	<0.2013	<0.2039	<0.1993	<0.1978	<0.2015	<0.2007	<0.4	<0.2006
Diethyl phthalate	4.89E+04	(1)	1.91E+05	(4)	4.45E+03	(7)	4.45E+03	-	mg/Kg	<0.2008	<0.1987	<1.003	<0.1997	<0.1981	<0.1995	<0.2005	<0.2013	<0.2039	<0.1993	<0.1978	<0.2015	<0.2007	<0.4	<0.2006
Dimethyl phthalate	6.11E+05	(1)	2.38E+06	(4)	3.71E+04	(7)	3.71E+04	-	mg/Kg	<0.2008	<0.1987	<1.003	<0.1997	<0.1981	<0.1995	<0.2005	<0.2013	<0.2039	<0.1993	<0.1978	<0.2015	<0.2007	<0.4	<0.2006
Di-n-butyl phthalate	6.11E+03	(1)	2.38E+04	(4)	3.21E+03	(7)	3.21E+03	-	mg/Kg	<0.502	<0.4969	<2.5075	<0.4993	<0.4952	<0.4987	<0.5012	<0.5032	<0.5099	<0.4983	<0.4946	<0.5039	<0.5017	<1	<0.5015
Di-n-octyl phthalate	-	-	-	-	-	-	-	-	mg/Kg	<0.251	<0.2484	<1.2538	<0.2497	<0.2476	<0.2493	<0.2506	<0.2516	<0.2549	<0.2492	<0.2473	<0.2519	<0.2508	<0.5	<0.2508
Fluoranthene	2.29E+03	(1)	8.91E+03	(4)	5.61E+04	(7)	2.29E+03	-	mg/Kg	<0.2008	<0.1987	<1.003	<0.1997	<0.1981	<0.1995	<0.2005	<0.2013	<0.2039	<0.1993	<0.1978	<0.2015	<0.2007	<0.4	<0.2006
Fluorene	2.29E+03	(1)	8.91E+03	(4)	9.36E+03	(7)	2.29E+03	-	mg/Kg	0.68	<0.1987	3.7	<0.1997	<0.1981	<0.1995	<0.2005	<0.2013	<0.2039	<0.1993	<0.1978	<0.2015	<0.2007	<0.4	<0.2006
Hexachlorobenzene	3.04E+00	(1)	1.03E+02	(4)	1.83E+00	(7)	1.83E+00	-	mg/Kg	<0.2008	<0.1987	<1.003	<0.1997	<0.1981	<0.1995	<0.2005	<0.2013	<0.2039	<0.1993	<0.1978	<0.2015	<0.2007	<0.4	<0.2006
Hexachlorobutadiene	6.11E+01	(1)	2.38E+02	(4)	5.91E+00	(7)	5.91E+00	-	mg/Kg	<0.2008	<0.1987	<1.003	<0.1997	<0.1981	<0.1995	<0.2005	<0.2013	<0.2039	<0.1993	<0.1978	<0.2015	<0.2007	<0.4	<0.2006
Hexachlorocyclopentadiene	3.67E+02	(1)	8.11E+02	(4)	2.43E+02	(7)	2.43E+02	-	mg/Kg	<0.2008	<0.1987	<1.003	<0.1997	<0.1981	<0.1995	<0.2005	<0.2013	<0.2039	<0.1993	<0.1978	<0.2015	<0.2007	<0.4	<0.2006
Hexachloroethane	4.28E+01	(1)	1.67E+02	(4)	3.77E+																			

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

Analytes	Residential Soil Screening Level	Source	Non- Residential Soil Screening Level	Source	Leachate DAF (461) (mg/kg) SoilGW NMED	Source	Min	Background Concentrations (11)	Units	SWMU 1-1 (10-12')	SWMU 1-1 (13-14')	SWMU 1-1 (2-4')	SWMU 1-2 (10-11')	SWMU 1-2 (14-16')	SWMU 1-2 (17-17.25')	SWMU 1-2 (19.5-20')	SWMU 1-2 (6-8')	SWMU 1-3 (10-11')	SWMU 1-3 (11-11.25')	SWMU 1-3 (18.5-19.5')	SWMU 1-3 (19.5-20')	SWMU 1-3 (2-4')	SWMU 1-4 (10-12')	SWMU 1-4 (17-18')
										1210372-002 10/5/2012	1210372-003 10/5/2012	1210372-001 10/5/2012	1210279-002 10/2/2012	1210279-003 10/2/2012	1210279-004 10/2/2012	1210279-005 10/2/2012	1210279-001 10/2/2012	1210279-009 10/2/2012	1210279-010 10/2/2012	1210279-011 10/2/2012	1210279-012 10/2/2012	1210279-008 10/2/2012	1210332-007 10/3/2012	1210332-002 10/3/2012
Total Petroleum Hydrocarbons - (EPA Method 8015B) mg/kg																								
Diesel Range Organics (DRO)	1.00E+03	(10)	1.00E+03	(10)	1.00E+03	(10)	-	-	mg/Kg	820	55	4700	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<16	<10
Gasoline Range Organics (GRO)	-	-	-	-	-	-	-	-	mg/Kg	<25	<5	410	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	13
Motor Oil Range Organics (MRO)	1.00E+03	(10)	1.00E+03	(10)	1.00E+03	(10)	-	-	mg/Kg	<510	<51	<5045	<52	<50	<48	<50	<49	<48	<50	<49	<50	<51	<82	<51

-- No screening level or analytical result available
NMED - Risk Assessment Guidance for Site Investigations and Remediation (June 14, 2012)
EPA - Regional Screening Levels (May 2012)
(1) NMED Residential Screening Level
(2) EPA Residential Screening Level
(3) EPA Residential - Screening Levels (May 2012) multiplied by 10 because the constituent is listed as carcinogenic
(4) NMED Construction Worker Screening Level
(5) EPA Industrial - Screening Levels (May 2012)
(6) EPA Industrial - Screening Levels (May 2012) multiplied by 10 pursuant to Provision VII.B. of the July 7, 2007 NMED Order because the constituent is listed as carcinogenic
(7) SoilGW NMED Dilution Attenuation Factor (DAF) = 461
(8) SoilGW Risk-based EPA DAF = 461
(9) SoilGW MCL-based EPA DAF = 461
(10) NMED Table 6-2 TPH Screening Guidelines for Potable Groundwater "unknown oil" with DAF = 1.0 - see report Section 5 for use of screening levels
(11) Background concentrations to be determined

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

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

Analytes	Residential Soil Screening Level	Source	Non- Residential Soil Screening Level	Source	Leachate DAF (461) (mg/kg) SoilGW NMED	Source	Min	Background Concentrations (11)	Units	SWMU 1-4 (23-24')	SWMU 1-4 (8-10')	SWMU 1-5 (10-12')	SWMU 1-5 (14-16')	SWMU 1-5 (16-18')	SWMU 1-5 (24-25')	SWMU 1-5 (26-27')	SWMU 1-5 (27-28')	SWMU 1-6 (10-11')	SWMU 1-6 (11-12')	SWMU 1-6 (2-4')	SWMU 1-6 (4-6')	SWMU 1-6 (7-5-8')	SWMU 1-7 (12-14')	SWMU 1-7 (14-16')
										1210332-003 10/3/2012	1210332-006 10/3/2012	1210332-012 10/3/2012	1210332-013 10/3/2012	1210332-014 10/3/2012	1210332-015 10/3/2012	1210332-008 10/3/2012	1210332-009 10/3/2012	1210372-016 10/4/2012	1210372-017 10/4/2012	1210372-020 10/4/2012	1210372-022 10/4/2012	1210372-023 10/4/2012	1210372-018 10/4/2012	1210372-019 10/4/2012
Metals (mg/kg)																								
Antimony	3.13E+01	(1)	1.24E+02	(4)	3.05E+02	(7)	3.13E+01	-	mg/Kg	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<2.5	<12.5	<12.5	<12.5	<25	<12.5	<12.5	<12.5	<12.5
Arsenic	3.90E+00	(1)	5.30E+01	(4)	6.05E+00	(7)	3.90E+00	-	mg/Kg	<3.1	<3.1	<3.1	<3.1	<3.1	<3.1	<0.63	<3.1	<3.1	<3.1	<6.3	<3.1	4.6J	<3.1	<3.1
Barium	1.56E+04	(1)	4.35E+03	(4)	1.39E+05	(7)	4.35E+03	-	mg/Kg	200	590	610	640	690	630	230	380	380	700	660	870	110	87	290
Beryllium	1.56E+02	(1)	1.44E+02	(4)	2.66E+04	(7)	1.44E+02	-	mg/Kg	1.1	<0.75	<0.75	<0.75	<0.75	<0.75	0.3	1.1	<0.75	0.96	<1.5	<0.75	0.83	1.1	0.95
Cadmium	7.03E+01	(1)	2.77E+02	(4)	6.33E+02	(7)	7.03E+01	-	mg/Kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5
Chromium III	1.17E+05	(1)	4.65E+05	(4)	4.54E+10	(7)	1.17E+05	-	mg/Kg	14	7.9	11	11	7.9	7.7	5.1	15	7.2	14	6.1	7	8.3	12	11
Chromium VI	2.97E+00	(1)	6.56E+01	(4)	3.83E+00	(7)	2.97E+00	-	mg/Kg	14	7.9	11	11	7.9	7.7	5.1	15	7.2	14	6.1	7	8.3	12	11
Cobalt	2.30E+01	(2)	3.00E+02	(5)	9.68E+01	(8)	2.30E+01	-	mg/Kg	5.9	4	3.3	3.9	3.7	3.5	2.1	7.8	3.8	6.2	3.5	5.7	4.1	5.4	6
Cyanide	4.69E+01	(1)	1.86E+02	(4)	1.02E+02	(7)	4.69E+01	-	mg/Kg	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Iron	5.48E+04	(1)	2.17E+05	(4)	2.98E+05	(7)	5.48E+04	-	mg/Kg	18000	11000	9200	11000	15000	8700	5900	17000	11000	18000	9600	9500	13000	16000	15000
Lead	4.00E+02	(1)	8.00E+02	(4)	6.45E+03	(8)	4.00E+02	-	mg/Kg	2.1	4.2	3.9	4.4	7.7	3.5	0.57	<1.25	3.6	<1.25	5.4	5.6	4.1	4	3.3
Manganese	1.86E+03	(1)	4.40E+02	(4)	2.64E+04	(7)	4.40E+02	-	mg/Kg	340	720	1300	1200	1400	1200	200	640	750	480	1000	1100	390	360	790
Mercury	1.56E+01	(1)	1.36E+01	(4)	1.51E+01	(7)	1.36E+01	-	mg/Kg	<0.033	<0.033	<0.033	<0.033	<0.033	<0.033	<0.033	<0.033	<0.033	<0.033	<0.033	<0.033	<0.033	<0.033	<0.033
Nickel	1.56E+03	(1)	6.19E+03	(4)	2.20E+04	(7)	1.56E+03	-	mg/Kg	12	6.3	4.5	5.9	5.1	4.9	3.5	12	5.5	12	<5	5.2	6.7	9.3	9.7
Selenium	3.91E+02	(1)	1.55E+03	(4)	4.45E+02	(7)	3.91E+02	-	mg/Kg	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<2.5	<12.5	<12.5	<12.5	<25	<12.5	<12.5	<12.5	<12.5
Silver	3.91E+02	(1)	1.55E+03	(4)	7.22E+02	(7)	3.91E+02	-	mg/Kg	<1.25	<1.25	<1.25	<1.25	<1.25	<1.25	<0.25	<1.25	<1.25	<1.25	<2.5	<1.25	<1.25	<1.25	<1.25
Vanadium	3.91E+02	(1)	1.55E+03	(4)	8.42E+04	(7)	3.91E+02	-	mg/Kg	15	16	15	19	34	14	8.6	22	16	16	<25	16	14	20	16
Zinc	2.35E+04	(1)	9.29E+04	(4)	3.14E+05	(7)	2.35E+04	-	mg/Kg	26	16	<12.5	14	<12.5	<12.5	8.5	31	13	25	<25	15	14	18	18
Volatile Organic Compounds - (EPA Method 8260) mg/kg																								
1,1,1,2-Tetrachloroethane	2.91E+01	(1)	7.79E+02	(4)	7.59E-01	(7)	7.59E-01	-	mg/Kg	<0.0009	<0.0009	<0.0009	<0.0009	<0.001	<0.001	<0.001	<0.001	<0.0011	<0.0014	<0.0011	<0.001	<0.0012	<0.0012	<0.0015
1,1,1-Trichloroethane	1.56E+04	(1)	1.48E+04	(4)	1.34E+03	(7)	1.34E+03	-	mg/Kg	<0.0009	<0.0009	<0.0009	<0.0009	<0.001	<0.001	<0.001	<0.001	<0.0011	<0.0014	<0.0011	<0.001	<0.0012	<0.0012	<0.0015
1,1,2,2-Tetrachloroethane	8.02E+00	(1)	2.21E+02	(4)	9.82E-02	(7)	9.82E-02	-	mg/Kg	<0.0009	<0.0009	<0.0009	<0.0009	<0.001	<0.001	<0.001	<0.001	<0.0011	<0.0014	<0.0011	<0.001	<0.0012	<0.0012	<0.0015
1,1,2-Trichloroethane	2.81E+00	(1)	4.72E+02	(4)	5.14E-02	(7)	5.14E-02	-	mg/Kg	<0.0009	<0.0009	<0.0009	<0.0009	<0.001	<0.001	<0.001	<0.001	<0.0011	<0.0014	<0.0011	<0.001	<0.0012	<0.0012	<0.0015
1,1-Dichloroethane	6.45E+01	(1)	1.70E+03	(4)	2.75E+00	(7)	2.75E+00	-	mg/Kg	<0.0009	<0.0009	<0.0009	<0.0009	<0.001	<0.001	<0.001	<0.001	<0.0011	<0.0014	<0.0011	<0.001	<0.0012	<0.0012	<0.0015
1,1-Dichloroethene	4.49E+02	(1)	4.32E+02	(4)	5.36E+01	(7)	5.36E+01	-	mg/Kg	<0.0009	<0.0009	<0.0009	<0.0009	<0.001	<0.001	<0.001	<0.001	<0.0011	<0.0014	<0.0011	<0.001	<0.0012	<0.0012	<0.0015
1,1-Dichloropropene	-	-	-	-	-	-	-	-	mg/Kg	<0.0009	<0.0009	<0.0009	<0.0009	<0.001	<0.001	<0.001	<0.001	<0.0011	<0.0014	<0.0011	<0.001	<0.0012	<0.0012	<0.0015
1,2,3-Trichlorobenzene	4.90E+01	(2)	4.90E+02	(5)	6.92E+00	(8)	6.92E+00	-	mg/Kg	<0.0009	<0.0009	<0.0009	<0.0009	<0.001	<0.001	<0.001	<0.001	<0.0011	<0.0014	<0.0011	<0.001	<0.0012	<0.0012	<0.0015
1,2,3-Trichloropropane	4.97E-02	(1)	7.23E+00	(4)	1.15E-03	(7)	1.15E-03	-	mg/Kg	<0.0009	<0.0009	<0.0009	<0.0009	<0.001	<0.001	<0.001	<0.001	<0.0011	<0.0014	<0.0011	<0.001	<0.0012	<0.0012	<0.0015
1,2,4-Trichlorobenzene	7.30E+01	(1)	6.87E+01	(4)	4.21E+00	(7)	4.21E+00	-	mg/Kg	<0.0009	<0.0009	<0.0009	<0.0009	<0.001	<0.001	<0.001	<0.001	<0.0011	<0.0014	<0.0011	<0.001	<0.0012	<0.0012	

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

Analytes	Residential Soil Screening Level	Source	Non- Residential Soil Screening Level	Source	Leachate DAF (461) (mg/kg) SoilGW NMED	Source	Min	Background Concentrations (11)	Units	SWMU 1-4 (23-24')	SWMU 1-4 (8-10')	SWMU 1-5 (10-12')	SWMU 1-5 (14-16')	SWMU 1-5 (16-18')	SWMU 1-5 (24-25')	SWMU 1-5 (26-27')	SWMU 1-5 (27-28')	SWMU 1-6 (10-11')	SWMU 1-6 (11-12')	SWMU 1-6 (2-4')	SWMU 1-6 (4-6')	SWMU 1-6 (7.5-8')	SWMU 1-7 (12-14')	SWMU 1-7 (14-16')
										1210332-003 10/3/2012	1210332-006 10/3/2012	1210332-012 10/3/2012	1210332-013 10/3/2012	1210332-014 10/3/2012	1210332-015 10/3/2012	1210332-008 10/3/2012	1210332-009 10/3/2012	1210372-016 10/4/2012	1210372-017 10/4/2012	1210372-020 10/4/2012	1210372-022 10/4/2012	1210372-023 10/4/2012	1210372-018 10/4/2012	1210372-019 10/4/2012
Bromodichloromethane	5.41E+00	(1)	1.43E+02	(4)	1.25E-01	(7)	1.25E-01	-	mg/Kg	<0.0009	<0.0009	<0.0009	<0.0009	<0.001	<0.001	<0.001	<0.001	<0.0011	<0.0014	<0.0011	<0.001	<0.0012	<0.0012	<0.0015
Bromoform	6.16E+02	(1)	4.76E+03	(4)	2.78E+02	(7)	2.78E+02	-	mg/Kg	<0.0009	<0.0009	<0.0009	<0.0009	<0.001	<0.001	<0.001	<0.001	<0.0011	<0.0014	<0.0011	<0.001	<0.0012	<0.0012	<0.0015
Bromomethane	1.65E+01	(1)	1.64E+01	(4)	8.86E-01	(7)	8.86E-01	-	mg/Kg	<0.0009	<0.0009	<0.0009	<0.0009	<0.001	<0.001	<0.001	<0.001	<0.0011	<0.0014	<0.0011	<0.001	<0.0012	<0.0012	<0.0015
Carbon disulfide	1.53E+03	(1)	1.58E+03	(4)	1.30E+02	(7)	1.30E+02	-	mg/Kg	<0.0092	<0.0091	<0.0091	<0.0095	<0.0104	<0.0104	<0.0101	<0.01	<0.0107	<0.0136	<0.0107	<0.0103	<0.0123	<0.0119	<0.0145
Carbon tetrachloride	1.08E+01	(1)	2.26E+02	(4)	7.39E-01	(7)	7.39E-01	-	mg/Kg	<0.0009	<0.0009	<0.0009	<0.0009	<0.001	<0.001	<0.001	<0.001	<0.0011	<0.0014	<0.0011	<0.001	<0.0012	<0.0012	<0.0015
Chlorobenzene	3.76E+02	(1)	4.06E+02	(4)	2.27E+01	(7)	2.27E+01	-	mg/Kg	<0.0009	<0.0009	<0.0009	<0.0009	<0.001	<0.001	<0.001	<0.001	<0.0011	<0.0014	<0.0011	<0.001	<0.0012	<0.0012	<0.0015
Chloroethane	2.98E+04	(1)	2.61E+04	(4)	2.48E+03	(7)	2.48E+03	-	mg/Kg	<0.0009	<0.0009	<0.0009	<0.0009	<0.001	<0.001	<0.001	<0.001	<0.0011	<0.0014	<0.0011	<0.001	<0.0012	<0.0012	<0.0015
Chloroform	5.86E+00	(1)	1.54E+02	(4)	2.12E-01	(7)	2.12E-01	-	mg/Kg	<0.0009	<0.0009	<0.0009	<0.0009	<0.001	<0.001	<0.001	<0.001	<0.0011	<0.0014	<0.0011	<0.001	<0.0012	<0.0012	<0.0015
Chloromethane	2.75E+02	(1)	2.41E+02	(4)	2.03E+01	(7)	2.03E+01	-	mg/Kg	<0.0009	<0.0009	<0.0009	<0.0009	<0.001	<0.001	<0.001	<0.001	<0.0011	<0.0014	<0.0011	<0.001	<0.0012	<0.0012	<0.0015
cis-1,2-DCE	1.56E+02	(1)	6.19E+02	(4)	8.47E+00	(7)	8.47E+00	-	mg/Kg	<0.0009	<0.0009	<0.0009	<0.0009	<0.001	<0.001	<0.001	<0.001	<0.0011	<0.0014	<0.0011	<0.001	<0.0012	<0.0012	<0.0015
cis-1,3-Dichloropropene	3.37E+01	(1)	2.09E+02	(4)	5.71E-01	(7)	5.71E-01	-	mg/Kg	<0.0009	<0.0009	<0.0009	<0.0009	<0.001	<0.001	<0.001	<0.001	<0.0011	<0.0014	<0.0011	<0.001	<0.0012	<0.0012	<0.0015
Dibromochloromethane	1.21E+01	(1)	3.32E+02	(4)	1.52E-01	(7)	1.52E-01	-	mg/Kg	<0.0009	<0.0009	<0.0009	<0.0009	<0.001	<0.001	<0.001	<0.001	<0.0011	<0.0014	<0.0011	<0.001	<0.0012	<0.0012	<0.0015
Dibromomethane	5.16E+01	(1)	3.10E+03	(4)	7.89E-01	(7)	7.89E-01	-	mg/Kg	<0.0009	<0.0009	<0.0009	<0.0009	<0.001	<0.001	<0.001	<0.001	<0.0011	<0.0014	<0.0011	<0.001	<0.0012	<0.0012	<0.0015
Dichlorodifluoromethane	1.68E+02	(1)	1.49E+02	(4)	1.71E+02	(7)	1.49E+02	-	mg/Kg	<0.0009	<0.0009	<0.0009	<0.0009	<0.001	<0.001	<0.001	<0.001	<0.0011	<0.0014	<0.0011	<0.001	<0.0012	<0.0012	<0.0015
Ethylbenzene	6.84E+01	(1)	1.83E+03	(4)	5.98E+00	(7)	5.98E+00	-	mg/Kg	0.00125	<0.0009	<0.0009	<0.0009	<0.001	<0.001	<0.001	<0.001	<0.0011	<0.0014	0.00563	<0.001	<0.0012	<0.0012	<0.0015
Hexachlorobutadiene	6.11E+01	(1)	2.38E+02	(4)	5.91E+00	(7)	5.91E+00	-	mg/Kg	<0.0009	<0.0009	<0.0009	<0.0009	<0.001	<0.001	<0.001	<0.001	<0.0011	<0.0014	<0.0011	<0.001	<0.0012	<0.0012	<0.0015
Isopropylbenzene	2.43E+03	(1)	2.81E+03	(4)	3.99E+02	(7)	3.99E+02	-	mg/Kg	<0.0009	<0.0009	<0.0009	<0.0009	<0.001	<0.001	<0.001	<0.001	<0.0011	<0.0014	<0.0011	<0.001	<0.0012	<0.0012	<0.0015
Methyl tert-butyl ether (MTBE)	9.01E+02	(1)	2.49E+04	(4)	1.11E+01	(7)	1.11E+01	-	mg/Kg	<0.0009	<0.0009	<0.0009	<0.0009	<0.001	<0.001	<0.001	<0.001	<0.0011	<0.0014	<0.0011	<0.001	<0.0012	<0.0012	0.0019
Methylene chloride	4.09E+02	(1)	1.12E+03	(4)	1.90E+01	(7)	1.90E+01	-	mg/Kg	<0.0027	<0.0027	<0.0027	<0.0028	<0.0031	<0.0031	<0.003	<0.003	<0.0032	<0.0041	<0.0032	<0.0031	<0.0037	<0.0036	<0.0044
Naphthalene	4.30E+01	(1)	1.58E+02	(4)	1.64E+00	(7)	1.64E+00	-	mg/Kg	<0.0018	<0.0018	<0.0018	<0.0019	<0.0021	<0.0021	<0.002	<0.002	<0.0021	<0.0027	<0.0021	<0.0021	<0.0025	<0.0024	<0.0029
n-Butylbenzene	3.90E+03	(2)	5.10E+04	(5)	1.15E+03	(8)	1.15E+03	-	mg/Kg	<0.0009	<0.0009	<0.0009	<0.0009	<0.001	<0.001	<0.001	<0.001	<0.0011	<0.0014	<0.0011	<0.001	<0.0012	<0.0012	<0.0015
n-Propylbenzene	3.40E+03	(2)	2.10E+04	(5)	4.56E+02	(8)	4.56E+02	-	mg/Kg	<0.0009	<0.0009	<0.0009	<0.0009	<0.001	<0.001	<0.001	<0.001	<0.0011	<0.0014	<0.0011	<0.001	<0.0012	<0.0012	<0.0015
sec-Butylbenzene	-	-	-	-	-	-	-	-	mg/Kg	<0.0009	<0.0009	<0.0009	<0.0009	<0.001	<0.001	<0.001	<0.001	<0.0011	<0.0014	<0.0011	<0.001	<0.0012	<0.0012	<0.0015
Styrene	7.28E+03	(1)	9.99E+03	(4)	6.40E+02	(7)	6.40E+02	-	mg/Kg	<0.0009	<0.0009	<0.0009	<0.0009	<0.001	<0.001	<0.001	<0.001	<0.0011	<0.0014	<0.0011	<0.001	<0.0012	<0.0012	<0.0015
tert-Butylbenzene	-	-	-	-	-	-	-	-	mg/Kg	<0.0009	<0.0009	<0.0009	<0.0009	<0.001	<0.001	<0.001	<0.001	<0.0011	<0.0014	<0.0011	<0.001	<0.0012	<0.0012	<0.0015
Tetrachloroethene (																								

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

Analytes	Residential Soil Screening Level	Source	Non- Residential Soil Screening Level	Source	Leachate DAF (461) (mg/kg) SoilGW NMED	Source	Min	Background Concentrations (11)	Units	SWMU 1-4 (23-24')	SWMU 1-4 (8-10')	SWMU 1-5 (10-12')	SWMU 1-5 (14-16')	SWMU 1-5 (16-18')	SWMU 1-5 (24-25')	SWMU 1-5 (26-27')	SWMU 1-5 (27-28')	SWMU 1-6 (10-11')	SWMU 1-6 (11-12')	SWMU 1-6 (2-4')	SWMU 1-6 (4-6')	SWMU 1-6 (7-8')	SWMU 1-7 (12-14')	SWMU 1-7 (14-16')
										1210332-003 10/3/2012	1210332-006 10/3/2012	1210332-012 10/3/2012	1210332-013 10/3/2012	1210332-014 10/3/2012	1210332-015 10/3/2012	1210332-008 10/3/2012	1210332-009 10/3/2012	1210372-016 10/4/2012	1210372-017 10/4/2012	1210372-020 10/4/2012	1210372-022 10/4/2012	1210372-023 10/4/2012	1210372-018 10/4/2012	1210372-019 10/4/2012
3,3'-Dichlorobenzidine	1.08E+01	(1)	3.64E+02	(4)	3.41E+00	(7)	3.41E+00	-	mg/Kg	<0.2482	<0.2508	<0.2524	<0.25	<0.2491	<0.2508	<0.4934	<0.2488	<0.2498	<0.2508	<0.2495	<0.2514	<0.2481	<0.2513	<0.2528
3+4-Methylphenol	-	-	-	-	-	-	-	-	mg/Kg	<0.1985	<0.2007	<0.2019	<0.2	<0.1993	<0.2007	<0.3947	<0.1991	<0.1999	<0.2007	<0.1996	<0.2011	<0.1985	<0.2011	<0.2022
3-Nitroaniline	-	-	-	-	-	-	-	-	mg/Kg	<0.1985	<0.2007	<0.2019	<0.2	<0.1993	<0.2007	<0.3947	<0.1991	<0.1999	<0.2007	<0.1996	<0.2011	<0.1985	<0.2011	<0.2022
4,6-Dinitro-2-methylphenol	4.90E+00	(2)	4.90E+01	(5)	9.22E-01	(8)	9.22E-01	-	mg/Kg	<0.4964	<0.5017	<0.5047	<0.5	<0.4982	<0.5017	<0.9868	<0.4977	<0.4997	<0.5017	<0.499	<0.5028	<0.4962	<0.5027	<0.5056
4-Bromophenyl phenyl ether	-	-	-	-	-	-	-	-	mg/Kg	<0.1985	<0.2007	<0.2019	<0.2	<0.1993	<0.2007	<0.3947	<0.1991	<0.1999	<0.2007	<0.1996	<0.2011	<0.1985	<0.2011	<0.2022
4-Chloro-3-methylphenol	6.10E+03	(2)	6.20E+04	(5)	5.99E+02	(8)	5.99E+02	-	mg/Kg	<0.4964	<0.5017	<0.5047	<0.5	<0.4982	<0.5017	<0.9868	<0.4977	<0.4997	<0.5017	<0.499	<0.5028	<0.4962	<0.5027	<0.5056
4-Chloroaniline	2.40E+01	(3)	8.60E+01	(6)	5.99E-02	(8)	5.99E-02	-	mg/Kg	<0.4964	<0.5017	<0.5047	<0.5	<0.4982	<0.5017	<0.9868	<0.4977	<0.4997	<0.5017	<0.499	<0.5028	<0.4962	<0.5027	<0.5056
4-Chlorophenyl phenyl ether	-	-	-	-	-	-	-	-	mg/Kg	<0.1985	<0.2007	<0.2019	<0.2	<0.1993	<0.2007	<0.3947	<0.1991	<0.1999	<0.2007	<0.1996	<0.2011	<0.1985	<0.2011	<0.2022
4-Nitroaniline	2.40E+02	(3)	8.60E+02	(6)	6.45E-01	(8)	6.45E-01	-	mg/Kg	<0.3971	<0.4013	<0.4038	<0.4	<0.3985	<0.4013	<0.7895	<0.3981	<0.3997	<0.4013	<0.3992	<0.4023	<0.397	<0.4021	<0.4044
4-Nitrophenol	-	-	-	-	-	-	-	-	mg/Kg	<0.2482	<0.2508	<0.2524	<0.25	<0.2491	<0.2508	<0.4934	<0.2488	<0.2498	<0.2508	<0.2495	<0.2514	<0.2481	<0.2513	<0.2528
Acenaphthene	3.44E+03	(1)	1.86E+04	(4)	7.79E+03	(7)	3.44E+03	-	mg/Kg	<0.1985	<0.2007	<0.2019	<0.2	<0.1993	<0.2007	<0.3947	<0.1991	<0.1999	<0.2007	<0.1996	<0.2011	<0.1985	<0.2011	<0.2022
Acenaphthylene	-	-	-	-	-	-	-	-	mg/Kg	<0.1985	<0.2007	<0.2019	<0.2	<0.1993	<0.2007	<0.3947	<0.1991	<0.1999	<0.2007	<0.1996	<0.2011	<0.1985	<0.2011	<0.2022
Aniline	8.50E+02	(3)	3.00E+03	(6)	1.80E+00	(8)	1.80E+00	-	mg/Kg	<0.1985	<0.2007	<0.2019	<0.2	<0.1993	<0.2007	<0.3947	<0.1991	<0.1999	<0.2007	<0.1996	<0.2011	<0.1985	<0.2011	<0.2022
Anthracene	1.72E+04	(1)	6.68E+04	(4)	1.25E+05	(7)	1.72E+04	-	mg/Kg	<0.1985	<0.2007	<0.2019	<0.2	<0.1993	<0.2007	<0.3947	<0.1991	<0.1999	<0.2007	<0.1996	<0.2011	<0.1985	<0.2011	<0.2022
Azobenzene	5.10E+01	(3)	2.30E+02	(6)	3.69E-01	(8)	3.69E-01	-	mg/Kg	<0.1985	<0.2007	<0.2019	<0.2	<0.1993	<0.2007	<0.3947	<0.1991	<0.1999	<0.2007	<0.1996	<0.2011	<0.1985	<0.2011	<0.2022
Benz(a)anthracene	1.48E+00	(1)	2.13E+02	(4)	3.61E+01	(7)	1.48E+00	-	mg/Kg	<0.1985	<0.2007	<0.2019	<0.2	<0.1993	<0.2007	<0.3947	<0.1991	<0.1999	<0.2007	<0.1996	<0.2011	<0.1985	<0.2011	<0.2022
Benzo(a)pyrene	1.48E-01	(1)	2.13E+01	(4)	1.20E+01	(7)	1.48E-01	-	mg/Kg	<0.1985	<0.2007	<0.2019	<0.2	<0.1993	<0.2007	<0.3947	<0.1991	<0.1999	<0.2007	<0.1996	<0.2011	<0.1985	<0.2011	<0.2022
Benzo(b)fluoranthene	1.48E+00	(1)	2.13E+02	(4)	1.22E+02	(7)	1.48E+00	-	mg/Kg	<0.1985	<0.2007	<0.2019	<0.2	<0.1993	<0.2007	<0.3947	<0.1991	<0.1999	<0.2007	<0.1996	<0.2011	<0.1985	<0.2011	<0.2022
Benzo(g,h,i)perylene	-	-	-	-	-	-	-	-	mg/Kg	<0.1985	<0.2007	<0.2019	<0.2	<0.1993	<0.2007	<0.3947	<0.1991	<0.1999	<0.2007	<0.1996	<0.2011	<0.1985	<0.2011	<0.2022
Benzo(k)fluoranthene	1.48E+01	(1)	2.06E+03	(4)	1.20E+03	(7)	1.48E+01	-	mg/Kg	<0.1985	<0.2007	<0.2019	<0.2	<0.1993	<0.2007	<0.3947	<0.1991	<0.1999	<0.2007	<0.1996	<0.2011	<0.1985	<0.2011	<0.2022
Benzoic acid	2.40E+05	(2)	2.50E+06	(5)	6.45E+03	(8)	6.45E+03	-	mg/Kg	<0.4964	<0.5017	<0.5047	<0.5	<0.4982	<0.5017	<0.9868	<0.4977	<0.4997	<0.5017	<0.499	<0.5028	<0.4962	<0.5027	<0.5056
Benzyl alcohol	6.10E+03	(2)	6.20E+04	(5)	1.71E+02	(8)	1.71E+02	-	mg/Kg	<0.1985	<0.2007	<0.2019	<0.2	<0.1993	<0.2007	<0.3947	<0.1991	<0.1999	<0.2007	<0.1996	<0.2011	<0.1985	<0.2011	<0.2022
Bis(2-chloroethoxy)methane	1.80E+02	(2)	1.80E+03	(5)	5.07E+00	(8)	5.07E+00	-	mg/Kg	<0.1985	<0.2007	<0.2019	<0.2	<0.1993	<0.2007	<0.3947	<0.1991	<0.1999	<0.2007	<0.1996	<0.2011	<0.1985	<0.2011	<0.2022
Bis(2-chloroethyl)ether	2.68E+00	(1)	7.78E+01	(4)	1.21E-02	(7)	1.21E-02	-	mg/Kg	<0.1985	<0.2007	<0.2019	<0.2	<0.1993	<0.2007	<0.3947	<0.1991	<0.1999	<0.2007	<0.1996	<0.2011	<0.1985	<0.2011	<0.2022
Bis(2-chloroisopropyl)ether	9.15E+01	(1)	3.10E+03	(4)	1.07E+00	(7)	1.07E+00	-	mg/Kg	<0.1985	<0.2007	<0.2019	<0.2	<0.1993	<0.2007	<0.3947	<0.1991	<0.1999	<0.2007	<0.1996	<0.2011	<0.1985	<0.2011	<0.2022
Bis(2-ethylhexyl)phthalate	3.47E+02	(1)	4.76E+03	(4)	3.97E+03	(7)	3.47E+02	-	mg/Kg	<0.4964	<0.5017	<0.5047	<0.5	<0.4982	<0.5017	<0.9868	<0.4977	<0.4997	<0.5017	<0.499	<0.5028	<0.4962	<0.5027	<0.5056
Butyl benzyl phthalate	2.60E+03	(3)	9.10E+03	(6)	9.22E+01	(8)	9.22E+01	-	mg/Kg	<0.1985	<0.2007	<0.2019	<0.2	<0.1993	<0.2007	<0.3947	<0.1991	<0.1999	<0.2007	<0.1996	<0.2011	<0.1985	<0.2011	<0.2022
Carbazole	-	-	-	-	-	-	-	-	mg/Kg	<0.1985	<0.2007	<0.2019	<0.2	<0.1993	<0.2007	<0.3947	<0.1991	<0.1999	<0.2007	<0.1996	<0.2011	<0.1985	<0.2011	<0.2022
Chrysene	1.48E+02	(1)	2.06E+04	(4)	3.68E+03	(7)	1.48E+02	-	mg/Kg	<0.1985	<0.2007	<0.2019	<0.2	<0.1993	<0.2007	<0.3947	<0.1991	<0.1999	<0.2007	<0.1996	<0.2011	<0.1985	<0.2011	<0.2022
Dibenz(a,h)anthracene	1.48E-01	(1)	2.13E+01	(4)	3.90E+01	(7)	1.48E-01	-	mg/Kg	<0.1985	<0.2007	<0.2019	<0.2	<0.1993	<0.2007	<0.3947	<0.1991	<0.1999	<0.2007	<0.1996	<0.2011	<0.1985	<0.2011	<0.2022
Dibenzofuran	7.80E+01	(2)	1.00E+03	(5)	5.07E+01	(8)	5.07E+01	-	mg/Kg	<0.1985	<0.2007	<0.2019	<0.2	<0.1993	<0.2007	<0.3947	<0.1991	<0.1999	<0.2007	<0.1996	<0.2011	<0.1985	<0.2011	<0.2022
Diethyl phthalate	4.89E+04	(1)	1.91E+05	(4)	4.45E+03	(7)	4.45E+03	-	mg/Kg	<0.1985	<0.2007	<0.2019	<0.2	<0.1993	<0.2007	<0.3947	<0.1991	<0.1999	<0.2007	<0.1996	<0.2011	<0.1985	<0.2011	<0.2022
Dimethyl phthalate	6.11E+05	(1)	2.38E+06	(4)	3.71E+04	(7)	3.71E+04	-	mg/Kg	<0.1985	<0.2007	<0.2019	<0.2	<0.1993	<0.2007	<0.3947	<0.1991	<0.1999	<0.2007	<0.1996	<0.2011	<0.1985	<0.2011	<0.2022
Di-n-butyl phthalate	6.11E+03	(1)	2.38E+04	(4)	3.21E+03	(7)	3.21E+03	-	mg/Kg	<0.4964	<0.5017	<0.5047	<0.5	<0.4982	<0.5017	<0.9868	<0.4977	<0.4997	<0.5017	<0.499	<0.5028	<0.4962	<0.5027	<0.5056
Di-n-octyl phthalate	-	-	-	-	-	-	-	-	mg/Kg	<0.2482	<0.2508	<0.2524	<0.25	<0.2491	<0.2508	<0.4934	<0.2488	<0.2498	<0.2508	<0.2495	<0.2514	<0.2481	<0.2513	<0.2528
Fluoranthene	2.29E+03	(1)	8.91E+03	(4)	5.61E+04	(7)	2.29E+03	-	mg/Kg	<0.1985	<0.2007	<0.2019	<0.2	<0.1993	<0.2007	<0.3947	<0.1991	<0.1999	<0.2007	<0.1996	<0.2011	<0.1985	<0.2011	<0.2022
Fluorene	2.29E+03	(1)	8.91E+03	(4)	9.36E+03	(7)	2.29E+03	-	mg/Kg	<0.1985	<0.2007	<0.2019	<0.2	<0.1993	<0.2007	<0.3947	<0.1991	<0.1999	<0.2007	<0.1996	<0.2011	<0.1985	<0.2011	<0.2022
Hexachlorobenzene	3.04E+00	(1)	1.03E+02	(4)	1.83E+00	(7)	1.83E+00	-	mg/Kg	<0.1985	<0.2007	<0.2019	<0.2	<0.1993	<0.2007	<0.3947	<0.1991	<0.1999	<0.2007	<0.1996	<0.2011	<0.1985	<0.2011	<0.2022
Hexachlorobutadiene	6.11E+01	(1)	2.38E+02	(4)	5.91E+00	(7)	5.91E+00	-	mg/Kg	<0.1985	<0.2007	<0.2019	<0.2	<0.1993	<0.2007	<0.3947	<0.1991	<0.1999	<0.2007	<0.1996	<0.2011	<0.1985	<0.2011	<0.2022
Hexachlorocyclopentadiene	3.67E+02	(1)	8.11E+02	(4)	2.43E+02	(7)	2.43E+02	-	mg/Kg	<0.1985	<0.2007	<0.2019	<0.2	<0.1993	<0.2007	<0.3947	<0.1991	<0.1999	<0.2007	<0.1996	<0.2011	<0.1985	<0.2011	<0.2022
Hexachloroethane	4.2																							

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

Analytes	Residential Soil Screening Level	Source	Non- Residential Soil Screening Level	Source	Leachate DAF (461) (mg/kg) SoilGW NMED	Source	Min	Background Concentrations (11)	Units	SWMU 1-4 (23-24')	SWMU 1-4 (8-10')	SWMU 1-5 (10-12')	SWMU 1-5 (14-16')	SWMU 1-5 (16-18')	SWMU 1-5 (24-25')	SWMU 1-5 (26-27')	SWMU 1-5 (27-28')	SWMU 1-6 (10-11')	SWMU 1-6 (11-12')	SWMU 1-6 (2-4')	SWMU 1-6 (4-6')	SWMU 1-6 (7.5-8')	SWMU 1-7 (12-14')	SWMU 1-7 (14-16')
										1210332-003 10/3/2012	1210332-006 10/3/2012	1210332-012 10/3/2012	1210332-013 10/3/2012	1210332-014 10/3/2012	1210332-015 10/3/2012	1210332-008 10/3/2012	1210332-009 10/3/2012	1210372-016 10/4/2012	1210372-017 10/4/2012	1210372-020 10/4/2012	1210372-022 10/4/2012	1210372-023 10/4/2012	1210372-018 10/4/2012	1210372-019 10/4/2012
Total Petroleum Hydrocarbons - (EPA Method 8015B) mg/kg																								
Diesel Range Organics (DRO)	1.00E+03	(10)	1.00E+03	(10)	1.00E+03	(10)	-	-	mg/Kg	<10	<10	<10	<10	<10	<10	<12	<10	<10	<10	<10	<10	<10	<10	<10
Gasoline Range Organics (GRO)	-	-	-	-	-	-	-	-	mg/Kg	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Motor Oil Range Organics (MRO)	1.00E+03	(10)	1.00E+03	(10)	1.00E+03	(10)	-	-	mg/Kg	<48	<50	<49	<48	<50	<50	<60	<50	<50	<50	<50	<49	<50	<50	<49

-- No screening level or analytical result available
NMED - Risk Assessment Guidance for Site Investigations and Remediation (June 14, 2012)
EPA - Regional Screening Levels (May 2012)
(1) NMED Residential Screening Level
(2) EPA Residential Screening Level
(3) EPA Residential - Screening Levels (May 2012) multiplied by 10 because the constituent is listed as carcinogenic
(4) NMED Construction Worker Screening Level
(5) EPA Industrial - Screening Levels (May 2012)
(6) EPA Industrial - Screening Levels (May 2012) multiplied by 10 pursuant to Provision VII.B. of the July 7, 2007 NMED Order because the constituent is listed as carcinogenic
(7) SoilGW NMED Dilution Attenuation Factor (DAF) = 461
(8) SoilGW Risk-based EPA DAF = 461
(9) SoilGW MCL-based EPA DAF = 461
(10) NMED Table 6-2 TPH Screening Guidelines for Potable Groundwater "unknown oil" with DAF = 1.0 - see report Section 5 for use of screening levels
(11) Background concentrations to be determined

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

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

Analytes	Residential Soil Screening Level	Source	Non- Residential Soil Screening Level	Source	Leachate DAF (461) (mg/kg) SoilGW NMED	Source	Min	Background Concentrations (11)	Units	SWMU 1-7 (16-18')	SWMU 1-8 (10-12')	SWMU 1-8 (12-14')	SWMU 1-8 (16-18')	SWMU 1-8 (19-20')	SWMU 1-8 (4-6')	SWMU 1-9 (0-0.5')	SWMU 1-9 (1.5-2')	SWMU 1-10 (0-0.5')	SWMU 1-10 (1.5-2')	SWMU 1-11 (0-0.5')	SWMU 1-11 (1.5-2')	SWMU 1-12 (0.5-1')	SWMU 1-12 (0-0.5')	SWMU 1-13 (0-0.5')
										1210372-015 10/4/2012	1210372-007 10/5/2012	1210372-008 10/5/2012	1210372-009 10/5/2012	1210372-005 10/5/2012	1210372-006 10/5/2012	1210811-001 10/15/2012	1210811-002 10/15/2012	1210811-003 10/15/2012	1210811-004 10/15/2012	1210811-005 10/15/2012	1210811-006 10/15/2012	1210811-008 10/15/2012	1210811-007 10/15/2012	1210692-021 10/12/2012
Metals (mg/kg)																								
Antimony	3.13E+01	(1)	1.24E+02	(4)	3.05E+02	(7)	3.13E+01	-	mg/Kg	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<4.9999	<5.0001	<5	<5.0004	<5.0004	<5.0002	<5.0004	<4.9995	<5
Arsenic	3.90E+00	(1)	5.30E+01	(4)	6.05E+00	(7)	3.90E+00	-	mg/Kg	3.2J	<3.1	<3.1	<3.1	<3.1	<3.1	2.2J	<1.3	2.9J	3.3J	2.0J	2.8J	2.4J	2.6J	2.5J
Barium	1.56E+04	(1)	4.35E+03	(4)	1.39E+05	(7)	4.35E+03	-	mg/Kg	330	620	370	550	300	540	620	200	590	580	510	590	440	400	600
Beryllium	1.56E+02	(1)	1.44E+02	(4)	2.66E+04	(7)	1.44E+02	-	mg/Kg	1.1	<0.75	<0.75	<0.75	0.95	<0.75	0.71	0.84	0.65	0.54	0.77	0.61	0.76	0.95	0.56
Cadmium	7.03E+01	(1)	2.77E+02	(4)	6.33E+02	(7)	7.03E+01	-	mg/Kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Chromium III	1.17E+05	(1)	4.65E+05	(4)	4.54E+10	(7)	1.17E+05	-	mg/Kg	15	21	10	6.9	14	5.3	24	8.7	24	15	15	12	14	15	11
Chromium VI	2.97E+00	(1)	6.56E+01	(4)	3.83E+00	(7)	2.97E+00	-	mg/Kg	15	21	10	6.9	14	5.3	24	8.7	24	15	15	12	14	15	11
Cobalt	2.30E+01	(2)	3.00E+02	(5)	9.68E+01	(8)	2.30E+01	-	mg/Kg	6.4	6.6	4.1	4.4	8.2	3	5	4.3	5	4.2	5.4	4	4.9	5.4	3.6
Cyanide	4.69E+01	(1)	1.86E+02	(4)	1.02E+02	(7)	4.69E+01	-	mg/Kg	<0.3	0.61	0.4	<0.3	<0.3	<0.3	1.4	<0.285	1.8	0.4	0.72	1.7	1.2	<0.25	0.33
Iron	5.48E+04	(1)	2.17E+05	(4)	2.98E+05	(7)	5.48E+04	-	mg/Kg	22000	15000	8000	11000	19000	7900	12000	12000	14000	7400	14000	7400	13000	15000	13000
Lead	4.00E+02	(1)	8.00E+02	(4)	6.45E+03	(8)	4.00E+02	-	mg/Kg	1.7	8.2	2	2.8	<1.25	3.4	7	2.7	9.1	3	3.5	1.4	1.6	1.6	3.5
Manganese	1.86E+03	(1)	4.40E+02	(4)	2.64E+04	(7)	4.40E+02	-	mg/Kg	510	810	540	740	300	390	600	300	560	790	620	400	460	390	590
Mercury	1.56E+01	(1)	1.36E+01	(4)	1.51E+01	(7)	1.36E+01	-	mg/Kg	<0.033	0.16	0.044	<0.033	<0.033	<0.033	0.18	<0.033	0.2	0.091	0.84	0.19	0.12	0.16	0.12
Nickel	1.56E+03	(1)	6.19E+03	(4)	2.20E+04	(7)	1.56E+03	-	mg/Kg	13	16	6.8	6.1	12	4.5	15	7.1	14	11	8.8	7.1	8	9.9	6.3
Selenium	3.91E+02	(1)	1.55E+03	(4)	4.45E+02	(7)	3.91E+02	-	mg/Kg	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<4.9999	<5.0001	<5	<5.0004	<5.0004	<5.0002	<5.0004	<4.9995	<5
Silver	3.91E+02	(1)	1.55E+03	(4)	7.22E+02	(7)	3.91E+02	-	mg/Kg	<1.25	<1.25	<1.25	<1.25	<1.25	<1.25	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Vanadium	3.91E+02	(1)	1.55E+03	(4)	8.42E+04	(7)	3.91E+02	-	mg/Kg	28	26	15	16	26	19	21	16	24	22	25	18	24	24	18
Zinc	2.35E+04	(1)	9.29E+04	(4)	3.14E+05	(7)	2.35E+04	-	mg/Kg	25	60	18	14	29	<12.5	53	14	70	26	39	44	40	61	30
Volatile Organic Compounds - (EPA Method 8260) mg/kg																								
1,1,1,2-Tetrachloroethane	2.91E+01	(1)	7.79E+02	(4)	7.59E-01	(7)	7.59E-01	-	mg/Kg	<0.001	<0.0009	<0.05	<0.0011	<0.0011	<0.0008	<0.0008	<0.0008	<0.0009	<0.0008	<0.001	<0.0008	<0.0007	<0.0009	<0.0011
1,1,1-Trichloroethane	1.56E+04	(1)	1.48E+04	(4)	1.34E+03	(7)	1.34E+03	-	mg/Kg	<0.001	<0.0009	<0.05	<0.0011	<0.0011	<0.0008	<0.0008	<0.0008	<0.0009	<0.0008	<0.001	<0.0008	<0.0007	<0.0009	<0.0011
1,1,2,2-Tetrachloroethane	8.02E+00	(1)	2.21E+02	(4)	9.82E-02	(7)	9.82E-02	-	mg/Kg	<0.001	<0.0009	<0.05	<0.0011	<0.0011	<0.0008	<0.0008	<0.0008	<0.0009	<0.0008	<0.001	<0.0008	<0.0007	<0.0009	<0.0011
1,1,2-Trichloroethane	2.81E+00	(1)	4.72E+02	(4)	5.14E-02	(7)	5.14E-02	-	mg/Kg	<0.001	<0.0009	<0.05	<0.0011	<0.0011	<0.0008	<0.0008	<0.0008	<0.0009	<0.0008	<0.001	<0.0008	<0.0007	<0.0009	<0.0011
1,1-Dichloroethane	6.45E+01	(1)	1.70E+03	(4)	2.75E+00	(7)	2.75E+00	-	mg/Kg	<0.001	<0.0009	<0.1	<0.0011	<0.0011	<0.0008	<0.0008	<0.0008	<0.0009	<0.0008	<0.001	<0.0008	<0.0007	<0.0009	<0.0011
1,1-Dichloroethene	4.49E+02	(1)	4.32E+02	(4)	5.36E+01	(7)	5.36E+01	-	mg/Kg	<0.001	<0.0009	<0.05	<0.0011	<0.0011	<0.0008	<0.0008	<0.0008	<0.0009	<0.0008	<0.001	<0.0008	<0.0007	<0.0009	<0.0011
1,1-Dichloropropene	-	-	-	-	-	-	-	-	mg/Kg	<0.001	<0.0009	<0.1	<0.0011	<0.0011	<0.0008	<0.0008	<0.0008	<0.0009	<0.0008	<0.001	<0.0008	<0.0007	<0.0009	<0.0011
1,2,3-Trichlorobenzene	4.90E+01	(2)	4.90E+02	(5)	6.92E+00	(8)	6.92E+00	-	mg/Kg	<0.001	<0.0009	<0.1	<0.0011	<0.0011	<0.0008	<0.0008	<0.0008	<0.0009	<0.0008	<0.001	<0.0008	<0.0007	<0.0009	<0.0011
1,2,3-Trichloropropane	4.97E-02	(1)	7.23E+00	(4)	1.15E-03	(7)	1.15E-03	-	mg/Kg	<0.001	<0.0009	<0.1	<0.0011	<0.0011	<0.0008	<0.0008	<0.0008	<0.0009	<0.0008	<0.001	<0.0008	<0.0007	<0.0009	<0.0011
1,2,4-Trichlorobenzene	7.30E+01	(1)	6.87E+01	(4)	4.21E+00	(7)	4.21E+00	-	mg/Kg	<0.001	<0.0009	<0.05	<0.0011	<0.0011	<0.0008	<0.0008	<0.0008	<0.0009	<0.0008	<0.001	<0.0008	<0.0007	<0.0009	<0.0011
1,2,4-Trimethylbenzene	6.20E+01	(2)	2.																					

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

Analytes	Residential Soil Screening Level	Source	Non- Residential Soil Screening Level	Source	Leachate DAF (461) (mg/kg) SoilGW NMED	Source	Min	Background Concentrations (11)	Units	SWMU 1-7 (16-18')	SWMU 1-8 (10-12')	SWMU 1-8 (12-14')	SWMU 1-8 (16-18')	SWMU 1-8 (19-20')	SWMU 1-8 (4-6')	SWMU 1-9 (0-0.5')	SWMU 1-9 (1.5-2')	SWMU 1-10 (0-0.5')	SWMU 1-10 (1.5-2')	SWMU 1-11 (0-0.5')	SWMU 1-11 (1.5-2')	SWMU 1-12 (0.5-1')	SWMU 1-12 (0-0.5')	SWMU 1-13 (0-0.5')
										1210372-015 10/4/2012	1210372-007 10/5/2012	1210372-008 10/5/2012	1210372-009 10/5/2012	1210372-005 10/5/2012	1210372-006 10/5/2012	1210811-001 10/15/2012	1210811-002 10/15/2012	1210811-003 10/15/2012	1210811-004 10/15/2012	1210811-005 10/15/2012	1210811-006 10/15/2012	1210811-008 10/15/2012	1210811-007 10/15/2012	1210692-021 10/12/2012
Bromodichloromethane	5.41E+00	(1)	1.43E+02	(4)	1.25E-01	(7)	1.25E-01	-	mg/Kg	<0.001	<0.0009	<0.05	<0.0011	<0.0011	<0.0008	<0.0008	<0.0008	<0.0009	<0.0008	<0.001	<0.0008	<0.0007	<0.0009	<0.0011
Bromoform	6.16E+02	(1)	4.76E+03	(4)	2.78E+02	(7)	2.78E+02	-	mg/Kg	<0.001	<0.0009	<0.05	<0.0011	<0.0011	<0.0008	<0.0008	<0.0008	<0.0009	<0.0008	<0.001	<0.0008	<0.0007	<0.0009	<0.0011
Bromomethane	1.65E+01	(1)	1.64E+01	(4)	8.86E-01	(7)	8.86E-01	-	mg/Kg	<0.001	<0.0009	<0.15	<0.0011	<0.0011	<0.0008	<0.0008	<0.0008	<0.0009	<0.0008	<0.001	<0.0008	<0.0007	<0.0009	<0.0011
Carbon disulfide	1.53E+03	(1)	1.58E+03	(4)	1.30E+02	(7)	1.30E+02	-	mg/Kg	<0.0098	<0.0093	<0.5	<0.0111	<0.0109	<0.0081	<0.0077	<0.0077	<0.0089	<0.0083	<0.0098	<0.0077	<0.0073	<0.0089	<0.011
Carbon tetrachloride	1.08E+01	(1)	2.26E+02	(4)	7.39E-01	(7)	7.39E-01	-	mg/Kg	<0.001	<0.0009	<0.1	<0.0011	<0.0011	<0.0008	<0.0008	<0.0008	<0.0009	<0.0008	<0.001	<0.0008	<0.0007	<0.0009	<0.0011
Chlorobenzene	3.76E+02	(1)	4.06E+02	(4)	2.27E+01	(7)	2.27E+01	-	mg/Kg	<0.001	<0.0009	<0.05	<0.0011	<0.0011	<0.0008	<0.0008	<0.0008	<0.0009	<0.0008	<0.001	<0.0008	<0.0007	<0.0009	<0.0011
Chloroethane	2.98E+04	(1)	2.61E+04	(4)	2.48E+03	(7)	2.48E+03	-	mg/Kg	<0.001	<0.0009	<0.1	<0.0011	<0.0011	<0.0008	<0.0008	<0.0008	<0.0009	<0.0008	<0.001	<0.0008	<0.0007	<0.0009	<0.0011
Chloroform	5.86E+00	(1)	1.54E+02	(4)	2.12E-01	(7)	2.12E-01	-	mg/Kg	<0.001	<0.0009	<0.05	<0.0011	<0.0011	<0.0008	<0.0008	<0.0008	<0.0009	<0.0008	<0.001	<0.0008	<0.0007	<0.0009	<0.0011
Chloromethane	2.75E+02	(1)	2.41E+02	(4)	2.03E+01	(7)	2.03E+01	-	mg/Kg	<0.001	<0.0009	<0.15	<0.0011	<0.0011	<0.0008	<0.0008	<0.0008	<0.0009	<0.0008	<0.001	<0.0008	<0.0007	<0.0009	<0.0011
cis-1,2-DCE	1.56E+02	(1)	6.19E+02	(4)	8.47E+00	(7)	8.47E+00	-	mg/Kg	<0.001	<0.0009	<0.05	<0.0011	<0.0011	<0.0008	<0.0008	<0.0008	<0.0009	<0.0008	<0.001	<0.0008	<0.0007	<0.0009	<0.0011
cis-1,3-Dichloropropene	3.37E+01	(1)	2.09E+02	(4)	5.71E-01	(7)	5.71E-01	-	mg/Kg	<0.001	<0.0009	<0.05	<0.0011	<0.0011	<0.0008	<0.0008	<0.0008	<0.0009	<0.0008	<0.001	<0.0008	<0.0007	<0.0009	<0.0011
Dibromochloromethane	1.21E+01	(1)	3.32E+02	(4)	1.52E-01	(7)	1.52E-01	-	mg/Kg	<0.001	<0.0009	<0.05	<0.0011	<0.0011	<0.0008	<0.0008	<0.0008	<0.0009	<0.0008	<0.001	<0.0008	<0.0007	<0.0009	<0.0011
Dibromomethane	5.16E+01	(1)	3.10E+03	(4)	7.89E-01	(7)	7.89E-01	-	mg/Kg	<0.001	<0.0009	<0.1	<0.0011	<0.0011	<0.0008	<0.0008	<0.0008	<0.0009	<0.0008	<0.001	<0.0008	<0.0007	<0.0009	<0.0011
Dichlorodifluoromethane	1.68E+02	(1)	1.49E+02	(4)	1.71E+02	(7)	1.49E+02	-	mg/Kg	<0.001	<0.0009	<0.05	<0.0011	<0.0011	<0.0008	<0.0008	<0.0008	<0.0009	<0.0008	<0.001	<0.0008	<0.0007	<0.0009	<0.0011
Ethylbenzene	6.84E+01	(1)	1.83E+03	(4)	5.98E+00	(7)	5.98E+00	-	mg/Kg	<0.001	0.0047	<0.05	<0.0011	<0.0011	0.00249	<0.0008	<0.0008	0.00322	0.000992	0.00933	0.00229	0.00131	0.0233	0.00224
Hexachlorobutadiene	6.11E+01	(1)	2.38E+02	(4)	5.91E+00	(7)	5.91E+00	-	mg/Kg	<0.001	<0.0009	<0.1	<0.0011	<0.0011	<0.0008	<0.0008	<0.0008	<0.0009	<0.0008	<0.001	<0.0008	<0.0007	<0.0009	<0.0011
Isopropylbenzene	2.43E+03	(1)	2.81E+03	(4)	3.99E+02	(7)	3.99E+02	-	mg/Kg	<0.001	<0.0009	<0.05	<0.0011	<0.0011	<0.0008	<0.0008	<0.0008	<0.0009	<0.0008	<0.001	<0.0008	<0.0007	0.00144	<0.0011
Methyl tert-butyl ether (MTBE)	9.01E+02	(1)	2.49E+04	(4)	1.11E+01	(7)	1.11E+01	-	mg/Kg	<0.001	<0.0009	<0.05	0.0241	<0.0011	0.0081	<0.0008	<0.0008	<0.0009	<0.0008	<0.001	<0.0008	<0.0007	<0.0009	<0.0011
Methylene chloride	4.09E+02	(1)	1.12E+03	(4)	1.90E+01	(7)	1.90E+01	-	mg/Kg	<0.0029	<0.0028	<0.15	<0.0033	<0.0033	<0.0024	<0.0023	<0.0023	<0.0027	<0.0025	<0.0029	<0.0023	<0.0022	<0.0027	<0.0033
Naphthalene	4.30E+01	(1)	1.58E+02	(4)	1.64E+00	(7)	1.64E+00	-	mg/Kg	<0.002	<0.0019	<0.1	<0.0022	<0.0022	0.0113	<0.0015	<0.0015	<0.0018	<0.0017	<0.002	<0.0015	<0.0015	<0.0018	<0.0022
n-Butylbenzene	3.90E+03	(2)	5.10E+04	(5)	1.15E+03	(8)	1.15E+03	-	mg/Kg	<0.001	<0.0009	<0.15	<0.0011	<0.0011	<0.0008	<0.0008	<0.0008	<0.0009	<0.0008	<0.001	<0.0008	<0.0007	<0.0009	<0.0011
n-Propylbenzene	3.40E+03	(2)	2.10E+04	(5)	4.56E+02	(8)	4.56E+02	-	mg/Kg	<0.001	<0.0009	<0.05	<0.0011	<0.0011	0.00136	<0.0008	<0.0008	<0.0009	<0.0008	<0.001	<0.0008	<0.0007	<0.0009	<0.0011
sec-Butylbenzene	-	-	-	-	-	-	-	-	mg/Kg	<0.001	<0.0009	<0.05	<0.0011	<0.0011	<0.0008	<0.0008	<0.0008	<0.0009	<0.0008	<0.001	<0.0008	<0.0007	<0.0009	<0.0011
Styrene	7.28E+03	(1)	9.99E+03	(4)	6.40E+02	(7)	6.40E+02	-	mg/Kg	<0.001	<0.0009	<0.05	<0.0011	<0.0011	<0.0008	<0.0008	<0.0008	<0.0009	<0.0008	<0.001	<0.0008	<0.0007	<0.0009	<0.0011
tert-Butylbenzene	-	-	-	-	-	-	-	-	mg/Kg	<0.001	<0.0009	<0.05	<0.0011	<0.0011	<0.0008	<0.0008	<0.0008	<0.0009	<0.0008	<0.001	<0.0008	<0.0007	<0.0009	<0.00.

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Gallup, New Mexico

Analytes	Residential Soil Screening Level	Source	Non- Residential Soil Screening Level	Source	Leachate DAF (461) (mg/kg) SoilGW NMED	Source	Min	Background Concentrations (11)	Units	SWMU 1-7 (16-18')	SWMU 1-8 (10-12')	SWMU 1-8 (12-14')	SWMU 1-8 (16-18')	SWMU 1-8 (19-20')	SWMU 1-8 (4-6')	SWMU 1-9 (0-0.5')	SWMU 1-9 (1.5-2')	SWMU 1-10 (0-0.5')	SWMU 1-10 (1.5-2')	SWMU 1-11 (0-0.5')	SWMU 1-11 (1.5-2')	SWMU 1-12 (0.5-1')	SWMU 1-12 (0-0.5')	SWMU 1-13 (0-0.5')
										1210372-015 10/4/2012	1210372-007 10/5/2012	1210372-008 10/5/2012	1210372-009 10/5/2012	1210372-005 10/5/2012	1210372-006 10/5/2012	1210811-001 10/15/2012	1210811-002 10/15/2012	1210811-003 10/15/2012	1210811-004 10/15/2012	1210811-005 10/15/2012	1210811-006 10/15/2012	1210811-008 10/15/2012	1210811-007 10/15/2012	1210692-021 10/12/2012
3,3'-Dichlorobenzidine	1.08E+01	(1)	3.64E+02	(4)	3.41E+00	(7)	3.41E+00	-	mg/Kg	<0.2494	<1.2533	<1.2546	<0.2481	<0.2514	<0.2488	<2.5168	<0.2487	<1.2492	<2.5008	<0.4993	<0.5005	<0.4992	<0.5032	<0.503
3+4-Methylphenol	-	-	-	-	-	-	-	-	mg/Kg	<0.1995	<1.0027	<1.0037	<0.1985	<0.2011	<0.1991	<2.0134	<0.1989	<0.9993	<2.0007	<0.3995	<0.4004	<0.3993	<0.4025	<0.4024
3-Nitroaniline	-	-	-	-	-	-	-	-	mg/Kg	<0.1995	<1.0027	<1.0037	<0.1985	<0.2011	<0.1991	<2.0134	<0.1989	<0.9993	<2.0007	<0.3995	<0.4004	<0.3993	<0.4025	<0.4024
4,6-Dinitro-2-methylphenol	4.90E+00	(2)	4.90E+01	(5)	9.22E-01	(8)	9.22E-01	-	mg/Kg	<0.4988	<2.5067	<2.5092	<0.4962	<0.5028	<0.4977	<5.0336	<0.4973	<2.4983	<5.0017	<0.9987	<1.001	<0.9983	<1.0064	<1.006
4-Bromophenyl phenyl ether	-	-	-	-	-	-	-	-	mg/Kg	<0.1995	<1.0027	<1.0037	<0.1985	<0.2011	<0.1991	<2.0134	<0.1989	<0.9993	<2.0007	<0.3995	<0.4004	<0.3993	<0.4025	<0.4024
4-Chloro-3-methylphenol	6.10E+03	(2)	6.20E+04	(5)	5.99E+02	(8)	5.99E+02	-	mg/Kg	<0.4988	<2.5067	<2.5092	<0.4962	<0.5028	<0.4977	<5.0336	<0.4973	<2.4983	<5.0017	<0.9987	<1.001	<0.9983	<1.0064	<1.006
4-Chloroaniline	2.40E+01	(3)	8.60E+01	(6)	5.99E-02	(8)	5.99E-02	-	mg/Kg	<0.4988	<2.5067	<2.5092	<0.4962	<0.5028	<0.4977	<5.0336	<0.4973	<2.4983	<5.0017	<0.9987	<1.001	<0.9983	<1.0064	<1.006
4-Chlorophenyl phenyl ether	-	-	-	-	-	-	-	-	mg/Kg	<0.1995	<1.0027	<1.0037	<0.1985	<0.2011	<0.1991	<2.0134	<0.1989	<0.9993	<2.0007	<0.3995	<0.4004	<0.3993	<0.4025	<0.4024
4-Nitroaniline	2.40E+02	(3)	8.60E+02	(6)	6.45E-01	(8)	6.45E-01	-	mg/Kg	<0.3991	<2.0053	<2.0074	<0.397	<0.4023	<0.3981	<4.0268	<0.3979	<1.9987	<4.0013	<0.7989	<0.8008	<0.7987	<0.8051	<0.8048
4-Nitrophenol	-	-	-	-	-	-	-	-	mg/Kg	<0.2494	<1.2533	<1.2546	<0.2481	<0.2514	<0.2488	<2.5168	<0.2487	<1.2492	<2.5008	<0.4993	<0.5005	<0.4992	<0.5032	<0.503
Acenaphthene	3.44E+03	(1)	1.86E+04	(4)	7.79E+03	(7)	3.44E+03	-	mg/Kg	<0.1995	<1.0027	<1.0037	<0.1985	<0.2011	<0.1991	<2.0134	<0.1989	<0.9993	<2.0007	<0.3995	<0.4004	<0.3993	<0.4025	<0.4024
Acenaphthylene	-	-	-	-	-	-	-	-	mg/Kg	<0.1995	<1.0027	<1.0037	<0.1985	<0.2011	<0.1991	<2.0134	<0.1989	<0.9993	<2.0007	<0.3995	<0.4004	<0.3993	<0.4025	<0.4024
Aniline	8.50E+02	(3)	3.00E+03	(6)	1.80E+00	(8)	1.80E+00	-	mg/Kg	<0.1995	<1.0027	<1.0037	<0.1985	<0.2011	<0.1991	<2.0134	<0.1989	<0.9993	<2.0007	<0.3995	<0.4004	<0.3993	<0.4025	<0.4024
Anthracene	1.72E+04	(1)	6.68E+04	(4)	1.25E+05	(7)	1.72E+04	-	mg/Kg	<0.1995	<1.0027	<1.0037	<0.1985	<0.2011	<0.1991	<2.0134	<0.1989	<0.9993	<2.0007	<0.3995	<0.4004	<0.3993	<0.4025	<0.4024
Azobenzene	5.10E+01	(3)	2.30E+02	(6)	3.69E-01	(8)	3.69E-01	-	mg/Kg	<0.1995	<1.0027	<1.0037	<0.1985	<0.2011	<0.1991	<2.0134	<0.1989	<0.9993	<2.0007	<0.3995	<0.4004	<0.3993	<0.4025	<0.4024
Benz(a)anthracene	1.48E+00	(1)	2.13E+02	(4)	3.61E+01	(7)	1.48E+00	-	mg/Kg	<0.1995	<1.0027	<1.0037	<0.1985	<0.2011	<0.1991	<2.0134	<0.1989	<0.9993	<2.0007	<0.3995	<0.4004	<0.3993	<0.4025	<0.4024
Benzo(a)pyrene	1.48E+00	(1)	2.13E+01	(4)	1.20E+01	(7)	1.48E-01	-	mg/Kg	<0.1995	<1.0027	<1.0037	<0.1985	<0.2011	<0.1991	<2.0134	<0.1989	<0.9993	<2.0007	<0.3995	<0.4004	<0.3993	<0.4025	<0.4024
Benzo(b)fluoranthene	1.48E+00	(1)	2.13E+02	(4)	1.22E+02	(7)	1.48E+00	-	mg/Kg	<0.1995	<1.0027	<1.0037	<0.1985	<0.2011	<0.1991	<2.0134	<0.1989	<0.9993	<2.0007	<0.3995	<0.4004	<0.3993	<0.4025	<0.4024
Benzo(g,h,i)perylene	-	-	-	-	-	-	-	-	mg/Kg	<0.1995	<1.0027	<1.0037	<0.1985	<0.2011	<0.1991	<2.0134	<0.1989	<0.9993	<2.0007	<0.3995	<0.4004	<0.3993	<0.4025	<0.4024
Benzo(k)fluoranthene	1.48E+01	(1)	2.06E+03	(4)	1.20E+03	(7)	1.48E+01	-	mg/Kg	<0.1995	<1.0027	<1.0037	<0.1985	<0.2011	<0.1991	<2.0134	<0.1989	<0.9993	<2.0007	<0.3995	<0.4004	<0.3993	<0.4025	<0.4024
Benzoic acid	2.40E+05	(2)	2.50E+06	(5)	6.45E+03	(8)	6.45E+03	-	mg/Kg	<0.4988	<2.5067	<2.5092	<0.4962	<0.5028	<0.4977	<5.0336	<0.4973	<2.4983	<5.0017	<0.9987	<1.001	<0.9983	<1.0064	<1.006
Benzyl alcohol	6.10E+03	(2)	6.20E+04	(5)	1.71E+02	(8)	1.71E+02	-	mg/Kg	<0.1995	<1.0027	<1.0037	<0.1985	<0.2011	<0.1991	<2.0134	<0.1989	<0.9993	<2.0007	<0.3995	<0.4004	<0.3993	<0.4025	<0.4024
Bis(2-chloroethoxy)methane	1.80E+02	(2)	1.80E+03	(5)	5.07E+00	(8)	5.07E+00	-	mg/Kg	<0.1995	<1.0027	<1.0037	<0.1985	<0.2011	<0.1991	<2.0134	<0.1989	<0.9993	<2.0007	<0.3995	<0.4004	<0.3993	<0.4025	<0.4024
Bis(2-chloroethyl)ether	2.68E+00	(1)	7.78E+01	(4)	1.21E-02	(7)	1.21E-02	-	mg/Kg	<0.1995	<1.0027	<1.0037	<0.1985	<0.2011	<0.1991	<2.0134	<0.1989	<0.9993	<2.0007	<0.3995	<0.4004	<0.3993	<0.4025	<0.4024
Bis(2-chloroisopropyl)ether	9.15E+01	(1)	3.10E+03	(4)	1.07E+00	(7)	1.07E+00	-	mg/Kg	<0.1995	<1.0027	<1.0037	<0.1985	<0.2011	<0.1991	<2.0134	<0.1989	<0.9993	<2.0007	<0.3995	<0.4004	<0.3993	<0.4025	<0.4024
Bis(2-ethylhexyl)phthalate	3.47E+02	(1)	4.76E+03	(4)	3.97E+03	(7)	3.47E+02	-	mg/Kg	<0.4988	<2.5067	<2.5092	<0.4962	<0.5028	<0.4977	<5.0336	<0.4973	<2.4983	<5.0017	<0.9987	<1.001	<0.9983	<1.0064	<1.006
Butyl benzyl phthalate	2.60E+03	(3)	9.10E+03	(6)	9.22E+01	(8)	9.22E+01	-	mg/Kg	<0.1995	<1.0027	<1.0037	<0.1985	<0.2011	<0.1991	<2.0134	<0.1989	<0.9993	<2.0007	<0.3995	<0.4004	<0.3993	<0.4025	<0.4024
Carbazole	-	-	-	-	-	-	-	-	mg/Kg	<0.1995	<1.0027	<1.0037	<0.1985	<0.2011	<0.1991	<2.0134	<0.1989	<0.9993	<2.0007	<0.3995	<0.4004	<0.3993	<0.4025	<0.4024
Chrysene	1.48E+02	(1)	2.06E+04	(4)	3.68E+03	(7)	1.48E+02	-	mg/Kg	<0.1995	<1.0027	<1.0037	<0.1985	<0.2011	<0.1991	<2.0134	<0.1989	<0.9993	<2.0007	<0.3995	<0.4004	<0.3993	<0.4025	<0.4024
Dibenz(a,h)anthracene	1.48E-01	(1)	2.13E+01	(4)	3.90E+01	(7)	1.48E-01	-	mg/Kg	<0.1995	<1.0027	<1.0037	<0.1985	<0.2011	<0.1991	<2.0134	<0.1989	<0.9993	<2.0007	<0.3995	<0.4004	<0.3993	<0.4025	<0.4024
Dibenzofuran	7.80E+01	(2)	1.00E+03	(5)	5.07E+01	(8)	5.07E+01	-	mg/Kg	<0.1995	<1.0027	<1.0037	<0.1985	<0.2011	<0.1991	<2.0134	<0.1989	<0.9993	<2.0007	<0.3995	<0.4004	<0.3993	<0.4025	<0.4024
Diethyl phthalate	4.89E+04	(1)	1.91E+05	(4)	4.45E+03	(7)	4.45E+03	-	mg/Kg	<0.1995	<1.0027	<1.0037	<0.1985	<0.2011	<0.1991	<2.0134	<0.1989	<0.9993	<2.0007	<0.3995	<0.4004	<0.3993	<0.4025	<0.4024
Dimethyl phthalate	6.11E+05	(1)	2.38E+06	(4)	3.71E+04	(7)	3.71E+04	-	mg/Kg	<0.1995	<1.0027	<1.0037	<0.1985	<0.2011	<0.1991	<2.0134	<0.1989	<0.9993	<2.0007	<0.3995	<0.4004	<0.3993	<0.4025	<0.4024
Di-n-butyl phthalate	6.11E+03	(1)	2.38E+04	(4)	3.21E+03	(7)	3.21E+03	-	mg/Kg	<0.4988	<2.5067	<2.5092	<0.4962	<0.5028	<0.4977	<5.0336	<0.4973	<2.4983	<5.0017	<0.9987	<1.001	<0.9983	<1.0064	<1.006
Di-n-octyl phthalate	-	-	-	-	-	-	-	-	mg/Kg	<0.2494	<1.2533	<1.2546	<0.2481	<0.2514	<0.2488	<4.0268	<0.3979	<1.9987	<4.0013	<0.7989	<0.8008	<0.7987	<0.8051	<0.8048
Fluoranthene	2.29E+03	(1)	8.91E+03	(4)	5.61E+04	(7)	2.29E+03	-	mg/Kg	<0.1995	<1.0027	<1.0037	<0.1985	<0.2011	<0.1991	<2.0134	<0.1989	<0.9993	<2.0007	<0.3995	<0.4004	<0.3993	<0.4025	<0.4024
Fluorene	2.29E+03	(1)	8.91E+03	(4)	9.36E+03	(7)	2.29E+03	-	mg/Kg	<0.1995	<1.0027	<1.0037	<0.1985	<0.2011	<0.1991	<2.0134	<0.1989	<0.9993	<2.0007	<0.3995	<0.4004	<0.3993	<0.4025	<0.4024
Hexachlorobenzene	3.04E+00	(1)	1.03E+02	(4)	1.83E+00	(7)	1.83E+00	-	mg/Kg	<0.1995	<1.0027	<1.0037	<0.1985	<0.2011	<0.1991	<2.0134	<0.1989	<0.9993	<2.0007	<0.3995	<0.4004	<0.3993	<0.4025	<0.4024
Hexachlorobutadiene	6.11E+01	(1)	2.38E+02	(4)	5.91E+00	(7)	5.91E+00	-	mg/Kg	<0.1995	<1.0027	<1.0037	<0.1985	<0.2011	<0.1991	<2.0134	<0.1989	<0.9993	<2.0007	<0.3995	<0.4004	<0.3993	<0.4025	<0.4024
Hexachlorocyclopentadiene	3.67E+02	(1)	8.11E+02	(4)	2.43E+02	(7)	2.43E+02	-	mg/Kg	<0.1995	<1.0027	<1.0037	<0.1985	<0.2011	<0.1991	<2.0								

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

Analytes	Residential Soil Screening Level	Source	Non- Residential Soil Screening Level	Source	Leachate DAF (461) (mg/kg) SoilGW NMED	Source	Min	Background Concentrations (11)	Units	SWMU 1-7 (16-18')	SWMU 1-8 (10-12')	SWMU 1-8 (12-14')	SWMU 1-8 (16-18')	SWMU 1-8 (19-20')	SWMU 1-8 (4-6')	SWMU 1-9 (0-0.5')	SWMU 1-9 (1.5-2')	SWMU 1-10 (0-0.5')	SWMU 1-10 (1.5-2')	SWMU 1-11 (0-0.5')	SWMU 1-11 (1.5-2')	SWMU 1-12 (0.5-1')	SWMU 1-12 (0-0.5')	SWMU 1-13 (0-0.5')
										1210372-015 10/4/2012	1210372-007 10/5/2012	1210372-008 10/5/2012	1210372-009 10/5/2012	1210372-005 10/5/2012	1210372-006 10/5/2012	1210811-001 10/15/2012	1210811-002 10/15/2012	1210811-003 10/15/2012	1210811-004 10/15/2012	1210811-005 10/15/2012	1210811-006 10/15/2012	1210811-008 10/15/2012	1210811-007 10/15/2012	1210692-021 10/12/2012
Total Petroleum Hydrocarbons - (EPA Method 8015B) mg/kg																								
Diesel Range Organics (DRO)	1.00E+03	(10)	1.00E+03	(10)	1.00E+03	(10)	-	-	mg/Kg	<10	100	53	<10	<10	<10	<10	<10	45	42	87	120	190	200	77
Gasoline Range Organics (GRO)	-	-	-	-	-	-	-	-	mg/Kg	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<10	<10	<10	<10	<5
Motor Oil Range Organics (MRO)	1.00E+03	(10)	1.00E+03	(10)	1.00E+03	(10)	-	-	mg/Kg	<49	280	<50	<50	<50	<52	280	<50	230	210	86	120	190	150	<51

-- No screening level or analytical result available
NMED - Risk Assessment Guidance for Site Investigations and Remediation (June 14, 2012)
EPA - Regional Screening Levels (May 2012)
(1) NMED Residential Screening Level
(2) EPA Residential Screening Level
(3) EPA Residential - Screening Levels (May 2012) multiplied by 10 because the constituent is listed as carcinogenic
(4) NMED Construction Worker Screening Level
(5) EPA Industrial - Screening Levels (May 2012)
(6) EPA Industrial - Screening Levels (May 2012) multiplied by 10 pursuant to Provision VII.B. of the July 7, 2007 NMED Order because the constituent is listed as carcinogenic
(7) SoilGW NMED Dilution Attenuation Factor (DAF) = 461
(8) SoilGW Risk-based EPA DAF = 461
(9) SoilGW MCL-based EPA DAF = 461
(10) NMED Table 6-2 TPH Screening Guidelines for Potable Groundwater "unknown oil" with DAF = 1.0 - see report Section 5 for use of screening levels
(11) Background concentrations to be determined

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

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

Analytes	Residential Soil Screening Level	Source	Non- Residential Soil Screening Level	Source	Leachate DAF (461) (mg/kg) SoilGW NMED	Source	Min	Background Concentrations (11)	Units	SWMU 1-13 (1.5-2')	SWMU 1-13 (2-4')	SWMU 1-13 (4-6')	SWMU 1-14 (0-0.5')	SWMU 1-14 (1.5-2')	SWMU 1-15 (0-0.5')	SWMU 1-15 (1.5-2')	SWMU 1-16 (0-0.5')	SWMU 1-16 (1.5-2')	SWMU 1-17 (0-0.5')	SWMU 1-17 (1-1.5')	SWMU 1-18 (0-0.5')	SWMU 1-18 (1-1.5')	SWMU 1-19 (0-0.5')	SWMU 1-20 (0-0.5')
										1210692-022 10/12/2012	1210692-023 10/12/2012	1210692-024 10/12/2012	1210811-009 10/15/2012	1210811-010 10/15/2012	1210811-012 10/15/2012	1210811-013 10/15/2012	1210811-014 10/15/2012	1210811-015 10/15/2012	1210811-016 10/15/2012	1210811-017 10/15/2012	1210858-001 10/16/2012	1210858-002 10/16/2012	1210858-003 10/16/2012	1210692-001 10/11/2012
Metals (mg/kg)																								
Antimony	3.13E+01	(1)	1.24E+02	(4)	3.05E+02	(7)	3.13E+01	-	mg/Kg	<5.0004	<4.9999	<4.9997	<4.9998	<12.5011	<12.501	<5.0002	<5.0002	<12.5	<5	<5	<5	<12.4993	<5	<5
Arsenic	3.90E+00	(1)	5.30E+01	(4)	6.05E+00	(7)	3.90E+00	-	mg/Kg	<1.3	<1.3	<1.3	<1.3	<3.1	<3.1	<1.3	<1.3	<3.1	4.7J	<1.3	4.9J	<3.1	1.6J	2.6J
Barium	1.56E+04	(1)	4.35E+03	(4)	1.39E+05	(7)	4.35E+03	-	mg/Kg	310	250	120	530	360	360	240	640	290	500	310	700	340	530	740
Beryllium	1.56E+02	(1)	1.44E+02	(4)	2.66E+04	(7)	1.44E+02	-	mg/Kg	0.74	0.6	0.71	1	0.75	0.75	0.79	0.46	<0.7499	0.67	0.78	0.35	<0.75	0.68	0.71
Cadmium	7.03E+01	(1)	2.77E+02	(4)	6.33E+02	(7)	7.03E+01	-	mg/Kg	<0.2	<0.2	<0.2	<0.2	<0.5	<0.5	<0.2	<0.2	<0.5	<0.2	<0.2	<0.2	<0.5	<0.2	<0.2
Chromium III	1.17E+05	(1)	4.65E+05	(4)	4.54E+10	(7)	1.17E+05	-	mg/Kg	7.1	22	7.8	11	11	10	11	3.9	9.9	6.6	8.8	3.4	9.2	13	19
Chromium VI	2.97E+00	(1)	6.56E+01	(4)	3.83E+00	(7)	2.97E+00	-	mg/Kg	7.1	22	7.8	11	11	10	11	3.9	9.9	6.6	8.8	3.4	9.2	13	19
Cobalt	2.30E+01	(2)	3.00E+02	(5)	9.68E+01	(8)	2.30E+01	-	mg/Kg	3.8	4.3	4.1	5.4	4.4	4.4	5.3	3	4.2	4.1	4.1	1.9	3.8	3.8	4
Cyanide	4.69E+01	(1)	1.86E+02	(4)	1.02E+02	(7)	4.69E+01	-	mg/Kg	<0.271	<0.279	<0.284	<0.268	<0.287	<0.276	<0.281	<0.254	<0.285	<0.244	<0.273	<0.261	<0.282	<0.26	<0.247
Iron	5.48E+04	(1)	2.17E+05	(4)	2.98E+05	(7)	5.48E+04	-	mg/Kg	10000	11000	11000	14000	13000	13000	12000	3400	12000	8200	11000	3600	11000	13000	15000
Lead	4.00E+02	(1)	8.00E+02	(4)	6.45E+03	(8)	4.00E+02	-	mg/Kg	3.7	4.2	2.5	1.9	4.1	3.1	1.4	<0.5	4.2	0.82	3.5	<0.5	6.1	2.8	2.6
Manganese	1.86E+03	(1)	4.40E+02	(4)	2.64E+04	(7)	4.40E+02	-	mg/Kg	510	250	320	300	430	350	400	330	790	360	340	300	1500	550	650
Mercury	1.56E+01	(1)	1.36E+01	(4)	1.51E+01	(7)	1.36E+01	-	mg/Kg	<0.033	0.17	<0.033	0.05	<0.033	<0.033	<0.033	<0.033	0.033	<0.033	<0.033	<0.033	<0.033	0.056	0.038
Nickel	1.56E+03	(1)	6.19E+03	(4)	2.20E+04	(7)	1.56E+03	-	mg/Kg	6.1	7	6.6	8.9	7.6	7.6	8.3	4.6	7.2	6.4	7.2	3.6	6.4	6.5	6.9
Selenium	3.91E+02	(1)	1.55E+03	(4)	4.45E+02	(7)	3.91E+02	-	mg/Kg	<5.0004	<4.9999	<4.9997	<4.9998	<12.5011	<12.501	<5.0002	<5.0002	<12.4989	<5	<5.0004	<5	<12.4993	<5	<5
Silver	3.91E+02	(1)	1.55E+03	(4)	7.22E+02	(7)	3.91E+02	-	mg/Kg	<0.5	<0.5	<0.5	<0.5	<1.2501	<1.2501	<0.5	<0.5	<1.2499	<0.5	<0.5	<0.5	<1.2499	<1.25	<0.5
Vanadium	3.91E+02	(1)	1.55E+03	(4)	8.42E+04	(7)	3.91E+02	-	mg/Kg	15	18	17	20	19	19	22	14	18	19	13	11	20	18	22
Zinc	2.35E+04	(1)	9.29E+04	(4)	3.14E+05	(7)	2.35E+04	-	mg/Kg	13	29	14	33	16	18	21	14	17	15	15	11	15	25	22
Volatile Organic Compounds - (EPA Method 8260) mg/kg																								
1,1,1,2-Tetrachloroethane	2.91E+01	(1)	7.79E+02	(4)	7.59E-01	(7)	7.59E-01	-	mg/Kg	<0.0008	<0.0011	<0.0011	<0.0007	<0.0009	<0.0007	<0.0007	<0.0008	<0.0007	<0.0008	<0.0008	<0.0007	<0.0007	<0.001	<0.0008
1,1,1-Trichloroethane	1.56E+04	(1)	1.48E+04	(4)	1.34E+03	(7)	1.34E+03	-	mg/Kg	<0.0008	<0.0011	<0.0011	<0.0007	<0.0009	<0.0007	<0.0007	<0.0008	<0.0007	<0.0008	<0.0008	<0.0007	<0.0007	<0.001	<0.0008
1,1,2,2-Tetrachloroethane	8.02E+00	(1)	2.21E+02	(4)	9.82E-02	(7)	9.82E-02	-	mg/Kg	<0.0008	<0.0011	<0.0011	<0.0007	<0.0009	<0.0007	<0.0007	<0.0008	<0.0007	<0.0008	<0.0008	<0.0007	<0.0007	<0.001	<0.0008
1,1,2-Trichloroethane	2.81E+00	(1)	4.72E+02	(4)	5.14E-02	(7)	5.14E-02	-	mg/Kg	<0.0008	<0.0011	<0.0011	<0.0007	<0.0009	<0.0007	<0.0007	<0.0008	<0.0007	<0.0008	<0.0008	<0.0007	<0.0007	<0.001	<0.0008
1,1-Dichloroethane	6.45E+01	(1)	1.70E+03	(4)	2.75E+00	(7)	2.75E+00	-	mg/Kg	<0.0008	<0.0011	<0.0011	<0.0007	<0.0009	<0.0007	<0.0007	<0.0008	<0.0007	<0.0008	<0.0008	<0.0007	<0.0007	<0.001	<0.0008
1,1-Dichloroethene	4.49E+02	(1)	4.32E+02	(4)	5.36E+01	(7)	5.36E+01	-	mg/Kg	<0.0008	<0.0011	<0.0011	<0.0007	<0.0009	<0.0007	<0.0007	<0.0008	<0.0007	<0.0008	<0.0008	<0.0007	<0.0007	<0.001	<0.0008
1,1-Dichloropropene	-	-	-	-	-	-	-	-	mg/Kg	<0.0008	<0.0011	<0.0011	<0.0007	<0.0009	<0.0007	<0.0007	<0.0008	<0.0007	<0.0008	<0.0008	<0.0007	<0.0007	<0.001	<0.0008
1,2,3-Trichlorobenzene	4.90E+01	(2)	4.90E+02	(5)	6.92E+00	(8)	6.92E+00	-	mg/Kg	<0.0008	<0.0011	<0.0011	<0.0007	<0.0009	<0.0007	<0.0007	<0.0008	<0.0007	<0.0008	<0.0008	<0.0007	<0.0007	<0.001	<0.0008
1,2,3-Trichloropropane	4.97E-02	(1)	7.23E+00	(4)	1.15E-03	(7)	1.15E-03	-	mg/Kg	<0.0008	<0.0011	<0.0011	<0.0007	<0.0009	<0.0007	<0.0007	<0.0008	<0.0007	<0.0008	<0.0008	<0.0007	<0.0007	<0.001	<0.0008
1,2,4-Trichlorobenzene	7.30E+01	(1)	6.87E+01	(4)	4.21E+00	(7)	4.21E+00	-	mg/Kg	<0.0008	<0.0011	<0.0011	<0.0007	<0.0009	<0.0007	<0.0007	<0.0008	<0.0007	<0.0008	<0.0008	<			

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

Analyses	Residential Soil Screening Level	Source	Non- Residential Soil Screening Level	Source	Leachate DAF (461) (mg/kg) SoilGW NMED	Source	Min	Background Concentrations (11)	Units	SWMU 1-13 (1.5-2')	SWMU 1-13 (2-4')	SWMU 1-13 (4-6')	SWMU 1-14 (0-0.5')	SWMU 1-14 (1.5-2')	SWMU 1-15 (0-0.5')	SWMU 1-15 (1.5-2')	SWMU 1-16 (0-0.5')	SWMU 1-16 (1.5-2')	SWMU 1-17 (0-0.5')	SWMU 1-17 (1-1.5')	SWMU 1-18 (0-0.5')	SWMU 1-18 (1-1.5')	SWMU 1-19 (0-0.5')	SWMU 1-20 (0-0.5')
										1210692-022 10/12/2012	1210692-023 10/12/2012	1210692-024 10/12/2012	1210811-009 10/15/2012	1210811-010 10/15/2012	1210811-012 10/15/2012	1210811-013 10/15/2012	1210811-014 10/15/2012	1210811-015 10/15/2012	1210811-016 10/15/2012	1210811-017 10/15/2012	1210858-001 10/16/2012	1210858-002 10/16/2012	1210858-003 10/16/2012	1210692-001 10/11/2012
Bromodichloromethane	5.41E+00	(1)	1.43E+02	(4)	1.25E-01	(7)	1.25E-01	-	mg/Kg	<0.0008	<0.0011	<0.0011	<0.0007	<0.0009	<0.0007	<0.0007	<0.0008	<0.0007	<0.0008	<0.0008	<0.0007	<0.0007	<0.001	<0.0008
Bromoform	6.16E+02	(1)	4.76E+03	(4)	2.78E+02	(7)	2.78E+02	-	mg/Kg	<0.0008	<0.0011	<0.0011	<0.0007	<0.0009	<0.0007	<0.0007	<0.0008	<0.0007	<0.0008	<0.0008	<0.0007	<0.0007	<0.001	<0.0008
Bromomethane	1.65E+01	(1)	1.64E+01	(4)	8.86E-01	(7)	8.86E-01	-	mg/Kg	<0.0008	<0.0011	<0.0011	<0.0007	<0.0009	<0.0007	<0.0007	<0.0008	<0.0007	<0.0008	<0.0008	<0.0007	<0.0007	<0.001	<0.0008
Carbon disulfide	1.53E+03	(1)	1.58E+03	(4)	1.30E+02	(7)	1.30E+02	-	mg/Kg	<0.0082	<0.0112	<0.0114	<0.0074	<0.0089	<0.0073	<0.0072	<0.0079	<0.0074	<0.0075	<0.0083	<0.0072	<0.0075	<0.0097	<0.0081
Carbon tetrachloride	1.08E+01	(1)	2.26E+02	(4)	7.39E-01	(7)	7.39E-01	-	mg/Kg	<0.0008	<0.0011	<0.0011	<0.0007	<0.0009	<0.0007	<0.0007	<0.0008	<0.0007	<0.0008	<0.0008	<0.0007	<0.0007	<0.001	<0.0008
Chlorobenzene	3.76E+02	(1)	4.06E+02	(4)	2.27E+01	(7)	2.27E+01	-	mg/Kg	<0.0008	<0.0011	<0.0011	<0.0007	<0.0009	<0.0007	<0.0007	<0.0008	<0.0007	<0.0008	<0.0008	<0.0007	<0.0007	<0.001	<0.0008
Chloroethane	2.98E+04	(1)	2.61E+04	(4)	2.48E+03	(7)	2.48E+03	-	mg/Kg	<0.0008	<0.0011	<0.0011	<0.0007	<0.0009	<0.0007	<0.0007	<0.0008	<0.0007	<0.0008	<0.0008	<0.0007	<0.0007	<0.001	<0.0008
Chloroform	5.86E+00	(1)	1.54E+02	(4)	2.12E-01	(7)	2.12E-01	-	mg/Kg	<0.0008	<0.0011	<0.0011	<0.0007	<0.0009	<0.0007	<0.0007	<0.0008	<0.0007	<0.0008	<0.0008	<0.0007	<0.0007	<0.001	<0.0008
Chloromethane	2.75E+02	(1)	2.41E+02	(4)	2.03E+01	(7)	2.03E+01	-	mg/Kg	<0.0008	<0.0011	<0.0011	<0.0007	<0.0009	<0.0007	<0.0007	<0.0008	<0.0007	<0.0008	<0.0008	<0.0007	<0.0007	<0.001	<0.0008
cis-1,2-DCE	1.56E+02	(1)	6.19E+02	(4)	8.47E+00	(7)	8.47E+00	-	mg/Kg	<0.0008	<0.0011	<0.0011	<0.0007	<0.0009	<0.0007	<0.0007	<0.0008	<0.0007	<0.0008	<0.0008	<0.0007	<0.0007	<0.001	<0.0008
cis-1,3-Dichloropropene	3.37E+01	(1)	2.09E+02	(4)	5.71E-01	(7)	5.71E-01	-	mg/Kg	<0.0008	<0.0011	<0.0011	<0.0007	<0.0009	<0.0007	<0.0007	<0.0008	<0.0007	<0.0008	<0.0008	<0.0007	<0.0007	<0.001	<0.0008
Dibromochloromethane	1.21E+01	(1)	3.32E+02	(4)	1.52E-01	(7)	1.52E-01	-	mg/Kg	<0.0008	<0.0011	<0.0011	<0.0007	<0.0009	<0.0007	<0.0007	<0.0008	<0.0007	<0.0008	<0.0008	<0.0007	<0.0007	<0.001	<0.0008
Dibromomethane	5.16E+01	(1)	3.10E+03	(4)	7.89E-01	(7)	7.89E-01	-	mg/Kg	<0.0008	<0.0011	<0.0011	<0.0007	<0.0009	<0.0007	<0.0007	<0.0008	<0.0007	<0.0008	<0.0008	<0.0007	<0.0007	<0.001	<0.0008
Dichlorodifluoromethane	1.68E+02	(1)	1.49E+02	(4)	1.71E+02	(7)	1.49E+02	-	mg/Kg	<0.0008	<0.0011	<0.0011	<0.0007	<0.0009	<0.0007	<0.0007	<0.0008	<0.0007	<0.0008	<0.0008	<0.0007	<0.0007	<0.001	<0.0008
Ethylbenzene	6.84E+01	(1)	1.83E+03	(4)	5.98E+00	(7)	5.98E+00	-	mg/Kg	0.00134	<0.0011	<0.0011	0.00165	<0.0009	<0.0007	<0.0007	0.00282	<0.0007	0.00362	<0.0008	0.00386	<0.0007	<0.001	0.0448
Hexachlorobutadiene	6.11E+01	(1)	2.38E+02	(4)	5.91E+00	(7)	5.91E+00	-	mg/Kg	<0.0008	<0.0011	<0.0011	<0.0007	<0.0009	<0.0007	<0.0007	<0.0008	<0.0007	<0.0008	<0.0008	<0.0007	<0.0007	<0.001	<0.0008
Isopropylbenzene	2.43E+03	(1)	2.81E+02	(4)	3.99E+02	(7)	3.99E+02	-	mg/Kg	<0.0008	<0.0011	<0.0011	<0.0007	<0.0009	<0.0007	<0.0007	<0.0008	<0.0007	<0.0008	<0.0008	<0.0007	<0.0007	<0.001	0.0021
Methyl tert-butyl ether (MTBE)	9.01E+02	(1)	2.49E+04	(4)	1.11E+01	(7)	1.11E+01	-	mg/Kg	<0.0008	0.0199	0.003	<0.0007	<0.0009	<0.0007	0.00147	<0.0008	<0.0007	<0.0008	<0.0008	<0.0007	<0.0007	<0.001	<0.0008
Methylene chloride	4.09E+02	(1)	1.12E+03	(4)	1.90E+01	(7)	1.90E+01	-	mg/Kg	<0.0025	<0.0034	<0.0034	<0.0022	<0.0027	<0.0022	<0.0022	<0.0024	<0.0022	<0.0023	<0.0025	<0.0022	<0.0022	<0.0029	<0.0024
Naphthalene	4.30E+01	(1)	1.58E+02	(4)	1.64E+00	(7)	1.64E+00	-	mg/Kg	<0.0016	<0.0022	<0.0023	<0.0015	<0.0018	<0.0015	<0.0014	<0.0016	<0.0015	<0.0015	<0.0017	<0.0014	<0.0015	<0.0019	<0.0016
n-Butylbenzene	3.90E+03	(2)	5.10E+04	(5)	1.15E+03	(8)	1.15E+03	-	mg/Kg	<0.0008	<0.0011	<0.0011	<0.0007	<0.0009	<0.0007	<0.0007	<0.0008	<0.0007	<0.0008	<0.0008	<0.0007	<0.0007	<0.001	<0.0008
n-Propylbenzene	3.40E+03	(2)	2.10E+04	(5)	4.56E+02	(8)	4.56E+02	-	mg/Kg	<0.0008	<0.0011	<0.0011	<0.0007	<0.0009	<0.0007	<0.0007	<0.0008	<0.0007	<0.0008	<0.0008	<0.0007	<0.0007	<0.001	<0.0008
sec-Butylbenzene	-	-	-	-	-	-	-	-	mg/Kg	<0.0008	0.00128	<0.0011	<0.0007	<0.0009	<0.0007	<0.0007	<0.0008	<0.0007	<0.0008	<0.0008	<0.0007	<0.0007	<0.001	<0.0008
Styrene	7.28E+03	(1)	9.99E+03	(4)	6.40E+02	(7)	6.40E+02	-	mg/Kg	<0.0008	<0.0011	<0.0011	<0.0007	<0.0009	<0.0007	<0.0007	<0.0008	<0.0007	<0.0008	<0.0008	<0.0007	<0.0007	<0.001	<0.0008
tert-Butylbenzene	-	-	-	-	-	-	-	-	mg/Kg	<0.0008	<													

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

Analytes	Residential Soil Screening Level	Source	Non- Residential Soil Screening Level	Source	Leachate DAF (461) (mg/kg) SoilGW NMED	Source	Min	Background Concentrations (11)	Units	SWMU 1-13 (1.5-2')	SWMU 1-13 (2-4')	SWMU 1-13 (4-6')	SWMU 1-14 (0-0.5')	SWMU 1-14 (1.5-2')	SWMU 1-15 (0-0.5')	SWMU 1-15 (1.5-2')	SWMU 1-16 (0-0.5')	SWMU 1-16 (1.5-2')	SWMU 1-17 (0-0.5')	SWMU 1-17 (1-1.5')	SWMU 1-18 (0-0.5')	SWMU 1-18 (1-1.5')	SWMU 1-19 (0-0.5')	SWMU 1-20 (0-0.5')
										1210692-022 10/12/2012	1210692-023 10/12/2012	1210692-024 10/12/2012	1210811-009 10/15/2012	1210811-010 10/15/2012	1210811-012 10/15/2012	1210811-013 10/15/2012	1210811-014 10/15/2012	1210811-015 10/15/2012	1210811-016 10/15/2012	1210811-017 10/15/2012	1210858-001 10/16/2012	1210858-002 10/16/2012	1210858-003 10/16/2012	1210692-001 10/11/2012
3,3'-Dichlorobenzidine	1.08E+01	(1)	3.64E+02	(4)	3.41E+00	(7)	3.41E+00	-	mg/Kg	<0.5012	<0.252	<0.2479	<0.498	<0.249	<0.2514	<0.251	<0.5017	<0.5005	<0.4995	<0.4967	<0.2501	<0.2516	<0.5023	<0.5028
3+4-Methylphenol	-	-	-	-	-	-	-	-	mg/Kg	<0.4009	<0.2016	<0.1983	<0.3984	<0.1992	<0.2011	<0.2008	<0.4013	<0.4004	<0.3996	<0.3974	<0.2001	<0.2013	<0.4019	<0.4023
3-Nitroaniline	-	-	-	-	-	-	-	-	mg/Kg	<0.4009	<0.2016	<0.1983	<0.3984	<0.1992	<0.2011	<0.2008	<0.4013	<0.4004	<0.3996	<0.3974	<0.2001	<0.2013	<0.4019	<0.4023
4,6-Dinitro-2-methylphenol	4.90E+00	(2)	4.90E+01	(5)	9.22E-01	(8)	9.22E-01	-	mg/Kg	<1.0023	<0.504	<0.4957	<0.996	<0.498	<0.5028	<0.502	<1.0033	<1.001	<0.999	<0.9934	<0.5002	<0.5032	<1.0047	<1.0057
4-Bromophenyl phenyl ether	-	-	-	-	-	-	-	-	mg/Kg	<0.4009	<0.2016	<0.1983	<0.3984	<0.1992	<0.2011	<0.2008	<0.4013	<0.4004	<0.3996	<0.3974	<0.2001	<0.2013	<0.4019	<0.4023
4-Chloro-3-methylphenol	6.10E+03	(2)	6.20E+04	(5)	5.99E+02	(8)	5.99E+02	-	mg/Kg	<1.0023	<0.504	<0.4957	<0.996	<0.498	<0.5028	<0.502	<1.0033	<1.001	<0.999	<0.9934	<0.5002	<0.5032	<1.0047	<1.0057
4-Chloroaniline	2.40E+01	(3)	8.60E+01	(6)	5.99E-02	(8)	5.99E-02	-	mg/Kg	<1.0023	<0.504	<0.4957	<0.996	<0.498	<0.5028	<0.502	<1.0033	<1.001	<0.999	<0.9934	<0.5002	<0.5032	<1.0047	<1.0057
4-Chlorophenyl phenyl ether	-	-	-	-	-	-	-	-	mg/Kg	<0.4009	<0.2016	<0.1983	<0.3984	<0.1992	<0.2011	<0.2008	<0.4013	<0.4004	<0.3996	<0.3974	<0.2001	<0.2013	<0.4019	<0.4023
4-Nitroaniline	2.40E+02	(3)	8.60E+02	(6)	6.45E-01	(8)	6.45E-01	-	mg/Kg	<0.8019	<0.4032	<0.3966	<0.7968	<0.3984	<0.4023	<0.4016	<0.8027	<0.8008	<0.7992	<0.7947	<0.4001	<0.4025	<0.8038	<0.8046
4-Nitrophenol	-	-	-	-	-	-	-	-	mg/Kg	<0.5012	<0.252	<0.2479	<0.498	<0.249	<0.2514	<0.251	<0.5017	<0.5005	<0.4995	<0.4967	<0.2501	<0.2516	<0.5023	<0.5028
Acenaphthene	3.44E+03	(1)	1.86E+04	(4)	7.79E+03	(7)	3.44E+03	-	mg/Kg	<0.4009	<0.2016	<0.1983	<0.3984	<0.1992	<0.2011	<0.2008	<0.4013	<0.4004	<0.3996	<0.3974	<0.2001	<0.2013	<0.4019	<0.4023
Acenaphthylene	-	-	-	-	-	-	-	-	mg/Kg	<0.4009	<0.2016	<0.1983	<0.3984	<0.1992	<0.2011	<0.2008	<0.4013	<0.4004	<0.3996	<0.3974	<0.2001	<0.2013	<0.4019	<0.4023
Aniline	8.50E+02	(3)	3.00E+03	(6)	1.80E+00	(8)	1.80E+00	-	mg/Kg	<0.4009	<0.2016	<0.1983	<0.3984	<0.1992	<0.2011	<0.2008	<0.4013	<0.4004	<0.3996	<0.3974	<0.2001	<0.2013	<0.4019	<0.4023
Anthracene	1.72E+04	(1)	6.68E+04	(4)	1.25E+05	(7)	1.72E+04	-	mg/Kg	<0.4009	<0.2016	<0.1983	<0.3984	<0.1992	<0.2011	<0.2008	<0.4013	<0.4004	<0.3996	<0.3974	<0.2001	<0.2013	<0.4019	<0.4023
Azobenzene	5.10E+01	(3)	2.30E+02	(6)	3.69E-01	(8)	3.69E-01	-	mg/Kg	<0.4009	<0.2016	<0.1983	<0.3984	<0.1992	<0.2011	<0.2008	<0.4013	<0.4004	<0.3996	<0.3974	<0.2001	<0.2013	<0.4019	<0.4023
Benz(a)anthracene	1.48E+00	(1)	2.13E+02	(4)	3.61E+01	(7)	1.48E+00	-	mg/Kg	<0.4009	<0.2016	<0.1983	<0.3984	<0.1992	<0.2011	<0.2008	<0.4013	<0.4004	<0.3996	<0.3974	<0.2001	<0.2013	<0.4019	<0.4023
Benzo(a)pyrene	1.48E-01	(1)	2.13E+01	(4)	1.20E+01	(7)	1.48E-01	-	mg/Kg	<0.4009	<0.2016	<0.1983	<0.3984	<0.1992	<0.2011	<0.2008	<0.4013	<0.4004	<0.3996	<0.3974	<0.2001	<0.2013	<0.4019	<0.4023
Benzo(b)fluoranthene	1.48E+00	(1)	2.13E+02	(4)	1.22E+02	(7)	1.48E+00	-	mg/Kg	<0.4009	<0.2016	<0.1983	<0.3984	<0.1992	<0.2011	<0.2008	<0.4013	<0.4004	<0.3996	<0.3974	<0.2001	<0.2013	<0.4019	<0.4023
Benzo(g,h,i)perylene	-	-	-	-	-	-	-	-	mg/Kg	<0.4009	<0.2016	<0.1983	<0.3984	<0.1992	<0.2011	<0.2008	<0.4013	<0.4004	<0.3996	<0.3974	<0.2001	<0.2013	<0.4019	<0.4023
Benzo(k)fluoranthene	1.48E+01	(1)	2.06E+03	(4)	1.20E+03	(7)	1.48E+01	-	mg/Kg	<0.4009	<0.2016	<0.1983	<0.3984	<0.1992	<0.2011	<0.2008	<0.4013	<0.4004	<0.3996	<0.3974	<0.2001	<0.2013	<0.4019	<0.4023
Benzoic acid	2.40E+05	(2)	2.50E+06	(5)	6.45E+03	(8)	6.45E+03	-	mg/Kg	<1.0023	<0.504	<0.4957	<0.996	<0.498	<0.5028	<0.502	<1.0033	<1.001	<0.999	<0.9934	<0.5002	<0.5032	<1.0047	<1.0057
Benzyl alcohol	6.10E+03	(2)	6.20E+04	(5)	1.71E+02	(8)	1.71E+02	-	mg/Kg	<0.4009	<0.2016	<0.1983	<0.3984	<0.1992	<0.2011	<0.2008	<0.4013	<0.4004	<0.3996	<0.3974	<0.2001	<0.2013	<0.4019	<0.4023
Bis(2-chloroethoxy)methane	1.80E+02	(2)	1.80E+03	(5)	5.07E+00	(8)	5.07E+00	-	mg/Kg	<0.4009	<0.2016	<0.1983	<0.3984	<0.1992	<0.2011	<0.2008	<0.4013	<0.4004	<0.3996	<0.3974	<0.2001	<0.2013	<0.4019	<0.4023
Bis(2-chloroethyl)ether	2.68E+00	(1)	7.78E+01	(4)	1.21E-02	(7)	1.21E-02	-	mg/Kg	<0.4009	<0.2016	<0.1983	<0.3984	<0.1992	<0.2011	<0.2008	<0.4013	<0.4004	<0.3996	<0.3974	<0.2001	<0.2013	<0.4019	<0.4023
Bis(2-chloroisopropyl)ether	9.15E+01	(1)	3.10E+03	(4)	1.07E+00	(7)	1.07E+00	-	mg/Kg	<0.4009	<0.2016	<0.1983	<0.3984	<0.1992	<0.2011	<0.2008	<0.4013	<0.4004	<0.3996	<0.3974	<0.2001	<0.2013	<0.4019	<0.4023
Bis(2-ethylhexyl)phthalate	3.47E+02	(1)	4.76E+03	(4)	3.97E+03	(7)	3.47E+02	-	mg/Kg	<1.0023	<0.504	<0.4957	1.5	<0.498	<0.5028	<0.502	<1.0033	<1.001	<0.999	<0.9934	<0.5002	<0.5032	<1.0047	<1.0057
Butyl benzyl phthalate	2.60E+03	(3)	9.10E+03	(6)	9.22E+01	(8)	9.22E+01	-	mg/Kg	<0.4009	<0.2016	<0.1983	<0.3984	<0.1992	<0.2011	<0.2008	<0.4013	<0.4004	<0.3996	<0.3974	<0.2001	<0.2013	<0.4019	<0.4023
Carbazole	-	-	-	-	-	-	-	-	mg/Kg	<0.4009	<0.2016	<0.1983	<0.3984	<0.1992	<0.2011	<0.2008	<0.4013	<0.4004	<0.3996	<0.3974	<0.2001	<0.2013	<0.4019	<0.4023
Chrysene	1.48E+02	(1)	2.06E+04	(4)	3.68E+03	(7)	1.48E+02	-	mg/Kg	<0.4009	<0.2016	<0.1983	<0.3984	<0.1992	<0.2011	<0.2008	<0.4013	<0.4004	<0.3996	<0.3974	<0.2001	<0.2013	<0.4019	<0.4023
Dibenz(a,h)anthracene	1.48E-01	(1)	2.13E+01	(4)	3.90E+01	(7)	1.48E-01	-	mg/Kg	<0.4009	<0.2016	<0.1983	<0.3984	<0.1992	<0.2011	<0.2008	<0.4013	<0.4004	<0.3996	<0.3974	<0.2001	<0.2013	<0.4019	<0.4023
Dibenzofuran	7.80E+01	(2)	1.00E+03	(5)	5.07E+01	(8)	5.07E+01	-	mg/Kg	<0.4009	<0.2016	<0.1983	<0.3984	<0.1992	<0.2011	<0.2008	<0.4013	<0.4004	<0.3996	<0.3974	<0.2001	<0.2013	<0.4019	<0.4023
Diethyl phthalate	4.89E+04	(1)	1.91E+05	(4)	4.45E+03	(7)	4.45E+03	-	mg/Kg	<0.4009	<0.2016	<0.1983	<0.3984	<0.1992	<0.2011	<0.2008	<0.4013	<0.4004	<0.3996	<0.3974	<0.2001	<0.2013	<0.4019	<0.4023
Dimethyl phthalate	6.11E+05	(1)	2.38E+06	(4)	3.71E+04	(7)	3.71E+04	-	mg/Kg	<0.4009	<0.2016	<0.1983	<0.3984	<0.1992	<0.2011	<0.2008	<0.4013	<0.4004	<0.3996	<0.3974	<0.2001	<0.2013	<0.4019	<0.4023
Di-n-butyl phthalate	6.11E+03	(1)	2.38E+04	(4)	3.21E+03	(7)	3.21E+03	-	mg/Kg	<1.0023	<0.504	<0.4957	<0.996	<0.498	<0.5028	<0.502	<1.0033	<1.001	<0.999	<0.9934	<0.5002	<0.5032	<1.0047	<1.0057
Di-n-octyl phthalate	-	-	-	-	-	-	-	-	mg/Kg	<0.8019	<0.4032	<0.3966	<0.7968	<0.3984	<0.4023	<0.4016	<0.8027	<0.8008	<0.7992	<0.7947	<0.4001	<0.4025	<0.8038	<0.8046
Fluoranthene	2.29E+03	(1)	8.91E+03	(4)	5.61E+04	(7)	2.29E+03	-	mg/Kg	<0.4009	<0.2016	<0.1983	<0.3984	<0.1992	<0.2011	<0.2008	<0.4013	<0.4004	<0.3996	<0.3974	<0.2001	<0.2013	<0.4019	<0.4023
Fluorene	2.29E+03	(1)	8.91E+03	(4)	9.36E+03	(7)	2.29E+03	-	mg/Kg	<0.4009	<0.2016	<0.1983	<0.3984	<0.1992	<0.2011	<0.2008	<0.4013	<0.4004	<0.3996	<0.3974	<0.2001	<0.2013	<0.4019	<0.4023
Hexachlorobenzene	3.04E+00	(1)	1.03E+02	(4)	1.83E+00	(7)	1.83E+00	-	mg/Kg	<0.4009	<0.2016	<0.1983	<0.3984	<0.1992	<0.2011	<0.2008	<0.4013	<0.4004	<0.3996	<0.3974	<0.2001	<0.2013	<0.4019	<0.4023
Hexachlorobutadiene	6.11E+01	(1)	2.38E+02	(4)	5.91E+00	(7)	5.91E+00	-	mg/Kg	<0.4009	<0.2016	<0.1983	<0.3984	<0.1992	<0.2011	<0.2008	<0.4013	<0.4004	<0.3996	<0.3974	<0.2001	<0.2013	<0.4019	<0.4023
Hexachlorocyclopentadiene	3.67E+02	(1)	8.11E+02	(4)	2.43E+02	(7)	2.43E+02	-	mg/Kg	<0.4009	<0.2016	<0.1983	<0.3984	<0.1992	<0.2011	<0.2008	<0.4013	&						

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

Analytes	Residential Soil Screening Level	Source	Non- Residential Soil Screening Level	Source	Leachate DAF (461) (mg/kg) SoilGW NMED	Source	Min	Background Concentrations (11)	Units	SWMU 1-13 (1.5-2')	SWMU 1-13 (2-4')	SWMU 1-13 (4-6')	SWMU 1-14 (0-0.5')	SWMU 1-14 (1.5-2')	SWMU 1-15 (0-0.5')	SWMU 1-15 (1.5-2')	SWMU 1-16 (0-0.5')	SWMU 1-16 (1.5-2')	SWMU 1-17 (0-0.5')	SWMU 1-17 (1-1.5')	SWMU 1-18 (0-0.5')	SWMU 1-18 (1-1.5')	SWMU 1-19 (0-0.5')	SWMU 1-20 (0-0.5')
										1210692-022 10/12/2012	1210692-023 10/12/2012	1210692-024 10/12/2012	1210811-009 10/15/2012	1210811-010 10/15/2012	1210811-012 10/15/2012	1210811-013 10/15/2012	1210811-014 10/15/2012	1210811-015 10/15/2012	1210811-016 10/15/2012	1210811-017 10/15/2012	1210858-001 10/16/2012	1210858-002 10/16/2012	1210858-003 10/16/2012	1210692-001 10/11/2012
Total Petroleum Hydrocarbons - (EPA Method 8015B) mg/kg																								
Diesel Range Organics (DRO)	1.00E+03	(10)	1.00E+03	(10)	1.00E+03	(10)	-	-	mg/Kg	16	<10	<10	58	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Gasoline Range Organics (GRO)	-	-	-	-	-	-	-	-	mg/Kg	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Motor Oil Range Organics (MRO)	1.00E+03	(10)	1.00E+03	(10)	1.00E+03	(10)	-	-	mg/Kg	<51	<50	<49	94	<48	<49	<48	<49	<50	<51	<49	<50	<50	<52	<50

-- No screening level or analytical result available
NMED - Risk Assessment Guidance for Site Investigations and Remediation (June 14, 2012)
EPA - Regional Screening Levels (May 2012)
(1) NMED Residential Screening Level
(2) EPA Residential Screening Level
(3) EPA Residential - Screening Levels (May 2012) multiplied by 10 because the constituent is listed as carcinogenic
(4) NMED Construction Worker Screening Level
(5) EPA Industrial - Screening Levels (May 2012)
(6) EPA Industrial - Screening Levels (May 2012) multiplied by 10 pursuant to Provision VII.B. of the July 7, 2007 NMED Order because the constituent is listed as carcinogenic
(7) SoilGW NMED Dilution Attenuation Factor (DAF) = 461
(8) SoilGW Risk-based EPA DAF = 461
(9) SoilGW MCL-based EPA DAF = 461
(10) NMED Table 6-2 TPH Screening Guidelines for Potable Groundwater "unknown oil" with DAF = 1.0 - see report Section 5 for use of screening levels
(11) Background concentrations to be determined

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

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

Analytes	Residential Soil Screening Level	Source	Non- Residential Soil Screening Level	Source	Leachate DAF (461) (mg/kg) SoilGW NMED	Source	Min	Background Concentrations (11)	Units	SWMU 1-20 (1.5-2')	SWMU 1-20 (10-12')	SWMU 1-20 (4-6')	SWMU 1-21 (0-0.5')	SWMU 1-22 (0-0.5')	SWMU 1-22 (1.5-2')	SWMU 1-23 (0-0.5')	SWMU 1-24 (0-0.5')	SWMU 1-24 (1.5-2')	SWMU 1-24 (10.5-11.5')	SWMU 1-24 (16-18')	SWMU 1-24 (24-26')	SWMU 1-24 (32-34')	SWMU 1-25 (0.5-1')	SWMU 1-25 (0-0.5')
										1210692-003 10/11/2012	1210692-005 10/11/2012	1210692-004 10/11/2012	1210858-004 10/16/2012	1210858-006 10/16/2012	1210858-007 10/16/2012	1210859-001 10/16/2012	1210521-001 10/8/2012	1210521-003 10/8/2012	1210521-004 10/8/2012	1210521-005 10/8/2012	1210521-006 10/8/2012	1210521-007 10/8/2012	1210859-004 10/16/2012	1210859-003 10/16/2012
Metals (mg/kg)																								
Antimony	3.13E+01	(1)	1.24E+02	(4)	3.05E+02	(7)	3.13E+01	-	mg/Kg	<12.5002	<5	<5	<5	<5	<5	<5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<5	<5
Arsenic	3.90E+00	(1)	5.30E+01	(4)	6.05E+00	(7)	3.90E+00	-	mg/Kg	<3.1	2.1J	2.4J	2.1J	3.5J	1.9J	2.7J	<3.1	<3.1	<3.1	<3.1	<3.1	<3.1	3.7J	3.7J
Barium	1.56E+04	(1)	4.35E+03	(4)	1.39E+05	(7)	4.35E+03	-	mg/Kg	1000	1100	190	440	590	500	670	220	330	360	480	160	220	360	370
Beryllium	1.56E+02	(1)	1.44E+02	(4)	2.66E+04	(7)	1.44E+02	-	mg/Kg	<0.75	1	0.97	0.77	0.89	0.69	0.69	<0.75	0.86	<0.75	<0.75	0.89	<0.75	0.45	0.53
Cadmium	7.03E+01	(1)	2.77E+02	(4)	6.33E+02	(7)	7.03E+01	-	mg/Kg	<0.5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<0.2
Chromium III	1.17E+05	(1)	4.65E+05	(4)	4.54E+10	(7)	1.17E+05	-	mg/Kg	11	12	10	9.9	14	9.8	16	9.5	7.4	4.9	5.9	9.9	8.1	12	14
Chromium VI	2.97E+00	(1)	6.56E+01	(4)	3.83E+00	(7)	2.97E+00	-	mg/Kg	11	12	10	9.9	14	9.8	16	9.5	7.4	4.9	5.9	9.9	8.1	12	14
Cobalt	2.30E+01	(2)	3.00E+02	(5)	9.68E+01	(8)	2.30E+01	-	mg/Kg	4.7	5.8	4.9	4.1	5.3	3.8	4	5.1	4.4	3.9	3	4.8	3.9	4.3	3.2
Cyanide	4.69E+01	(1)	1.86E+02	(4)	1.02E+02	(7)	4.69E+01	-	mg/Kg	<0.256	<0.293	<0.278	<0.274	<0.282	<0.273	<0.253	<0.3	<0.3	<0.3	<0.3	0.908	<0.3	<0.268	<0.259
Iron	5.48E+04	(1)	2.17E+05	(4)	2.98E+05	(7)	5.48E+04	-	mg/Kg	16000	18000	17000	14000	22000	14000	14000	20000	12000	10000	9500	13000	24000	10000	11000
Lead	4.00E+02	(1)	8.00E+02	(4)	6.45E+03	(8)	4.00E+02	-	mg/Kg	3.9	1.5	2.8	2.6	3.5	2.4	3	9.3	4.4	5.2	4.9	3.4	8.6	4.1	5.6
Manganese	1.86E+03	(1)	4.40E+02	(4)	2.64E+04	(7)	4.40E+02	-	mg/Kg	950	540	330	450	530	330	980	520	410	710	790	640	730	270	310
Mercury	1.56E+01	(1)	1.36E+01	(4)	1.51E+01	(7)	1.36E+01	-	mg/Kg	<0.033	<0.033	<0.033	<0.033	0.034	<0.033	0.11	<0.033	<0.033	<0.033	<0.033	<0.033	<0.033	0.034	<0.033
Nickel	1.56E+03	(1)	6.19E+03	(4)	2.20E+04	(7)	1.56E+03	-	mg/Kg	7.3	12	8.6	7.5	8.6	6.9	7.9	9	7	5.6	4.7	7.7	5	9.8	8.6
Selenium	3.91E+02	(1)	1.55E+03	(4)	4.45E+02	(7)	3.91E+02	-	mg/Kg	<12.5002	<5	<5	<5	<5	<5	<5	<12.5	<12.5	<12.5	<12.5	<5	<12.5	<5	<5
Silver	3.91E+02	(1)	1.55E+03	(4)	7.22E+02	(7)	3.91E+02	-	mg/Kg	<1.25	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.25	<1.25	<1.25	<1.25	<1.25	<1.25	<0.5	<0.25
Vanadium	3.91E+02	(1)	1.55E+03	(4)	8.42E+04	(7)	3.91E+02	-	mg/Kg	29	21	17	19	27	18	19	24	14	13	16	23	53	20	21
Zinc	2.35E+04	(1)	9.29E+04	(4)	3.14E+05	(7)	2.35E+04	-	mg/Kg	17	24	16	17	26	15	21	34	13	<12.5	<12.5	17	<12.5	28	27
Volatile Organic Compounds - (EPA Method 8260) mg/kg																								
1,1,1,2-Tetrachloroethane	2.91E+01	(1)	7.79E+02	(4)	7.59E-01	(7)	7.59E-01	-	mg/Kg	<0.0009	<0.0009	<0.0007	<0.001	<0.0009	<0.0009	<0.0009	<0.0008	<0.0007	<0.0007	<0.0011	<0.0015	<0.001	<0.0011	<0.0008
1,1,1-Trichloroethane	1.56E+04	(1)	1.48E+04	(4)	1.34E+03	(7)	1.34E+03	-	mg/Kg	<0.0009	<0.0009	<0.0007	<0.001	<0.0009	<0.0009	<0.0009	<0.0008	<0.0007	<0.0007	<0.0011	<0.0015	<0.001	<0.0011	<0.0008
1,1,2,2-Tetrachloroethane	8.02E+00	(1)	2.21E+02	(4)	9.82E-02	(7)	9.82E-02	-	mg/Kg	<0.0009	<0.0009	<0.0007	<0.001	<0.0009	<0.0009	<0.0009	<0.0008	<0.0007	<0.0007	<0.0011	<0.0015	<0.001	<0.0011	<0.0008
1,1,2-Trichloroethane	2.81E+00	(1)	4.72E+02	(4)	5.14E-02	(7)	5.14E-02	-	mg/Kg	<0.0009	<0.0009	<0.0007	<0.001	<0.0009	<0.0009	<0.0009	<0.0008	<0.0007	<0.0007	<0.0011	<0.0015	<0.001	<0.0011	<0.0008
1,1-Dichloroethane	6.45E+01	(1)	1.70E+03	(4)	2.75E+00	(7)	2.75E+00	-	mg/Kg	<0.0009	<0.0009	<0.0007	<0.001	<0.0009	<0.0009	<0.0009	<0.0008	<0.0007	<0.0007	<0.0011	<0.0015	<0.001	<0.0011	<0.0008
1,1-Dichloroethene	4.49E+02	(1)	4.32E+02	(4)	5.36E+01	(7)	5.36E+01	-	mg/Kg	<0.0009	<0.0009	<0.0007	<0.001	<0.0009	<0.0009	<0.0009	<0.0008	<0.0007	<0.0007	<0.0011	<0.0015	<0.001	<0.0011	<0.0008
1,1-Dichloropropene	-	-	-	-	-	-	-	-	mg/Kg	<0.0009	<0.0009	<0.0007	<0.001	<0.0009	<0.0009	<0.0009	<0.0008	<0.0007	<0.0007	<0.0011	<0.0015	<0.001	<0.0011	<0.0008
1,2,3-Trichlorobenzene	4.90E+01	(2)	4.90E+02	(5)	6.92E+00	(8)	6.92E+00	-	mg/Kg	<0.0009	<0.0009	<0.0007	<0.001	<0.0009	<0.0009	<0.0009	<0.0008	<0.0007	<0.0007	<0.0011	<0.0015	<0.001	<0.0011	<0.0008
1,2,3-Trichloropropane	4.97E-02	(1)	7.23E+00	(4)	1.15E-03	(7)	1.15E-03	-	mg/Kg	<0.0009	<0.0009	<0.0007	<0.001	<0.0009	<0.0009	<0.0009	<0.0008	<0.0007	<0.0007	<0.0011	<0.0015	<0.001	<0.0011	<0.0008
1,2,4-Trichlorobenzene	7.30E+01	(1)	6.87E+01	(4)	4.21E+00	(7)	4.21E+00	-	mg/Kg	<0.0009	<0.0009	<0.0007	<0.001	<0.0009	<0.0009	<0.0009	<0.0008	<0.0007	<0.0007	<0.0011	<0.0015	<0.001	<0.0011	<0.0008
1,2,4-Trimethylbenzene	6.20E+01	(2)	2.60E+02	(5)	9.68E+00	(8)	9.68E+00	-	mg/Kg	<0.0009	<0.0009	<0.0007	<0.001	<0.0009	<0.0009	0.00102	0.00108	<0.0007	<0.0007	0.00202	0.0306	<0.001	0.0011	<0.0008
1,2-Dibromo-3-chloropropane	1.86E+00	(1)	5.07E+00	(4)	5.07E-04	(7)	5.07E-04	-	mg/Kg	<0.0009	<0.0009	<0.0007	<0.001	<0.0009	<0.0009	<0.0009	<0.0008	<0.0007	<0.0007	<0.0011	<0.0015	<0.001	<0.0011	<0.0008
1,2-Dibromoethane (EDB)	5.88E-01	(1)	1.60E+01	(4)	7.10E-03	(7)	7.10E-03	-	mg/Kg	<0.0009	<0.0009	<0.0007	<0.001	<0.0009	<0.0009	<0.0009	<0.0008	<0.0007	<0.0007	<0.0011	<0.0015	<0.001	<0.0011	<0.0008
1,2-Dichlorobenzene	2.31E+03	(1)	2.71E+03	(4)	1.29E+02	(7)	1.29E+02	-	mg/Kg	<0.0009	<0.0009	<0.0007	<0.001	<0.0009	<0.0009	<0.0009	<0.0008	<0.0007	<0.0007	<0.0011	<0.0015	<0.001	<0.0011	<0.0008
1,2-Dichloroethane (EDC)	7.89E+00	(1)	5.87E+01	(4)	1.64E-01	(7)	1.64E-01	-	mg/Kg	<0.0009	<0.0009	<0.0007	<0.001	<0.0009	<0.0009	<0.0009	<0.0008	<0.0007	<0.0007	<0.0011	<0.0015	<0.001	<0.0011	<0.0008
1,2-Dichloropropane	1.52E+01	(1)	2.50E+01	(4)	4.94E-01	(7)	4.94E-01	-	mg/Kg	<0.0009	<0.0009	<0.0007	<0.001	<0.0009	<0.0009	<0.0009	<0.0008	<0.0007	<0.0007	<0.0011	<0.0015	<0.001	<0.0011	<0.0008
1,3,5-Trimethylbenzene	7.80E+02	(2)	1.00E+04	(5)	5.53E+01	(8)	5.53E+01	-	mg/Kg	<0.0009	<0.0009	<0.0007	<0.001	<0.0009	<0.0009	<0.0009	<0.0008	<0.0007	<0.0007	<0.0011	0.00599	<0.001	<0.0011	<0.0008
1,3-Dichlorobenzene	-	-	-	-	-	-	-	-	mg/Kg	<0.0009	<0.0009	<0.0007	<0.001	<0.0009	<0.0009	<0.0009	<0.0008	<0.0007	<0.0007	<0.0011	<0.0015	<0.001	<0.0011	<0.0008
1,3-Dichloropropane	1.60E+03	(2)	2.00E+04	(5)	4.56E+01	(8)	4.56E+01	-	mg/Kg	<0.0009	<0.0009	<0.0007	<0.001	<0.0009	<0.0009	<0.0009	<0.0008	<0.0007	<0.0007	<0.0011	<0.0015	<0.001	<0.0011	<0.0008
1,4-Dichlorobenzene	3.17E+01	(1)	8.31E+02	(4)	1.47E+00	(7)	1.47E+00	-	mg/Kg	<0.0009	<0.0009	<0.0007	<0.001	<0.0009	<0.0009	<0.0009	<0.0008	<0.0007	<0.0007	<0.0011	<0.0015	<0.001	<0.0011	<0.0008
1-Methylnaphthalene	1.60E+02	(3)	5.30E+02	(6)	2.35E+00	(8)	2.35E+00	-	mg/Kg	<0.0036	<0.0038	<0.003	<0.0042	<0.0038	<0.0035	<0.0034	<0.0032	<0.0029	<0.0029	<0.0044	0.0456	<0.0042	<0.0042	<0.0032
2,2-Dichloropropane	-	-	-	-	-	-	-	-	mg/Kg	<0.0009	<0.0009	<0.0007	<0.001	<0.0009	<0.0009	<0.0009	<0.0008	<0.0007	<0.0007	<0.0011	<0.0015	<0.001	<0.0011	<0.0008
2-Butanone (MEK)	3.71E+04	(1)	8.43E+04	(4)	5.87E+02	(7)	5.87E+02	-	mg/Kg	<0.009	<0.0094	<0.0075	<0.0104	<0.0094	<0.0088	0.00903	0.00862	0.00925	<0.0074	0.02	0.0179	<0.0104	<0.0106	<0.0079
2-Chlorotoluene	1.56E+03	(1)	6.19E+03	(4)	2.57E+02	(7)	2.57E+02	-	mg/Kg	<0.0009	<0.0009	<0.0007	<0.001	<0.0009	<0.0009	<0.0009	<0.0008	<0.0007	<0.0007	<0.0011	<0.0015	<0.001	<0.0011	<0.0008
2-Hexanone	9.38E+02	(1)	9.73E+02	(4)	3.53E+03	(7)	9.38E+02	-	mg/Kg	<0.009	<0.0094	<0.007												

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

Analytes	Residential Soil Screening Level	Source	Non- Residential Soil Screening Level	Source	Leachate DAF (461) (mg/kg) SoilGW NMED	Source	Min	Background Concentrations (11)	Units	SWMU 1-20 (1.5-2')	SWMU 1-20 (10-12')	SWMU 1-20 (4-6')	SWMU 1-21 (0-0.5')	SWMU 1-22 (0-0.5')	SWMU 1-22 (1.5-2')	SWMU 1-23 (0-0.5')	SWMU 1-24 (0-0.5')	SWMU 1-24 (1.5-2')	SWMU 1-24 (10.5-11.5')	SWMU 1-24 (16-18')	SWMU 1-24 (24-26')	SWMU 1-24 (32-34')	SWMU 1-25 (0.5-1')	SWMU 1-25 (0-0.5')
										1210692-003 10/11/2012	1210692-005 10/11/2012	1210692-004 10/11/2012	1210858-004 10/16/2012	1210858-006 10/16/2012	1210858-007 10/16/2012	1210859-001 10/16/2012	1210521-001 10/8/2012	1210521-003 10/8/2012	1210521-004 10/8/2012	1210521-005 10/8/2012	1210521-006 10/8/2012	1210521-007 10/8/2012	1210859-004 10/16/2012	1210859-003 10/16/2012
Bromodichloromethane	5.41E+00	(1)	1.43E+02	(4)	1.25E-01	(7)	1.25E-01	-	mg/Kg	<0.0009	<0.0009	<0.0007	<0.001	<0.0009	<0.0009	<0.0009	<0.0008	<0.0007	<0.0007	<0.0011	<0.0015	<0.001	<0.0011	<0.0008
Bromoform	6.16E+02	(1)	4.76E+03	(4)	2.78E+02	(7)	2.78E+02	-	mg/Kg	<0.0009	<0.0009	<0.0007	<0.001	<0.0009	<0.0009	<0.0009	<0.0008	<0.0007	<0.0007	<0.0011	<0.0015	<0.001	<0.0011	<0.0008
Bromomethane	1.65E+01	(1)	1.64E+01	(4)	8.86E-01	(7)	8.86E-01	-	mg/Kg	<0.0009	<0.0009	<0.0007	<0.001	<0.0009	<0.0009	<0.0009	<0.0008	<0.0007	<0.0007	<0.0011	<0.0015	<0.001	<0.0011	<0.0008
Carbon disulfide	1.53E+03	(1)	1.58E+03	(4)	1.30E+02	(7)	1.30E+02	-	mg/Kg	<0.009	<0.0094	<0.0075	<0.0104	<0.0094	<0.0088	0.0156	<0.0079	<0.0073	<0.0074	<0.0109	<0.0145	<0.0104	<0.0106	<0.0079
Carbon tetrachloride	1.08E+01	(1)	2.26E+02	(4)	7.39E-01	(7)	7.39E-01	-	mg/Kg	<0.0009	<0.0009	<0.0007	<0.001	<0.0009	<0.0009	<0.0009	<0.0008	<0.0007	<0.0007	<0.0011	<0.0015	<0.001	<0.0011	<0.0008
Chlorobenzene	3.76E+02	(1)	4.06E+02	(4)	2.27E+01	(7)	2.27E+01	-	mg/Kg	<0.0009	<0.0009	<0.0007	<0.001	<0.0009	<0.0009	<0.0009	<0.0008	<0.0007	<0.0007	<0.0011	<0.0015	<0.001	<0.0011	<0.0008
Chloroethane	2.98E+04	(1)	2.61E+04	(4)	2.48E+03	(7)	2.48E+03	-	mg/Kg	<0.0009	<0.0009	<0.0007	<0.001	<0.0009	<0.0009	<0.0009	<0.0008	<0.0007	<0.0007	<0.0011	<0.0015	<0.001	<0.0011	<0.0008
Chloroform	5.86E+00	(1)	1.54E+02	(4)	2.12E-01	(7)	2.12E-01	-	mg/Kg	<0.0009	<0.0009	<0.0007	<0.001	<0.0009	<0.0009	<0.0009	<0.0008	<0.0007	<0.0007	<0.0011	<0.0015	<0.001	<0.0011	<0.0008
Chloromethane	2.75E+02	(1)	2.41E+02	(4)	2.03E+01	(7)	2.03E+01	-	mg/Kg	<0.0009	<0.0009	<0.0007	<0.001	<0.0009	<0.0009	<0.0009	<0.0008	<0.0007	<0.0007	<0.0011	<0.0015	<0.001	<0.0011	<0.0008
cis-1,2-DCE	1.56E+02	(1)	6.19E+02	(4)	8.47E+00	(7)	8.47E+00	-	mg/Kg	<0.0009	<0.0009	<0.0007	<0.001	<0.0009	<0.0009	<0.0009	<0.0008	<0.0007	<0.0007	<0.0011	<0.0015	<0.001	<0.0011	<0.0008
cis-1,3-Dichloropropene	3.37E+01	(1)	2.09E+02	(4)	5.71E-01	(7)	5.71E-01	-	mg/Kg	<0.0009	<0.0009	<0.0007	<0.001	<0.0009	<0.0009	<0.0009	<0.0008	<0.0007	<0.0007	<0.0011	<0.0015	<0.001	<0.0011	<0.0008
Dibromochloromethane	1.21E+01	(1)	3.32E+02	(4)	1.52E-01	(7)	1.52E-01	-	mg/Kg	<0.0009	<0.0009	<0.0007	<0.001	<0.0009	<0.0009	<0.0009	<0.0008	<0.0007	<0.0007	<0.0011	<0.0015	<0.001	<0.0011	<0.0008
Dibromomethane	5.16E+01	(1)	3.10E+03	(4)	7.89E-01	(7)	7.89E-01	-	mg/Kg	<0.0009	<0.0009	<0.0007	<0.001	<0.0009	<0.0009	<0.0009	<0.0008	<0.0007	<0.0007	<0.0011	<0.0015	<0.001	<0.0011	<0.0008
Dichlorodifluoromethane	1.68E+02	(1)	1.49E+02	(4)	1.71E+02	(7)	1.49E+02	-	mg/Kg	<0.0009	<0.0009	<0.0007	<0.001	<0.0009	<0.0009	<0.0009	<0.0008	<0.0007	<0.0007	<0.0011	<0.0015	<0.001	<0.0011	<0.0008
Ethylbenzene	6.84E+01	(1)	1.83E+03	(4)	5.98E+00	(7)	5.98E+00	-	mg/Kg	<0.0009	<0.0009	<0.0007	<0.001	<0.0009	<0.0009	<0.0009	<0.0008	<0.0007	<0.0007	<0.0011	0.00733	<0.001	0.00115	<0.0008
Hexachlorobutadiene	6.11E+01	(1)	2.38E+02	(4)	5.91E+00	(7)	5.91E+00	-	mg/Kg	<0.0009	<0.0009	<0.0007	<0.001	<0.0009	<0.0009	<0.0009	<0.0008	<0.0007	<0.0007	<0.0011	<0.0015	<0.001	<0.0011	<0.0008
Isopropylbenzene	2.43E+03	(1)	2.81E+03	(4)	3.99E+02	(7)	3.99E+02	-	mg/Kg	<0.0009	<0.0009	<0.0007	<0.001	<0.0009	<0.0009	<0.0009	<0.0008	<0.0007	<0.0007	<0.0011	0.00161	<0.001	<0.0011	<0.0008
Methyl tert-butyl ether (MTBE)	9.01E+02	(1)	2.49E+04	(4)	1.11E+01	(7)	1.11E+01	-	mg/Kg	<0.0009	<0.0009	<0.0007	<0.001	<0.0009	<0.0009	<0.0009	<0.0008	<0.0007	<0.0007	<0.0011	0.00571	0.00166	<0.0011	<0.0008
Methylene chloride	4.09E+02	(1)	1.12E+03	(4)	1.90E+01	(7)	1.90E+01	-	mg/Kg	<0.0027	<0.0028	<0.0022	<0.0031	<0.0028	<0.0026	<0.0026	<0.0024	<0.0022	<0.0022	<0.0033	<0.0044	<0.0031	<0.0032	<0.0024
Naphthalene	4.30E+01	(1)	1.58E+02	(4)	1.64E+00	(7)	1.64E+00	-	mg/Kg	<0.0018	<0.0019	<0.0015	<0.0021	<0.0019	<0.0018	<0.0017	<0.0016	<0.0015	<0.0015	<0.0022	0.0727	<0.0021	<0.0021	<0.0016
n-Butylbenzene	3.90E+03	(2)	5.10E+04	(5)	1.15E+03	(8)	1.15E+03	-	mg/Kg	<0.0009	<0.0009	<0.0007	<0.001	<0.0009	<0.0009	<0.0009	<0.0008	<0.0007	<0.0007	<0.0011	<0.0015	<0.001	<0.0011	<0.0008
n-Propylbenzene	3.40E+03	(2)	2.10E+04	(5)	4.56E+02	(8)	4.56E+02	-	mg/Kg	<0.0009	<0.0009	<0.0007	<0.001	<0.0009	<0.0009	<0.0009	<0.0008	<0.0007	<0.0007	<0.0011	0.00318	<0.001	<0.0011	<0.0008
sec-Butylbenzene	-	-	-	-	-	-	-	-	mg/Kg	<0.0009	<0.0009	<0.0007	<0.001	<0.0009	<0.0009	<0.0009	<0.0008	<0.0007	<0.0007	<0.0011	<0.0015	<0.001	<0.0011	<0.0008
Styrene	7.28E+03	(1)	9.99E+03	(4)	6.40E+02	(7)	6.40E+02	-	mg/Kg	<0.0009	<0.0009	<0.0007	<0.001	<0.0009	<0.0009	<0.0009	<0.0008	<0.0007	<0.0007	<0.0011	<0.0015	<0.001	<0.0011	<0.0008
tert-Butylbenzene	-	-	-	-	-	-	-	-	mg/Kg	<0.0009	<0.0009	<0.0007	&lt											

Table 7
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Western Refining Southwest, Inc. - Gallup Refinery
Gallup, New Mexico

Analytes	Residential Soil Screening Level	Source	Non- Residential Soil Screening Level	Source	Leachate DAF (461) (mg/kg) SoilGW NMED	Source	Min	Background Concentrations (11)	Units	SWMU 1-20 (1.5-2')	SWMU 1-20 (10-12')	SWMU 1-20 (4-6')	SWMU 1-21 (0-0.5')	SWMU 1-22 (0-0.5')	SWMU 1-22 (1.5-2')	SWMU 1-23 (0-0.5')	SWMU 1-24 (0-0.5')	SWMU 1-24 (1.5-2')	SWMU 1-24 (10.5-11.5')	SWMU 1-24 (16-18')	SWMU 1-24 (24-26')	SWMU 1-24 (32-34')	SWMU 1-25 (0.5-1')	SWMU 1-25 (0-0.5')
										1210692-003 10/11/2012	1210692-005 10/11/2012	1210692-004 10/11/2012	1210858-004 10/16/2012	1210858-006 10/16/2012	1210858-007 10/16/2012	1210859-001 10/16/2012	1210521-001 10/8/2012	1210521-003 10/8/2012	1210521-004 10/8/2012	1210521-005 10/8/2012	1210521-006 10/8/2012	1210521-007 10/8/2012	1210859-004 10/16/2012	1210859-003 10/16/2012
3,3'-Dichlorobenzidine	1.08E+01	(1)	3.64E+02	(4)	3.41E+00	(7)	3.41E+00	-	mg/Kg	<0.2499	<0.2502	<0.2509	<0.2488	<0.5025	<0.2493	<0.5022	<1.2384	<0.2499	<0.2498	<0.2502	<0.2485	<0.2525	<1.2405	<1.255
3+4-Methylphenol	-	-	-	-	-	-	-	-	mg/Kg	<0.1999	<0.2001	<0.2007	<0.199	<0.402	<0.1995	<0.4017	<0.9908	<0.1999	<0.1999	<0.2001	<0.1988	<0.202	<0.9924	<1.004
3-Nitroaniline	-	-	-	-	-	-	-	-	mg/Kg	<0.1999	<0.2001	<0.2007	<0.199	<0.402	<0.1995	<0.4017	<0.9908	<0.1999	<0.1999	<0.2001	<0.1988	<0.202	<0.9924	<1.004
4,6-Dinitro-2-methylphenol	4.90E+00	(2)	4.90E+01	(5)	9.22E-01	(8)	9.22E-01	-	mg/Kg	<0.4998	<0.5003	<0.5018	<0.4975	<1.005	<0.4987	<1.0044	<2.4769	<0.4998	<0.4997	<0.5003	<0.497	<0.5051	<2.481	<2.51
4-Bromophenyl phenyl ether	-	-	-	-	-	-	-	-	mg/Kg	<0.1999	<0.2001	<0.2007	<0.199	<0.402	<0.1995	<0.4017	<0.9908	<0.1999	<0.1999	<0.2001	<0.1988	<0.202	<0.9924	<1.004
4-Chloro-3-methylphenol	6.10E+03	(2)	6.20E+04	(5)	5.99E+02	(8)	5.99E+02	-	mg/Kg	<0.4998	<0.5003	<0.5018	<0.4975	<1.005	<0.4987	<1.0044	<2.4769	<0.4998	<0.4997	<0.5003	<0.497	<0.5051	<2.481	<2.51
4-Chloroaniline	2.40E+01	(3)	8.60E+01	(6)	5.99E-02	(8)	5.99E-02	-	mg/Kg	<0.4998	<0.5003	<0.5018	<0.4975	<1.005	<0.4987	<1.0044	<2.4769	<0.4998	<0.4997	<0.5003	<0.497	<0.5051	<2.481	<2.51
4-Chlorophenyl phenyl ether	-	-	-	-	-	-	-	-	mg/Kg	<0.1999	<0.2001	<0.2007	<0.199	<0.402	<0.1995	<0.4017	<0.9908	<0.1999	<0.1999	<0.2001	<0.1988	<0.202	<0.9924	<1.004
4-Nitroaniline	2.40E+02	(3)	8.60E+02	(6)	6.45E-01	(8)	6.45E-01	-	mg/Kg	<0.3999	<0.4003	<0.4015	<0.398	<0.804	<0.3989	<0.8035	<1.9815	<0.3999	<0.3997	<0.4003	<0.3976	<0.404	<1.9848	<2.008
4-Nitrophenol	-	-	-	-	-	-	-	-	mg/Kg	<0.2499	<0.2502	<0.2509	<0.2488	<0.5025	<0.2493	<0.5022	<1.2384	<0.2499	<0.2498	<0.2502	<0.2485	<0.2525	<1.2405	<1.255
Acenaphthene	3.44E+03	(1)	1.86E+04	(4)	7.79E+03	(7)	3.44E+03	-	mg/Kg	<0.1999	<0.2001	<0.2007	<0.199	<0.402	<0.1995	<0.4017	<0.9908	<0.1999	<0.1999	<0.2001	<0.1988	<0.202	<0.9924	<1.004
Acenaphthylene	-	-	-	-	-	-	-	-	mg/Kg	<0.1999	<0.2001	<0.2007	<0.199	<0.402	<0.1995	<0.4017	<0.9908	<0.1999	<0.1999	<0.2001	<0.1988	<0.202	<0.9924	<1.004
Aniline	8.50E+02	(3)	3.00E+03	(6)	1.80E+00	(8)	1.80E+00	-	mg/Kg	<0.1999	<0.2001	<0.2007	<0.199	<0.402	<0.1995	<0.4017	<0.9908	<0.1999	<0.1999	<0.2001	<0.1988	<0.202	<0.9924	<1.004
Anthracene	1.72E+04	(1)	6.68E+04	(4)	1.25E+05	(7)	1.72E+04	-	mg/Kg	<0.1999	<0.2001	<0.2007	<0.199	<0.402	<0.1995	<0.4017	<0.9908	<0.1999	<0.1999	<0.2001	<0.1988	<0.202	<0.9924	<1.004
Azobenzene	5.10E+01	(3)	2.30E+02	(6)	3.69E-01	(8)	3.69E-01	-	mg/Kg	<0.1999	<0.2001	<0.2007	<0.199	<0.402	<0.1995	<0.4017	<0.9908	<0.1999	<0.1999	<0.2001	<0.1988	<0.202	<0.9924	<1.004
Benz(a)anthracene	1.48E+00	(1)	2.13E+02	(4)	3.61E+01	(7)	1.48E+00	-	mg/Kg	<0.1999	<0.2001	<0.2007	<0.199	<0.402	<0.1995	<0.4017	<0.9908	<0.1999	<0.1999	<0.2001	<0.1988	<0.202	<0.9924	<1.004
Benzo(a)pyrene	1.48E-01	(1)	2.13E+01	(4)	1.20E+01	(7)	1.48E-01	-	mg/Kg	<0.1999	<0.2001	<0.2007	<0.199	<0.402	<0.1995	<0.4017	<0.9908	<0.1999	<0.1999	<0.2001	<0.1988	<0.202	<0.9924	<1.004
Benzo(b)fluoranthene	1.48E+00	(1)	2.13E+02	(4)	1.22E+02	(7)	1.48E+00	-	mg/Kg	<0.1999	<0.2001	<0.2007	<0.199	<0.402	<0.1995	<0.4017	<0.9908	<0.1999	<0.1999	<0.2001	<0.1988	<0.202	<0.9924	<1.004
Benzo(g,h,i)perylene	-	-	-	-	-	-	-	-	mg/Kg	<0.1999	<0.2001	<0.2007	<0.199	<0.402	<0.1995	<0.4017	<0.9908	<0.1999	<0.1999	<0.2001	<0.1988	<0.202	<0.9924	<1.004
Benzo(k)fluoranthene	1.48E+01	(1)	2.06E+03	(4)	1.20E+03	(7)	1.48E+01	-	mg/Kg	<0.1999	<0.2001	<0.2007	<0.199	<0.402	<0.1995	<0.4017	<0.9908	<0.1999	<0.1999	<0.2001	<0.1988	<0.202	<0.9924	<1.004
Benzoic acid	2.40E+05	(2)	2.50E+06	(5)	6.45E+03	(8)	6.45E+03	-	mg/Kg	<0.4998	<0.5003	<0.5018	<0.4975	<1.005	<0.4987	<1.0044	<2.4769	<0.4998	<0.4997	<0.5003	<0.497	<0.5051	<2.481	<2.51
Benzyl alcohol	6.10E+03	(2)	6.20E+04	(5)	1.71E+02	(8)	1.71E+02	-	mg/Kg	<0.1999	<0.2001	<0.2007	<0.199	<0.402	<0.1995	<0.4017	<0.9908	<0.1999	<0.1999	<0.2001	<0.1988	<0.202	<0.9924	<1.004
Bis(2-chloroethoxy)methane	1.80E+02	(2)	1.80E+03	(5)	5.07E+00	(8)	5.07E+00	-	mg/Kg	<0.1999	<0.2001	<0.2007	<0.199	<0.402	<0.1995	<0.4017	<0.9908	<0.1999	<0.1999	<0.2001	<0.1988	<0.202	<0.9924	<1.004
Bis(2-chloroethyl)ether	2.68E+00	(1)	7.78E+01	(4)	1.21E-02	(7)	1.21E-02	-	mg/Kg	<0.1999	<0.2001	<0.2007	<0.199	<0.402	<0.1995	<0.4017	<0.9908	<0.1999	<0.1999	<0.2001	<0.1988	<0.202	<0.9924	<1.004
Bis(2-chloroisopropyl)ether	9.15E+01	(1)	3.10E+03	(4)	1.07E+00	(7)	1.07E+00	-	mg/Kg	<0.1999	<0.2001	<0.2007	<0.199	<0.402	<0.1995	<0.4017	<0.9908	<0.1999	<0.1999	<0.2001	<0.1988	<0.202	<0.9924	<1.004
Bis(2-ethylhexyl)phthalate	3.47E+02	(1)	4.76E+03	(4)	3.97E+03	(7)	3.47E+02	-	mg/Kg	<0.4998	<0.5003	<0.5018	<0.4975	<1.005	<0.4987	<1.0044	<2.4769	<0.4998	<0.4997	<0.5003	<0.497	<0.5051	<2.481	<2.51
Butyl benzyl phthalate	2.60E+03	(3)	9.10E+03	(6)	9.22E+01	(8)	9.22E+01	-	mg/Kg	<0.1999	<0.2001	<0.2007	<0.199	<0.402	<0.1995	<0.4017	<0.9908	<0.1999	<0.1999	<0.2001	<0.1988	<0.202	<0.9924	<1.004
Carbazole	-	-	-	-	-	-	-	-	mg/Kg	<0.1999	<0.2001	<0.2007	<0.199	<0.402	<0.1995	<0.4017	<0.9908	<0.1999	<0.1999	<0.2001	<0.1988	<0.202	<0.9924	<1.004
Chrysene	1.48E+02	(1)	2.06E+04	(4)	3.68E+03	(7)	1.48E+02	-	mg/Kg	<0.1999	<0.2001	<0.2007	<0.199	<0.402	<0.1995	<0.4017	<0.9908	<0.1999	<0.1999	<0.2001	<0.1988	<0.202	<0.9924	<1.004
Dibenz(a,h)anthracene	1.48E-01	(1)	2.13E+01	(4)	3.90E+01	(7)	1.48E-01	-	mg/Kg	<0.1999	<0.2001	<0.2007	<0.199	<0.402	<0.1995	<0.4017	<0.9908	<0.1999	<0.1999	<0.2001	<0.1988	<0.202	<0.9924	<1.004
Dibenzofuran	7.80E+01	(2)	1.00E+03	(5)	5.07E+01	(8)	5.07E+01	-	mg/Kg	<0.1999	<0.2001	<0.2007	<0.199	<0.402	<0.1995	<0.4017	<0.9908	<0.1999	<0.1999	<0.2001	<0.1988	<0.202	<0.9924	<1.004
Diethyl phthalate	4.89E+04	(1)	1.91E+05	(4)	4.45E+03	(7)	4.45E+03	-	mg/Kg	<0.1999	<0.2001	<0.2007	<0.199	<0.402	<0.1995	<0.4017	<0.9908	<0.1999	<0.1999	<0.2001	<0.1988	<0.202	<0.9924	<1.004
Dimethyl phthalate	6.11E+05	(1)	2.38E+06	(4)	3.71E+04	(7)	3.71E+04	-	mg/Kg	<0.1999	<0.2001	<0.2007	<0.199	<0.402	<0.1995	<0.4017	<0.9908	<0.1999	<0.1999	<0.2001	<0.1988	<0.202	<0.9924	<1.004
Di-n-butyl phthalate	6.11E+03	(1)	2.38E+04	(4)	3.21E+03	(7)	3.21E+03	-	mg/Kg	<0.4998	<0.5003	<0.5018	<0.4975	<1.005	<0.4987	<1.0044	<2.4769	<0.4998	<0.4997	<0.5003	<0.497	<0.5051	<2.481	<2.51
Di-n-octyl phthalate	-	-	-	-	-	-	-	-	mg/Kg	<0.3999	<0.4003	<0.4015	<0.398	<0.804	<0.3989	<0.8035	<1.2384	<0.2499	<0.2498	<0.2502	<0.2485	<0.2525	<1.9848	<2.008
Fluoranthene	2.29E+03	(1)	8.91E+03	(4)	5.61E+04	(7)	2.29E+03	-	mg/Kg	<0.1999	<0.2001	<0.2007	<0.199	<0.402	<0.1995	<0.4017	<0.9908	<0.1999	<0.1999	<0.2001	<0.1988	<0.202	<0.9924	<1.004
Fluorene	2.29E+03	(1)	8.91E+03	(4)	9.36E+03	(7)	2.29E+03	-	mg/Kg	<0.1999	<0.2001	<0.2007	<0.199	<0.402	<0.1995	<0.4017	<0.9908	<0.1999	<0.1999	<0.2001	<0.1988	<0.202	<0.9924	<1.004
Hexachlorobenzene	3.04E+00	(1)	1.03E+02	(4)	1.83E+00	(7)	1.83E+00	-	mg/Kg	<0.1999	<0.2001	<0.2007	<0.199	<0.402	<0.1995	<0.4017	<0.9908	<0.1999	<0.1999	<0.2001	<0.1988	<0.202	<0.9924	<1.004
Hexachlorobutadiene	6.11E+01	(1)	2.38E+02	(4)	5.91E+00	(7)	5.91E+00	-	mg/Kg	<0.1999	<0.2001	<0.2007	<0.199	<0.402	<0.1995	<0.4017	<0.9908	<0.1999	<0.1999	<0.2001	<0.1988	<0.202	<0.9924	<1.004
Hexachlorocyclopentadiene	3.67E+02	(1)	8.11E+02	(4)	2.43E+02	(7)	2.43E+02	-	mg/Kg	<0.1999	<0.2001	<0.2007	<0.199	<0.402	<0.1995	<0.4017	<0.9908	<0.1999	<0.1999	<0.2001	<0.1988	<0.202	<0.9924	<1.004
Hexachloroethane	4.28E																							

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

Analytes	Residential Soil Screening Level	Source	Non- Residential Soil Screening Level	Source	Leachate DAF (461) (mg/kg) SoilGW NMED	Source	Min	Background Concentrations (11)	Units	SWMU 1-20 (1.5-2')	SWMU 1-20 (10-12')	SWMU 1-20 (4-6')	SWMU 1-21 (0-0.5')	SWMU 1-22 (0-0.5')	SWMU 1-22 (1.5-2')	SWMU 1-23 (0-0.5')	SWMU 1-24 (0-0.5')	SWMU 1-24 (1.5-2')	SWMU 1-24 (10.5-11.5')	SWMU 1-24 (16-18')	SWMU 1-24 (24-26')	SWMU 1-24 (32-34')	SWMU 1-25 (0.5-1')	SWMU 1-25 (0-0.5')
										1210692-003 10/11/2012	1210692-005 10/11/2012	1210692-004 10/11/2012	1210858-004 10/16/2012	1210858-006 10/16/2012	1210858-007 10/16/2012	1210859-001 10/16/2012	1210521-001 10/8/2012	1210521-003 10/8/2012	1210521-004 10/8/2012	1210521-005 10/8/2012	1210521-006 10/8/2012	1210521-007 10/8/2012	1210859-004 10/16/2012	1210859-003 10/16/2012
Total Petroleum Hydrocarbons - (EPA Method 8015B) mg/kg																								
Diesel Range Organics (DRO)	1.00E+03	(10)	1.00E+03	(10)	1.00E+03	(10)	-	-	mg/Kg	<10	<10	<10	<10	<10	<10	<10	14	<10	<10	<10	<10	<10	<10	<10
Gasoline Range Organics (GRO)	-	-	-	-	-	-	-	-	mg/Kg	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Motor Oil Range Organics (MRO)	1.00E+03	(10)	1.00E+03	(10)	1.00E+03	(10)	-	-	mg/Kg	<49	<50	<51	<52	<51	<49	<52	<51	<50	<49	<49	<51	<50	<50	<51

-- No screening level or analytical result available
NMED - Risk Assessment Guidance for Site Investigations and Remediation (June 14, 2012)
EPA - Regional Screening Levels (May 2012)
(1) NMED Residential Screening Level
(2) EPA Residential Screening Level
(3) EPA Residential - Screening Levels (May 2012) multiplied by 10 because the constituent is listed as carcinogenic
(4) NMED Construction Worker Screening Level
(5) EPA Industrial - Screening Levels (May 2012)
(6) EPA Industrial - Screening Levels (May 2012) multiplied by 10 pursuant to Provision VII.B. of the July 7, 2007 NMED Order because the constituent is listed as carcinogenic
(7) SoilGW NMED Dilution Attenuation Factor (DAF) = 461
(8) SoilGW Risk-based EPA DAF = 461
(9) SoilGW MCL-based EPA DAF = 461
(10) NMED Table 6-2 TPH Screening Guidelines for Potable Groundwater "unknown oil" with DAF = 1.0 - see report Section 5 for use of screening levels
(11) Background concentrations to be determined

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

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

Analytes	Residential Soil Screening Level	Source	Non- Residential Soil Screening Level	Source	Leachate DAF (461) (mg/kg) SoilGW NMED	Source	Min	Background Concentrations (11)	Units	SWMU 1-26 (0-0.5')	SWMU 1-27 (0-0.5')	SWMU 1-27 (1.5-2')	SWMU 1-28 (0-0.5')	SWMU 1-28 (1.5-2')	SWMU 1-29 (0-0.5')	SWMU 1-30 (0-0.5')	SWMU 1-30 (1.5-2')	SWMU 1-30 (4-6')	SWMU 1-31 (0-0.5')	SWMU 1-32 (0-0.5')	SWMU 1-33 (0-0.5')	SWMU 1-34 (0-0.5')	SWMU 1-35 (0-0.5')	SWMU 1-35 (1.5-2')
										1210859-005 10/16/2012	1210692-009 10/12/2012	1210692-010 10/12/2012	1210692-011 10/12/2012	1210692-012 10/12/2012	1210859-006 10/16/2012	1210692-014 10/12/2012	1210692-015 10/12/2012	1210692-016 10/12/2012	1210856-001 10/16/2012	1210856-002 10/16/2012	1210856-004 10/16/2012	1210856-005 10/16/2012	1210692-017 10/12/2012	1210692-018 10/12/2012
Metals (mg/kg)																								
Antimony	3.13E+01	(1)	1.24E+02	(4)	3.05E+02	(7)	3.13E+01	-	mg/Kg	<5	<5	<12.5004	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Arsenic	3.90E+00	(1)	5.30E+01	(4)	6.05E+00	(7)	3.90E+00	-	mg/Kg	1.5J	3.5J	<3.1	2.9J	2.0J	2.3J	2.0J	1.5J	1.8J	3.5J	3.1J	2.3J	2.9J	2.1J	3.4J
Barium	1.56E+04	(1)	4.35E+03	(4)	1.39E+05	(7)	4.35E+03	-	mg/Kg	390	560	750	490	570	550	580	610	870	350	600	680	740	610	1200
Beryllium	1.56E+02	(1)	1.44E+02	(4)	2.66E+04	(7)	1.44E+02	-	mg/Kg	0.62	0.6	<0.75	0.7	0.41	0.69	0.69	0.67	0.47	0.56	0.64	0.64	0.52	0.67	0.46
Cadmium	7.03E+01	(1)	2.77E+02	(4)	6.33E+02	(7)	7.03E+01	-	mg/Kg	<0.2	<0.2	<0.5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Chromium III	1.17E+05	(1)	4.65E+05	(4)	4.54E+10	(7)	1.17E+05	-	mg/Kg	7.9	8	8	10	5.2	17	13	12	7.5	12	17	12	12	14	11
Chromium VI	2.97E+00	(1)	6.56E+01	(4)	3.83E+00	(7)	2.97E+00	-	mg/Kg	7.9	8	8	10	5.2	17	13	12	7.5	12	17	12	12	14	11
Cobalt	2.30E+01	(2)	3.00E+02	(5)	9.68E+01	(8)	2.30E+01	-	mg/Kg	3.7	2.9	4.3	3.7	2.7	5.1	4	3.8	3.1	3.8	4	3.2	2.7	3.9	3.4
Cyanide	4.69E+01	(1)	1.86E+02	(4)	1.02E+02	(7)	4.69E+01	-	mg/Kg	<0.246	0.28	<0.26	1.4	<0.267	6	0.63	<0.274	<0.282	0.26	<0.247	<0.243	<0.251	0.28	0.29
Iron	5.48E+04	(1)	2.17E+05	(4)	2.98E+05	(7)	5.48E+04	-	mg/Kg	11000	11000	11000	13000	8800	15000	14000	14000	12000	13000	14000	13000	9800	13000	10000
Lead	4.00E+02	(1)	8.00E+02	(4)	6.45E+03	(8)	4.00E+02	-	mg/Kg	2.7	1.4	2.7	2.6	1.4	7	3.7	3.1	3.3	5.2	6.3	3.7	2.5	2.6	2.3
Manganese	1.86E+03	(1)	4.40E+02	(4)	2.64E+04	(7)	4.40E+02	-	mg/Kg	670	470	1300	520	430	620	550	530	840	420	440	800	520	500	820
Mercury	1.56E+01	(1)	1.36E+01	(4)	1.51E+01	(7)	1.36E+01	-	mg/Kg	0.051	0.054	<0.033	0.67	<0.033	0.22	0.13	0.14	<0.033	0.063	0.13	0.055	0.14	0.083	0.056
Nickel	1.56E+03	(1)	6.19E+03	(4)	2.20E+04	(7)	1.56E+03	-	mg/Kg	6.1	5.8	6	7.1	3.7	9.3	7.3	6.9	4.7	8	13	8.9	7.5	10	9
Selenium	3.91E+02	(1)	1.55E+03	(4)	4.45E+02	(7)	3.91E+02	-	mg/Kg	<5	<5	<12.5004	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Silver	3.91E+02	(1)	1.55E+03	(4)	7.22E+02	(7)	3.91E+02	-	mg/Kg	<0.5	<0.5	<1.25	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.25	<0.25	<0.25	<0.5	<0.5
Vanadium	3.91E+02	(1)	1.55E+03	(4)	8.42E+04	(7)	3.91E+02	-	mg/Kg	14	17	20	18	12	19	21	17	16	19	22	19	18	26	19
Zinc	2.35E+04	(1)	9.29E+04	(4)	3.14E+05	(7)	2.35E+04	-	mg/Kg	16	15	13	19	8.8	48	26	19	10	30	36	23	28	23	22
Volatile Organic Compounds - (EPA Method 8260) mg/kg																								
1,1,1,2-Tetrachloroethane	2.91E+01	(1)	7.79E+02	(4)	7.59E-01	(7)	7.59E-01	-	mg/Kg	<0.0007	<0.0009	<0.0008	<0.001	<1.0132	<0.0008	<0.001	<0.0007	<0.0007	<0.0008	<0.0008	<0.0009	<0.0011	<0.0009	<0.0007
1,1,1-Trichloroethane	1.56E+04	(1)	1.48E+04	(4)	1.34E+03	(7)	1.34E+03	-	mg/Kg	<0.0007	<0.0009	<0.0008	<0.001	<1.0132	<0.0008	<0.001	<0.0007	<0.0007	<0.0008	<0.0008	<0.0009	<0.0011	<0.0009	<0.0007
1,1,2,2-Tetrachloroethane	8.02E+00	(1)	2.21E+02	(4)	9.82E-02	(7)	9.82E-02	-	mg/Kg	<0.0007	<0.0009	<0.0008	<0.001	<1.0132	<0.0008	<0.001	<0.0007	<0.0007	<0.0008	<0.0008	<0.0009	<0.0011	<0.0009	<0.0007
1,1,2-Trichloroethane	2.81E+00	(1)	4.72E+02	(4)	5.14E-02	(7)	5.14E-02	-	mg/Kg	<0.0007	<0.0009	<0.0008	<0.001	<1.0132	<0.0008	<0.001	<0.0007	<0.0007	<0.0008	<0.0008	<0.0009	<0.0011	<0.0009	<0.0007
1,1-Dichloroethane	6.45E+01	(1)	1.70E+03	(4)	2.75E+00	(7)	2.75E+00	-	mg/Kg	<0.0007	<0.0009	<0.0008	<0.001	<1.0132	<0.0008	<0.001	<0.0007	<0.0007	<0.0008	<0.0008	<0.0009	<0.0011	<0.0009	<0.0007
1,1-Dichloroethene	4.49E+02	(1)	4.32E+02	(4)	5.36E+01	(7)	5.36E+01	-	mg/Kg	<0.0007	<0.0009	<0.0008	<0.001	<1.0132	<0.0008	<0.001	<0.0007	<0.0007	<0.0008	<0.0008	<0.0009	<0.0011	<0.0009	<0.0007
1,1-Dichloropropene	-	-	-	-	-	-	-	-	mg/Kg	<0.0007	<0.0009	<0.0008	<0.001	<1.0132	<0.0008	<0.001	<0.0007	<0.0007	<0.0008	<0.0008	<0.0009	<0.0011	<0.0009	<0.0007
1,2,3-Trichlorobenzene	4.90E+01	(2)	4.90E+02	(5)	6.92E+00	(8)	6.92E+00	-	mg/Kg	<0.0007	<0.0009	<0.0008	<0.001	<1.0132	<0.0008	<0.001	<0.0007	<0.0007	<0.0008	<0.0008	<0.0009	<0.0011	<0.0009	<0.0007
1,2,3-Trichloropropane	4.97E-02	(1)	7.23E+00	(4)	1.15E-03	(7)	1.15E-03	-	mg/Kg	<0.0007	<0.0009	<0.0008	<0.001	<1.0132	<0.0008	<0.001	<0.0007	<0.0007	<0.0008	<0.0008	<0.0009	<0.0011	<0.0009	<0.0007
1,2,4-Trichlorobenzene	7.30E+01	(1)	6.87E+01	(4)	4.21E+00	(7)	4.21E+00	-	mg/Kg	<0.0007	<0.0009	<0.0008	<0.001	<1.0132	<0.0008	<0.001	<0.0007	<0.0007	<0.0008	<0.0008	<0.0009	<0.0011	<0.0009	<0.0007
1,2,4-Trimethylbenzene	6.20E+01	(2)	2.60E+02	(5)	9.68E+00	(8)	9.68E+00	-	mg/Kg	0.00207	0.00844	<0.0008	0.0											

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

Analytes	Residential Soil Screening Level	Source	Non- Residential Soil Screening Level	Source	Leachate DAF (461) (mg/kg) SoilGW NMED	Source	Min	Background Concentrations (11)	Units	SWMU 1-26 (0-0.5')	SWMU 1-27 (0-0.5')	SWMU 1-27 (1.5-2')	SWMU 1-28 (0-0.5')	SWMU 1-28 (1.5-2')	SWMU 1-29 (0-0.5')	SWMU 1-30 (0-0.5')	SWMU 1-30 (1.5-2')	SWMU 1-30 (4-6')	SWMU 1-31 (0-0.5')	SWMU 1-32 (0-0.5')	SWMU 1-33 (0-0.5')	SWMU 1-34 (0-0.5')	SWMU 1-35 (0-0.5')	SWMU 1-35 (1.5-2')
										1210859-005 10/16/2012	1210692-009 10/12/2012	1210692-010 10/12/2012	1210692-011 10/12/2012	1210692-012 10/12/2012	1210859-006 10/16/2012	1210692-014 10/12/2012	1210692-015 10/12/2012	1210692-016 10/12/2012	1210856-001 10/16/2012	1210856-002 10/16/2012	1210856-004 10/16/2012	1210856-005 10/16/2012	1210692-017 10/12/2012	1210692-018 10/12/2012
Bromodichloromethane	5.41E+00	(1)	1.43E+02	(4)	1.25E-01	(7)	1.25E-01	-	mg/Kg	<0.0007	<0.0009	<0.0008	<0.001	<1.0132	<0.0008	<0.001	<0.0007	<0.0007	<0.0008	<0.0008	<0.0009	<0.0011	<0.0009	<0.0007
Bromoform	6.16E+02	(1)	4.76E+03	(4)	2.78E+02	(7)	2.78E+02	-	mg/Kg	<0.0007	<0.0009	<0.0008	<0.001	<1.0132	<0.0008	<0.001	<0.0007	<0.0007	<0.0008	<0.0008	<0.0009	<0.0011	<0.0009	<0.0007
Bromomethane	1.65E+01	(1)	1.64E+01	(4)	8.86E-01	(7)	8.86E-01	-	mg/Kg	<0.0007	<0.0009	<0.0008	<0.001	<1.0132	<0.0008	<0.001	<0.0007	<0.0007	<0.0008	<0.0008	<0.0009	<0.0011	<0.0009	<0.0007
Carbon disulfide	1.53E+03	(1)	1.58E+03	(4)	1.30E+02	(7)	1.30E+02	-	mg/Kg	<0.0073	<0.0094	<0.0075	<0.0101	<10.1322	<0.0082	<0.0101	<0.007	<0.0069	<0.0084	<0.0083	<0.009	<0.0106	<0.009	<0.0068
Carbon tetrachloride	1.08E+01	(1)	2.26E+02	(4)	7.39E-01	(7)	7.39E-01	-	mg/Kg	<0.0007	<0.0009	<0.0008	<0.001	<1.0132	<0.0008	<0.001	<0.0007	<0.0007	<0.0008	<0.0008	<0.0009	<0.0011	<0.0009	<0.0007
Chlorobenzene	3.76E+02	(1)	4.06E+02	(4)	2.27E+01	(7)	2.27E+01	-	mg/Kg	<0.0007	<0.0009	<0.0008	<0.001	<1.0132	<0.0008	<0.001	<0.0007	<0.0007	<0.0008	<0.0008	<0.0009	<0.0011	<0.0009	<0.0007
Chloroethane	2.98E+04	(1)	2.61E+04	(4)	2.48E+03	(7)	2.48E+03	-	mg/Kg	<0.0007	<0.0009	<0.0008	<0.001	<1.0132	<0.0008	<0.001	<0.0007	<0.0007	<0.0008	<0.0008	<0.0009	<0.0011	<0.0009	<0.0007
Chloroform	5.86E+00	(1)	1.54E+02	(4)	2.12E-01	(7)	2.12E-01	-	mg/Kg	<0.0007	<0.0009	<0.0008	<0.001	<1.0132	<0.0008	<0.001	<0.0007	<0.0007	<0.0008	<0.0008	<0.0009	<0.0011	<0.0009	<0.0007
Chloromethane	2.75E+02	(1)	2.41E+02	(4)	2.03E+01	(7)	2.03E+01	-	mg/Kg	<0.0007	<0.0009	<0.0008	<0.001	<1.0132	<0.0008	<0.001	<0.0007	<0.0007	<0.0008	<0.0008	<0.0009	<0.0011	<0.0009	<0.0007
cis-1,2-DCE	1.56E+02	(1)	6.19E+02	(4)	8.47E+00	(7)	8.47E+00	-	mg/Kg	<0.0007	<0.0009	<0.0008	<0.001	<1.0132	<0.0008	<0.001	<0.0007	<0.0007	<0.0008	<0.0008	<0.0009	<0.0011	<0.0009	<0.0007
cis-1,3-Dichloropropene	3.37E+01	(1)	2.09E+02	(4)	5.71E-01	(7)	5.71E-01	-	mg/Kg	<0.0007	<0.0009	<0.0008	<0.001	<1.0132	<0.0008	<0.001	<0.0007	<0.0007	<0.0008	<0.0008	<0.0009	<0.0011	<0.0009	<0.0007
Dibromochloromethane	1.21E+01	(1)	3.32E+02	(4)	1.52E-01	(7)	1.52E-01	-	mg/Kg	<0.0007	<0.0009	<0.0008	<0.001	<1.0132	<0.0008	<0.001	<0.0007	<0.0007	<0.0008	<0.0008	<0.0009	<0.0011	<0.0009	<0.0007
Dibromomethane	5.16E+01	(1)	3.10E+03	(4)	7.89E-01	(7)	7.89E-01	-	mg/Kg	<0.0007	<0.0009	<0.0008	<0.001	<1.0132	<0.0008	<0.001	<0.0007	<0.0007	<0.0008	<0.0008	<0.0009	<0.0011	<0.0009	<0.0007
Dichlorodifluoromethane	1.68E+02	(1)	1.49E+02	(4)	1.71E+02	(7)	1.49E+02	-	mg/Kg	<0.0007	<0.0009	<0.0008	<0.001	<1.0132	<0.0008	<0.001	<0.0007	<0.0007	<0.0008	<0.0008	<0.0009	<0.0011	<0.0009	<0.0007
Ethylbenzene	6.84E+01	(1)	1.83E+03	(4)	5.98E+00	(7)	5.98E+00	-	mg/Kg	0.00121	0.0636	0.00135	0.0018	<1.0132	<0.0008	0.00644	<0.0007	<0.0007	<0.0008	0.00107	0.00103	0.00259	0.00199	0.00141
Hexachlorobutadiene	6.11E+01	(1)	2.38E+02	(4)	5.91E+00	(7)	5.91E+00	-	mg/Kg	<0.0007	<0.0009	<0.0008	<0.001	<1.0132	<0.0008	<0.001	<0.0007	<0.0007	<0.0008	<0.0008	<0.0009	<0.0011	<0.0009	<0.0007
Isopropylbenzene	2.43E+03	(1)	2.81E+03	(4)	3.99E+02	(7)	3.99E+02	-	mg/Kg	<0.0007	0.0031	<0.0008	<0.001	<1.0132	<0.0008	<0.001	<0.0007	<0.0007	<0.0008	<0.0008	<0.0009	<0.0011	<0.0009	<0.0007
Methyl tert-butyl ether (MTBE)	9.01E+02	(1)	2.49E+04	(4)	1.11E+01	(7)	1.11E+01	-	mg/Kg	<0.0007	<0.0009	<0.0008	<0.001	<1.0132	<0.0008	<0.001	<0.0007	<0.0007	<0.0008	<0.0008	<0.0009	<0.0011	<0.0009	<0.0007
Methylene chloride	4.09E+02	(1)	1.12E+03	(4)	1.90E+01	(7)	1.90E+01	-	mg/Kg	<0.0022	<0.0028	<0.0023	<0.003	<3.0397	<0.0025	<0.003	<0.0021	<0.0021	<0.0025	<0.0025	<0.0027	<0.0032	<0.0027	<0.002
Naphthalene	4.30E+01	(1)	1.58E+02	(4)	1.64E+00	(7)	1.64E+00	-	mg/Kg	<0.0015	<0.0019	<0.0015	<0.002	<2.0264	<0.0016	<0.002	<0.0014	<0.0014	<0.0017	<0.0017	<0.0018	<0.0021	<0.0018	<0.0014
n-Butylbenzene	3.90E+03	(2)	5.10E+04	(5)	1.15E+03	(8)	1.15E+03	-	mg/Kg	<0.0007	<0.0009	<0.0008	<0.001	<1.0132	<0.0008	<0.001	<0.0007	<0.0007	<0.0008	<0.0008	<0.0009	<0.0011	<0.0009	<0.0007
n-Propylbenzene	3.40E+03	(2)	2.10E+04	(5)	4.56E+02	(8)	4.56E+02	-	mg/Kg	<0.0007	0.00173	<0.0008	<0.001	<1.0132	<0.0008	<0.001	<0.0007	<0.0007	<0.0008	<0.0008	<0.0009	<0.0011	<0.0009	<0.0007
sec-Butylbenzene	-	-	-	-	-	-	-	-	mg/Kg	<0.0007	<0.0009	<0.0008	<0.001	<1.0132	<0.0008	<0.001	<0.0007	<0.0007	<0.0008	<0.0008	<0.0009	<0.0011	<0.0009	<0.0007
Styrene	7.28E+03	(1)	9.99E+03	(4)	6.40E+02	(7)	6.40E+02	-	mg/Kg	<0.0007	<0.0009	<0.0008	<0.001	<1.0132	<0.0008	<0.001	<0.0007	<0.0007	<0.0008	<0.0008	<0.0009	<0.0011	<0.0009	<0.0007
tert-Butylbenzene	-	-	-	-	-	-	-	-	mg/Kg	<0.0007	<0.0009	<0.0008	<0.001	<1.0132	<0.0008	<0.001	<0.0007	<0.0007	<0.0008	<0.0008	<0.0009	<0.0011	<0.0009	<0.0007
Tetrachloroethene (PCE)	7.02E+00	(1)	2.12E+02	(4)	1.98E-01	(7)	1.98E-01	-	mg/Kg	<0.0007	<0.0009	<0.0008	<0.001	<1.0132	<0.0008	<0.001	<0.0007	<0.0007	<0.0008	<0.0008	<0.0009	<0.0011	<0.0009	<0.0007
Toluene	5.27E+03	(1)	1.34E+04	(4)	5.84E+02	(7)	5.84E+02	-	mg/Kg	0.00369	0.0114	0.0024	0.00473	3.54	0.00327	0.00603	0.00263	0.00187	0.00295	0.00442	0.00437	0.00869	0.00888	0.00572
trans-1,2-DCE	2.70E+02	(1)	2.73E+02	(4)	1.24E+01	(7)	1.24E+01	-	mg/Kg	<0.0007	<0.0009	<0.0008	<0.001	<1.0132	<0.0008	<0.001	<0.0007	<0.0007	<0.0008	<0.0008	<0.0009	<0.0011	<0.0009	<0.0007
trans-1,3-Dichloropropene	-	-	-	-	-	-	-	-	mg/Kg	<0.0007	<0.0009	<0.0008	<0.001	<1.0132	<0.0008	<0.001	<0.0007	<0.0007	<0.0008	<0.0008	<0.0009	<0.0011	<0.0009	<0.0007
Trichloroethene (TCE)	8.77E+00	(1)	7.68E+00	(4)	4.85E-01	(7)	4.85E-01	-	mg/Kg	<0.0007	<0.0009	<0.0008	<0.001	<1.0132	<0.0008	<0.001	<0.0007	<0.0007	<0.0008	<0.0008	<0.0009	<0.0011	<0.0009	<0.0007
Trichlorofluoromethane	1.41E+03	(1)	1.30E+03	(4)	4.10E+02	(7)	4.10E+02	-	mg/Kg	<0.0007	<0.0009	<0.0008	<0.001	<1.0132	<0.0008	<0.001	<0.0007	<0.0007	<0.0008	<0.0008	<0.0009	<0.0011	<0.0009	<0.0007
Vinyl chloride	7.28E-01	(1)	1.49E+02	(4)	2.50E-02	(7)	2.50E-02	-	mg/Kg	<0.0007	<0.0009	<0.0008	<0.001	<1.0132	<0.0008	<0.001	<0.0007	<0.0007	<0.0008	<0.0008	<0.0009	<0.0011	<0.0009	<0.0007
Xylenes, Total	8.14E+02	(1)	7.43E+02	(4)	7.21E+01	(7)	7.21E+01	-	mg/Kg	0.00503	0.447	0.00781	0.0091	2.38	0.00307	0.0493	0.00149	<0.0014	0.0032	0.00394	0.00362	0.00953	0.00906	0.00512
Semi Volatile Organics - (EPA Method 8270) mg/kg																								
1,2,4-Trichlorobenzene	7.30E+01	(1)	6.87E+01	(4)	4.21E+00	(7)	4.21E+00	-	mg/Kg	<0.3968	<0.402	<0.2017	<0.4009	<0.2006	<0.7973	<0.4	<0.9894	<0.2024	<2.0033	<2.0047	<1.9973	<1.0007	<2	<1.0054
1,2-Dichlorobenzene	2.31E+03	(1)	2.71E+03	(4)	1.29E+02	(7)	1.29E+02	-	mg/Kg	<0.3968	<0.402	<0.2017	<0.4009	<0.2006	<0.7973	<0.4	<0.9894	<0.2024	<2.0033	<2.0047	<1.9973	<1.0007	<2	<1.0054
1,3-Dichlorobenzene	-	-	-	-	-	-	-	-	mg/Kg	<0.3968	<0.402	<0.2017	<0.4009	<0.2006	<0.7973	<0.4	<0.9894	<0.2024	<2.0033	<2.0047	<1.9973	<1.0007	<2	<1.0054
1,4-Dichlorobenzene	3.17E+01	(1)	8.31E+02	(4)	1.47E+00	(7)	1.47E+00	-	mg/Kg	<0.3968	<0.402	<0.2017	<0.4009	<0.2006	<0.7973	<0.4	<0.9894	<0.2024	<2.0033	<2.0047	<1.9973	<1.0007	<2	<1.0054
1-Methylnaphthalene	1.60E+02	(3)	5.30E+02	(6)	2.35E+00	(8)	2.35E+00	-	mg/Kg	<0.3968	<0.402	<0.2017	<0.4009	<0.2006	<0.7973	<0.4	<0.9894	<0.2024	<2.0033	<2.0047	<1.9973	<1.0007	<2	<1.0054
2,4,5-Trichlorophenol	6.11E+03	(1)	2.38E+04	(4)	4.78E+03	(7)	4.78E+03	-	mg/Kg	<0.3968	<0.402	<0.2017	<0.4009	<0.2006	<0.7973	<0.4	<0.9894	<0.2024	<2.0033	<2.0047	<1.9973	<1.0007	<2	<

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

Analytes	Residential Soil Screening Level	Source	Non- Residential Soil Screening Level	Source	Leachate DAF (461) (mg/kg) SoilGW NMED	Source	Min	Background Concentrations (11)	Units	SWMU 1-26 (0-0.5')	SWMU 1-27 (0-0.5')	SWMU 1-27 (1.5-2')	SWMU 1-28 (0-0.5')	SWMU 1-28 (1.5-2')	SWMU 1-29 (0-0.5')	SWMU 1-30 (0-0.5')	SWMU 1-30 (1.5-2')	SWMU 1-30 (4-6')	SWMU 1-31 (0-0.5')	SWMU 1-32 (0-0.5')	SWMU 1-33 (0-0.5')	SWMU 1-34 (0-0.5')	SWMU 1-35 (0-0.5')	SWMU 1-35 (1.5-2')
										1210859-005 10/16/2012	1210692-009 10/12/2012	1210692-010 10/12/2012	1210692-011 10/12/2012	1210692-012 10/12/2012	1210859-006 10/16/2012	1210692-014 10/12/2012	1210692-015 10/12/2012	1210692-016 10/12/2012	1210856-001 10/16/2012	1210856-002 10/16/2012	1210856-004 10/16/2012	1210856-005 10/16/2012	1210692-017 10/12/2012	1210692-018 10/12/2012
3,3'-Dichlorobenzidine	1.08E+01	(1)	3.64E+02	(4)	3.41E+00	(7)	3.41E+00	-	mg/Kg	<0.496	<0.5025	<0.2521	<0.5012	<0.2508	<0.9967	<0.5	<1.2368	<0.253	<2.5042	<2.5058	<2.4967	<1.2508	<2.5	<1.2567
3+4-Methylphenol	-	-	-	-	-	-	-	-	mg/Kg	<0.3968	<0.402	<0.2017	<0.4009	<0.2006	<0.7973	<0.4	<0.9894	<0.2024	<2.0033	<2.0047	<1.9973	<1.0007	<2	<1.0054
3-Nitroaniline	-	-	-	-	-	-	-	-	mg/Kg	<0.3968	<0.402	<0.2017	<0.4009	<0.2006	<0.7973	<0.4	<0.9894	<0.2024	<2.0033	<2.0047	<1.9973	<1.0007	<2	<1.0054
4,6-Dinitro-2-methylphenol	4.90E+00	(2)	4.90E+01	(5)	9.22E-01	(8)	9.22E-01	-	mg/Kg	<0.9921	<1.005	<0.5042	<1.0023	<0.5015	<1.9934	<1	<2.4736	<0.5061	<5.0083	<5.0117	<4.9933	<2.5017	<5	<2.5134
4-Bromophenyl phenyl ether	-	-	-	-	-	-	-	-	mg/Kg	<0.3968	<0.402	<0.2017	<0.4009	<0.2006	<0.7973	<0.4	<0.9894	<0.2024	<2.0033	<2.0047	<1.9973	<1.0007	<2	<1.0054
4-Chloro-3-methylphenol	6.10E+03	(2)	6.20E+04	(5)	5.99E+02	(8)	5.99E+02	-	mg/Kg	<0.9921	<1.005	<0.5042	<1.0023	<0.5015	<1.9934	<1	<2.4736	<0.5061	<5.0083	<5.0117	<4.9933	<2.5017	<5	<2.5134
4-Chloroaniline	2.40E+01	(3)	8.60E+01	(6)	5.99E-02	(8)	5.99E-02	-	mg/Kg	<0.9921	<1.005	<0.5042	<1.0023	<0.5015	<1.9934	<1	<2.4736	<0.5061	<5.0083	<5.0117	<4.9933	<2.5017	<5	<2.5134
4-Chlorophenyl phenyl ether	-	-	-	-	-	-	-	-	mg/Kg	<0.3968	<0.402	<0.2017	<0.4009	<0.2006	<0.7973	<0.4	<0.9894	<0.2024	<2.0033	<2.0047	<1.9973	<1.0007	<2	<1.0054
4-Nitroaniline	2.40E+02	(3)	8.60E+02	(6)	6.45E-01	(8)	6.45E-01	-	mg/Kg	<0.7937	<0.804	<0.4034	<0.8019	<0.4012	<1.5947	<0.8	<1.9789	<0.4049	<4.0067	<4.0094	<3.9947	<2.0013	<4	<2.0107
4-Nitrophenol	-	-	-	-	-	-	-	-	mg/Kg	<0.496	<0.5025	<0.2521	<0.5012	<0.2508	<0.9967	<0.5	<1.2368	<0.253	<2.5042	<2.5058	<2.4967	<1.2508	<2.5	<1.2567
Acenaphthene	3.44E+03	(1)	1.86E+04	(4)	7.79E+03	(7)	3.44E+03	-	mg/Kg	<0.3968	<0.402	<0.2017	<0.4009	<0.2006	<0.7973	<0.4	<0.9894	<0.2024	<2.0033	<2.0047	<1.9973	<1.0007	<2	<1.0054
Acenaphthylene	-	-	-	-	-	-	-	-	mg/Kg	<0.3968	<0.402	<0.2017	<0.4009	<0.2006	<0.7973	<0.4	<0.9894	<0.2024	<2.0033	<2.0047	<1.9973	<1.0007	<2	<1.0054
Aniline	8.50E+02	(3)	3.00E+03	(6)	1.80E+00	(8)	1.80E+00	-	mg/Kg	<0.3968	<0.402	<0.2017	<0.4009	<0.2006	<0.7973	<0.4	<0.9894	<0.2024	<2.0033	<2.0047	<1.9973	<1.0007	<2	<1.0054
Anthracene	1.72E+04	(1)	6.68E+04	(4)	1.25E+05	(7)	1.72E+04	-	mg/Kg	<0.3968	<0.402	<0.2017	<0.4009	<0.2006	<0.7973	<0.4	<0.9894	<0.2024	<2.0033	<2.0047	<1.9973	<1.0007	<2	<1.0054
Azobenzene	5.10E+01	(3)	2.30E+02	(6)	3.69E-01	(8)	3.69E-01	-	mg/Kg	<0.3968	<0.402	<0.2017	<0.4009	<0.2006	<0.7973	<0.4	<0.9894	<0.2024	<2.0033	<2.0047	<1.9973	<1.0007	<2	<1.0054
Benz(a)anthracene	1.48E+00	(1)	2.13E+02	(4)	3.61E+01	(7)	1.48E+00	-	mg/Kg	<0.3968	<0.402	<0.2017	<0.4009	<0.2006	<0.7973	<0.4	<0.9894	<0.2024	<2.0033	<2.0047	<1.9973	<1.0007	<2	<1.0054
Benzo(a)pyrene	1.48E-01	(1)	2.13E+01	(4)	1.20E+01	(7)	1.48E-01	-	mg/Kg	<0.3968	<0.402	<0.2017	<0.4009	<0.2006	<0.7973	<0.4	<0.9894	<0.2024	<2.0033	<2.0047	<1.9973	<1.0007	<2	<1.0054
Benzo(b)fluoranthene	1.48E+00	(1)	2.13E+02	(4)	1.22E+02	(7)	1.48E+00	-	mg/Kg	<0.3968	<0.402	<0.2017	<0.4009	<0.2006	<0.7973	<0.4	<0.9894	<0.2024	<2.0033	<2.0047	<1.9973	<1.0007	<2	<1.0054
Benzo(g,h,i)perylene	-	-	-	-	-	-	-	-	mg/Kg	<0.3968	<0.402	<0.2017	<0.4009	<0.2006	<0.7973	<0.4	<0.9894	<0.2024	<2.0033	<2.0047	<1.9973	<1.0007	<2	<1.0054
Benzo(k)fluoranthene	1.48E+01	(1)	2.06E+03	(4)	1.20E+03	(7)	1.48E+01	-	mg/Kg	<0.3968	<0.402	<0.2017	<0.4009	<0.2006	<0.7973	<0.4	<0.9894	<0.2024	<2.0033	<2.0047	<1.9973	<1.0007	<2	<1.0054
Benzoic acid	2.40E+05	(2)	2.50E+06	(5)	6.45E+03	(8)	6.45E+03	-	mg/Kg	<0.9921	<1.005	<0.5042	<1.0023	<0.5015	<1.9934	<1	<2.4736	<0.5061	<5.0083	<5.0117	<4.9933	<2.5017	<5	<2.5134
Benzyl alcohol	6.10E+03	(2)	6.20E+04	(5)	1.71E+02	(8)	1.71E+02	-	mg/Kg	<0.3968	<0.402	<0.2017	<0.4009	<0.2006	<0.7973	<0.4	<0.9894	<0.2024	<2.0033	<2.0047	<1.9973	<1.0007	<2	<1.0054
Bis(2-chloroethoxy)methane	1.80E+02	(2)	1.80E+03	(5)	5.07E+00	(8)	5.07E+00	-	mg/Kg	<0.3968	<0.402	<0.2017	<0.4009	<0.2006	<0.7973	<0.4	<0.9894	<0.2024	<2.0033	<2.0047	<1.9973	<1.0007	<2	<1.0054
Bis(2-chloroethyl)ether	2.68E+00	(1)	7.78E+01	(4)	1.21E-02	(7)	1.21E-02	-	mg/Kg	<0.3968	<0.402	<0.2017	<0.4009	<0.2006	<0.7973	<0.4	<0.9894	<0.2024	<2.0033	<2.0047	<1.9973	<1.0007	<2	<1.0054
Bis(2-chloroisopropyl)ether	9.15E+01	(1)	3.10E+03	(4)	1.07E+00	(7)	1.07E+00	-	mg/Kg	<0.3968	<0.402	<0.2017	<0.4009	<0.2006	<0.7973	<0.4	<0.9894	<0.2024	<2.0033	<2.0047	<1.9973	<1.0007	<2	<1.0054
Bis(2-ethylhexyl)phthalate	3.47E+02	(1)	4.76E+03	(4)	3.97E+03	(7)	3.47E+02	-	mg/Kg	<0.9921	<1.005	<0.5042	<1.0023	<0.5015	<1.9934	<1	<2.4736	<0.5061	<5.0083	<5.0117	<4.9933	<2.5017	<5	<2.5134
Butyl benzyl phthalate	2.60E+03	(3)	9.10E+03	(6)	9.22E+01	(8)	9.22E+01	-	mg/Kg	<0.3968	<0.402	<0.2017	<0.4009	<0.2006	<0.7973	<0.4	<0.9894	<0.2024	<2.0033	<2.0047	<1.9973	<1.0007	<2	<1.0054
Carbazole	-	-	-	-	-	-	-	-	mg/Kg	<0.3968	<0.402	<0.2017	<0.4009	<0.2006	<0.7973	<0.4	<0.9894	<0.2024	<2.0033	<2.0047	<1.9973	<1.0007	<2	<1.0054
Chrysene	1.48E+02	(1)	2.06E+04	(4)	3.68E+03	(7)	1.48E+02	-	mg/Kg	<0.3968	<0.402	<0.2017	<0.4009	<0.2006	<0.7973	<0.4	<0.9894	<0.2024	<2.0033	<2.0047	<1.9973	<1.0007	<2	<1.0054
Dibenz(a,h)anthracene	1.48E-01	(1)	2.13E+01	(4)	3.90E+01	(7)	1.48E-01	-	mg/Kg	<0.3968	<0.402	<0.2017	<0.4009	<0.2006	<0.7973	<0.4	<0.9894	<0.2024	<2.0033	<2.0047	<1.9973	<1.0007	<2	<1.0054
Dibenzofuran	7.80E+01	(2)	1.00E+03	(5)	5.07E+01	(8)	5.07E+01	-	mg/Kg	<0.3968	<0.402	<0.2017	<0.4009	<0.2006	<0.7973	<0.4	<0.9894	<0.2024	<2.0033	<2.0047	<1.9973	<1.0007	<2	<1.0054
Diethyl phthalate	4.89E+04	(1)	1.91E+05	(4)	4.45E+03	(7)	4.45E+03	-	mg/Kg	<0.3968	<0.402	<0.2017	<0.4009	<0.2006	<0.7973	<0.4	<0.9894	<0.2024	<2.0033	<2.0047	<1.9973	<1.0007	<2	<1.0054
Dimethyl phthalate	6.11E+05	(1)	2.38E+06	(4)	3.71E+04	(7)	3.71E+04	-	mg/Kg	<0.3968	<0.402	<0.2017	<0.4009	<0.2006	<0.7973	<0.4	<0.9894	<0.2024	<2.0033	<2.0047	<1.9973	<1.0007	<2	<1.0054
Di-n-butyl phthalate	6.11E+03	(1)	2.38E+04	(4)	3.21E+03	(7)	3.21E+03	-	mg/Kg	<0.9921	<1.005	<0.5042	<1.0023	<0.5015	<1.9934	<1	<2.4736	<0.5061	<5.0083	<5.0117	<4.9933	<2.5017	<5	<2.5134
Di-n-octyl phthalate	-	-	-	-	-	-	-	-	mg/Kg	<0.7937	<0.804	<0.4034	<0.8019	<0.4012	<1.5947	<0.8	<1.9789	<0.4049	<4.0067	<4.0094	<3.9947	<2.0013	<4	<2.0107
Fluoranthene	2.29E+03	(1)	8.91E+03	(4)	5.61E+04	(7)	2.29E+03	-	mg/Kg	<0.3968	<0.402	<0.2017	<0.4009	<0.2006	<0.7973	<0.4	<0.9894	<0.2024	<2.0033	<2.0047	<1.9973	<1.0007	<2	<1.0054
Fluorene	2.29E+03	(1)	8.91E+03	(4)	9.36E+03	(7)	2.29E+03	-	mg/Kg	<0.3968	<0.402	<0.2017	<0.4009	<0.2006	<0.7973	<0.4	<0.9894	<0.2024	<2.0033	<2.0047	<1.9973	<1.0007	<2	<1.0054
Hexachlorobenzene	3.04E+00	(1)	1.03E+02	(4)	1.83E+00	(7)	1.83E+00	-	mg/Kg	<0.3968	<0.402	<0.2017	<0.4009	<0.2006	<0.7973	<0.4	<0.9894	<0.2024	<2.0033	<2.0047	<1.9973	<1.0007	<2	<1.0054
Hexachlorobutadiene	6.11E+01	(1)	2.38E+02	(4)	5.91E+00	(7)	5.91E+00	-	mg/Kg	<0.3968	<0.402	<0.2017	<0.4009	<0.2006	<0.7973	<0.4	<0.9894	<0.2024	<2.0033	<2.0047	<1.9973	<1.0007	<2	<1.0054
Hexachlorocyclopentadiene	3.67E+02	(1)	8.11E+02	(4)	2.43E+02	(7)	2.43E+02	-	mg/Kg	<0.3968	<0.402	<0.2017	<0.4009	<0.2006	<0.7973	<0.4	<0.9894	<0.2024	<2.0033	<2.0047	<1.9973	<1.0007	<2	<1.0054
Hexachloroethane	4.28E+01	(1)	1.67E+02	(4)	3.77E+00	(7)	3.77E+00	-	mg/Kg	<0.3968	<0.402	<0.2017	<0.4009	<0.2006	<0.7973	<0.4	<0.9894	<0.2024	<2.0033	<2.0				

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

Analytes	Residential Soil Screening Level	Source	Non- Residential Soil Screening Level	Source	Leachate DAF (461) (mg/kg) SoilGW NMED	Source	Min	Background Concentrations (11)	Units	SWMU 1-26 (0-0.5')	SWMU 1-27 (0-0.5')	SWMU 1-27 (1.5-2')	SWMU 1-28 (0-0.5')	SWMU 1-28 (1.5-2')	SWMU 1-29 (0-0.5')	SWMU 1-30 (0-0.5')	SWMU 1-30 (1.5-2')	SWMU 1-30 (4-6')	SWMU 1-31 (0-0.5')	SWMU 1-32 (0-0.5')	SWMU 1-33 (0-0.5')	SWMU 1-34 (0-0.5')	SWMU 1-35 (0-0.5')	SWMU 1-35 (1.5-2')
										1210859-005 10/16/2012	1210692-009 10/12/2012	1210692-010 10/12/2012	1210692-011 10/12/2012	1210692-012 10/12/2012	1210859-006 10/16/2012	1210692-014 10/12/2012	1210692-015 10/12/2012	1210692-016 10/12/2012	1210856-001 10/16/2012	1210856-002 10/16/2012	1210856-004 10/16/2012	1210856-005 10/16/2012	1210692-017 10/12/2012	1210692-018 10/12/2012
Total Petroleum Hydrocarbons - (EPA Method 8015B) mg/kg																								
Diesel Range Organics (DRO)	1.00E+03	(10)	1.00E+03	(10)	1.00E+03	(10)	-	-	mg/Kg	<10	<10	<10	27	<10	76	17	23	<10	<10	19	20	<10	12	15
Gasoline Range Organics (GRO)	-	-	-	-	-	-	-	-	mg/Kg	<5	9.3	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	24
Motor Oil Range Organics (MRO)	1.00E+03	(10)	1.00E+03	(10)	1.00E+03	(10)	-	-	mg/Kg	<48	<50	<50	53	<50	110	79	<49	<49	<51	100	110	<50	72	130

-- No screening level or analytical result available
NMED - Risk Assessment Guidance for Site Investigations and Remediation (June 14, 2012)
EPA - Regional Screening Levels (May 2012)
(1) NMED Residential Screening Level
(2) EPA Residential Screening Level
(3) EPA Residential - Screening Levels (May 2012) multiplied by 10 because the constituent is listed as carcinogenic
(4) NMED Construction Worker Screening Level
(5) EPA Industrial - Screening Levels (May 2012)
(6) EPA Industrial - Screening Levels (May 2012) multiplied by 10 pursuant to Provision VII.B. of the July 7, 2007 NMED Order because the constituent is listed as carcinogenic
(7) SoilGW NMED Dilution Attenuation Factor (DAF) = 461
(8) SoilGW Risk-based EPA DAF = 461
(9) SoilGW MCL-based EPA DAF = 461
(10) NMED Table 6-2 TPH Screening Guidelines for Potable Groundwater "unknown oil" with DAF = 1.0 - see report Section 5 for use of screening levels
(11) Background concentrations to be determined

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

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

Analytes	Residential Soil Screening Level	Source	Non- Residential Soil Screening Level	Source	Leachate DAF (461) SoilGW NMED	Source	Min	Background Concentrations (11)	Units	SWMU 1-35 (4-6')	SWMU 1-36 (0-0.5')	SWMU 1-37 (0-0.5')	SWMU 1-37 (1.5-2')	SWMU 1-37 (12-13')	SWMU 1-37 (13-14')	SWMU 1-37 (17-18')	SWMU 1-37 (8.5-9')	SWMU 1-37 (8-8.5')	SWMU 1-38 (0-0.5')	SWMU 1-38 (1.5-2')	SWMU 1-38 (6-8')	SWMU 1-39 (0-0.5')	
										1210692-019 10/12/2012	1210856-006 10/16/2012	1210653-001 10/10/2012	1210653-002 10/10/2012	1210653-005 10/10/2012	1210653-006 10/10/2012	1210653-007 10/10/2012	1210653-004 10/10/2012	1210653-003 10/10/2012	1210692-006 10/11/2012	1210692-007 10/11/2012	1210692-008 10/11/2012	1210859-002 10/16/2012	
Metals (mg/kg)																							
Antimony	3.13E+01	(1)	1.24E+02	(4)	3.05E+02	(7)	3.13E+01	-	mg/Kg	<5	<5	<5	<5	<5	<12.5	<12.5	<5	<5	<5	<5	<5	<5	
Arsenic	3.90E+00	(1)	5.30E+01	(4)	6.05E+00	(7)	3.90E+00	-	mg/Kg	2.3J	2.5J	<1.3	2.2J	<1.3	<3.1	3.9J	<1.3	2.1J	1.7J	1.9J	2.2J	<1.3	
Barium	1.56E+04	(1)	4.35E+03	(4)	1.39E+05	(7)	4.35E+03	-	mg/Kg	440	690	350	370	210	280	870	130	130	360	81	540	450	
Beryllium	1.56E+02	(1)	1.44E+02	(4)	2.66E+04	(7)	1.44E+02	-	mg/Kg	0.67	0.66	0.85	0.79	0.72	1.2	1	0.83	0.77	0.7	0.84	0.9	0.71	
Cadmium	7.03E+01	(1)	2.77E+02	(4)	6.33E+02	(7)	7.03E+01	-	mg/Kg	<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	
Chromium III	1.17E+05	(1)	4.65E+05	(4)	4.54E+10	(7)	1.17E+05	-	mg/Kg	9.8	21	17	24	15	13	13	8.6	10	24	12	12	10	
Chromium VI	2.97E+00	(1)	6.56E+01	(4)	3.83E+00	(7)	2.97E+00	-	mg/Kg	9.8	21	17	24	15	13	13	8.6	10	24	12	12	10	
Cobalt	2.30E+01	(2)	3.00E+02	(5)	9.68E+01	(8)	2.30E+01	-	mg/Kg	3.6	4.3	4.7	4.4	4.1	6	6.2	3.8	4.1	3.9	4.9	5.2	3.9	
Cyanide	4.69E+01	(1)	1.86E+02	(4)	1.02E+02	(7)	4.69E+01	-	mg/Kg	<0.287	<0.255	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	1	0.3	<0.293	<0.259	
Iron	5.48E+04	(1)	2.17E+05	(4)	2.98E+05	(7)	5.48E+04	-	mg/Kg	16000	16000	18000	16000	15000	20000	24000	16000	18000	14000	20000	22000	18000	
Lead	4.00E+02	(1)	8.00E+02	(4)	6.45E+03	(8)	4.00E+02	-	mg/Kg	3.3	6.8	2.8	3.1	2.8	4	5	2.8	3.6	2.8	3.2	<0.5	4.6	
Manganese	1.86E+03	(1)	4.40E+02	(4)	2.64E+04	(7)	4.40E+02	-	mg/Kg	770	580	610	570	530	320	1400	230	350	480	600	570	580	
Mercury	1.56E+01	(1)	1.36E+01	(4)	1.51E+01	(7)	1.36E+01	-	mg/Kg	<0.033	0.2	0.051	0.054	<0.033	<0.033	<0.033	<0.033	<0.033	0.08	<0.033	<0.033	<0.033	
Nickel	1.56E+03	(1)	6.19E+03	(4)	2.20E+04	(7)	1.56E+03	-	mg/Kg	6.2	12	8.4	7.6	6.9	11	12	6.9	7.3	7.7	8.5	11	6.2	
Selenium	3.91E+02	(1)	1.55E+03	(4)	4.45E+02	(7)	3.91E+02	-	mg/Kg	<5	<5	<5	<5	<5	<12.5	<12.5	<5	<5	<5	<5	<5	<5	
Silver	3.91E+02	(1)	1.55E+03	(4)	7.22E+02	(7)	3.91E+02	-	mg/Kg	<0.5	<0.5	<0.5	<0.5	<0.5	<1.2501	<1.25	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
Vanadium	3.91E+02	(1)	1.55E+03	(4)	8.42E+04	(7)	3.91E+02	-	mg/Kg	25	20	18	19	17	20	16	14	17	17	30	26	25	
Zinc	2.35E+04	(1)	9.29E+04	(4)	3.14E+05	(7)	2.35E+04	-	mg/Kg	12	50	22	25	16	20	21	13	16	34	18	22	16	
Volatile Organic Compounds - (EPA Method 8260) mg/kg																							
1,1,1,2-Tetrachloroethane	2.91E+01	(1)	7.79E+02	(4)	7.59E-01	(7)	7.59E-01	-	mg/Kg	<0.0007	<0.0009	<0.001	<0.0008	<0.0009	<0.0008	<0.0008	<0.0014	<0.0011	<0.0008	<0.0008	<0.0008	<0.0008	
1,1,1-Trichloroethane	1.56E+04	(1)	1.48E+04	(4)	1.34E+03	(7)	1.34E+03	-	mg/Kg	<0.0007	<0.0009	<0.001	<0.0008	<0.0009	<0.0008	<0.0008	<0.0014	<0.0011	<0.0008	<0.0008	<0.0008	<0.0008	
1,1,2,2-Tetrachloroethane	8.02E+00	(1)	2.21E+02	(4)	9.82E-02	(7)	9.82E-02	-	mg/Kg	<0.0007	<0.0009	<0.001	<0.0008	<0.0009	<0.0008	<0.0008	<0.0014	<0.0011	<0.0008	<0.0008	<0.0008	<0.0008	
1,1,2-Trichloroethane	2.81E+00	(1)	4.72E+02	(4)	5.14E-02	(7)	5.14E-02	-	mg/Kg	<0.0007	<0.0009	<0.001	<0.0008	<0.0009	<0.0008	<0.0008	<0.0014	<0.0011	<0.0008	<0.0008	<0.0008	<0.0008	
1,1-Dichloroethane	6.45E+01	(1)	1.70E+03	(4)	2.75E+00	(7)	2.75E+00	-	mg/Kg	<0.0007	<0.0009	<0.001	<0.0008	<0.0009	<0.0008	<0.0008	<0.0014	<0.0011	<0.0008	<0.0008	<0.0008	<0.0008	
1,1-Dichloroethene	4.49E+02	(1)	4.32E+02	(4)	5.36E+01	(7)	5.36E+01	-	mg/Kg	<0.0007	<0.0009	<0.001	<0.0008	<0.0009	<0.0008	<0.0008	<0.0014	<0.0011	<0.0008	<0.0008	<0.0008	<0.0008	
1,1-Dichloropropene	-	-	-	-	-	-	-	-	mg/Kg	<0.0007	<0.0009	<0.001	<0.0008	<0.0009	<0.0008	<0.0008	<0.0014	<0.0011	<0.0008	<0.0008	<0.0008	<0.0008	
1,2,3-Trichlorobenzene	4.90E+01	(2)	4.90E+02	(5)	6.92E+00	(8)	6.92E+00	-	mg/Kg	<0.0007	<0.0009	<0.001	<0.0008	<0.0009	<0.0008	<0.0008	<0.0014	<0.0011	<0.0008	<0.0008	<0.0008	<0.0008	
1,2,3-Trichloropropane	4.97E-02	(1)	7.23E+00	(4)	1.15E-03	(7)	1.15E-03	-	mg/Kg	<0.0007	<0.0009	<0.001	<0.0008	<0.0009	<0.0008	<0.0008	<0.0014	<0.0011	<0.0008	<0.0008	<0.0008	<0.0008	
1,2,4-Trichlorobenzene	7.30E+01	(1)	6.87E+01	(4)	4.21E+00	(7)	4.21E+00	-	mg/Kg	<0.0007	<0.0009	<0.001	<0.0008	<0.0009	<0.0008	<0.0008	<0.0014	<0.0011	<0.0008	<0.0008	<0.0008	<0.0008	
1,2,4-Trimethylbenzene	6.20E+01	(2)	2.60E+02	(5)	9.68E+00	(8)	9.68E+00	-	mg/Kg	0.00177	0.00313	0.00193	0.00112	<0.0009	<0.0008	0.00196	<0.0014	<0.0011	<0.0008	<0.0008	0.00123	<0.0008	
1,2-Dibromo-3-chloropropane	1.86E+00	(1)	5.07E+00	(4)	5.07E-04	(7)	5.07E-04	-	mg/Kg	<0.0007	<0.0009	<0.001	<0.0008	<0.0009	<0.0008	<0.0008	<0.0014	<0.0011	<0.0008	<0.0008	<0.0008	<0.0008	
1,2-Dibromoethane (EDB)	5.88E-01	(1)	1.60E+01	(4)	7.10E-03	(7)	7.10E-03	-	mg/Kg	<0.0007	<0.0009	<0.001	<0.0008	<0.0009	<0.0008	<0.0008	<0.0014	<0.0011	<0.0008	<0.0008	<0.0008	<0.0008	
1,2-Dichlorobenzene	2.31E+03	(1)	2.71E+03	(4)	1.29E+02	(7)	1.29E+02	-	mg/Kg	<0.0007	<0.0009	<0.001	<0.0008	<0.0009	<0.0008	<0.0008	<0.0014	<0.0011	<0.0008	<0.0008	<0.0008	<0.0008	
1,2-Dichloroethane (EDC)	7.89E+00	(1)	5.87E+01	(4)	1.64E-01	(7)	1.																

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

Analytes	Residential Soil Screening Level	Source	Non- Residential Soil Screening Level	Source	Leachate DAF (461) SoilGW NMED	Source	Min	Background Concentrations (11)	Units	SWMU 1-35 (4-6')	SWMU 1-36 (0-0.5')	SWMU 1-37 (0-0.5')	SWMU 1-37 (1.5-2')	SWMU 1-37 (12-13')	SWMU 1-37 (13-14')	SWMU 1-37 (17-18')	SWMU 1-37 (8.5-9')	SWMU 1-37 (8-8.5')	SWMU 1-38 (0-0.5')	SWMU 1-38 (1.5-2')	SWMU 1-38 (6-8')	SWMU 1-39 (0-0.5')
										1210692-019 10/12/2012	1210856-006 10/16/2012	1210653-001 10/10/2012	1210653-002 10/10/2012	1210653-005 10/10/2012	1210653-006 10/10/2012	1210653-007 10/10/2012	1210653-004 10/10/2012	1210653-003 10/10/2012	1210692-006 10/11/2012	1210692-007 10/11/2012	1210692-008 10/11/2012	1210859-002 10/16/2012
Bromodichloromethane	5.41E+00	(1)	1.43E+02	(4)	1.25E-01	(7)	1.25E-01	-	mg/Kg	<0.0007	<0.0009	<0.001	<0.0008	<0.0009	<0.0008	<0.0008	<0.0014	<0.0011	<0.0008	<0.0008	<0.0008	<0.0008
Bromoform	6.16E+02	(1)	4.76E+03	(4)	2.78E+02	(7)	2.78E+02	-	mg/Kg	<0.0007	<0.0009	<0.001	<0.0008	<0.0009	<0.0008	<0.0008	<0.0014	<0.0011	<0.0008	<0.0008	<0.0008	<0.0008
Bromomethane	1.65E+01	(1)	1.64E+01	(4)	8.86E-01	(7)	8.86E-01	-	mg/Kg	<0.0007	<0.0009	<0.001	<0.0008	<0.0009	<0.0008	<0.0008	<0.0014	<0.0011	<0.0008	<0.0008	<0.0008	<0.0008
Carbon disulfide	1.53E+03	(1)	1.58E+03	(4)	1.30E+02	(7)	1.30E+02	-	mg/Kg	<0.007	<0.0095	<0.0096	<0.0076	<0.0092	<0.0084	<0.0081	<0.0136	<0.0105	<0.0085	<0.0079	<0.008	<0.0077
Carbon tetrachloride	1.08E+01	(1)	2.26E+02	(4)	7.39E-01	(7)	7.39E-01	-	mg/Kg	<0.0007	<0.0009	<0.001	<0.0008	<0.0009	<0.0008	<0.0008	<0.0014	<0.0011	<0.0008	<0.0008	<0.0008	<0.0008
Chlorobenzene	3.76E+02	(1)	4.06E+02	(4)	2.27E+01	(7)	2.27E+01	-	mg/Kg	<0.0007	<0.0009	<0.001	<0.0008	<0.0009	<0.0008	<0.0008	<0.0014	<0.0011	<0.0008	<0.0008	<0.0008	<0.0008
Chloroethane	2.98E+04	(1)	2.61E+04	(4)	2.48E+03	(7)	2.48E+03	-	mg/Kg	<0.0007	<0.0009	<0.001	<0.0008	<0.0009	<0.0008	<0.0008	<0.0014	<0.0011	<0.0008	<0.0008	<0.0008	<0.0008
Chloroform	5.86E+00	(1)	1.54E+02	(4)	2.12E-01	(7)	2.12E-01	-	mg/Kg	<0.0007	<0.0009	<0.001	<0.0008	<0.0009	<0.0008	<0.0008	<0.0014	<0.0011	<0.0008	<0.0008	<0.0008	<0.0008
Chloromethane	2.75E+02	(1)	2.41E+02	(4)	2.03E+01	(7)	2.03E+01	-	mg/Kg	<0.0007	<0.0009	<0.001	<0.0008	<0.0009	<0.0008	<0.0008	<0.0014	<0.0011	<0.0008	<0.0008	<0.0008	<0.0008
cis-1,2-DCE	1.56E+02	(1)	6.19E+02	(4)	8.47E+00	(7)	8.47E+00	-	mg/Kg	<0.0007	<0.0009	<0.001	<0.0008	<0.0009	<0.0008	<0.0008	<0.0014	<0.0011	<0.0008	<0.0008	<0.0008	<0.0008
cis-1,3-Dichloropropene	3.37E+01	(1)	2.09E+02	(4)	5.71E-01	(7)	5.71E-01	-	mg/Kg	<0.0007	<0.0009	<0.001	<0.0008	<0.0009	<0.0008	<0.0008	<0.0014	<0.0011	<0.0008	<0.0008	<0.0008	<0.0008
Dibromochloromethane	1.21E+01	(1)	3.32E+02	(4)	1.52E-01	(7)	1.52E-01	-	mg/Kg	<0.0007	<0.0009	<0.001	<0.0008	<0.0009	<0.0008	<0.0008	<0.0014	<0.0011	<0.0008	<0.0008	<0.0008	<0.0008
Dibromomethane	5.16E+01	(1)	3.10E+03	(4)	7.89E-01	(7)	7.89E-01	-	mg/Kg	<0.0007	<0.0009	<0.001	<0.0008	<0.0009	<0.0008	<0.0008	<0.0014	<0.0011	<0.0008	<0.0008	<0.0008	<0.0008
Dichlorodifluoromethane	1.68E+02	(1)	1.49E+02	(4)	1.71E+02	(7)	1.49E+02	-	mg/Kg	<0.0007	<0.0009	<0.001	<0.0008	<0.0009	<0.0008	<0.0008	<0.0014	<0.0011	<0.0008	<0.0008	<0.0008	<0.0008
Ethylbenzene	6.84E+01	(1)	1.83E+03	(4)	5.98E+00	(7)	5.98E+00	-	mg/Kg	0.00107	0.00147	0.00119	<0.0008	<0.0009	<0.0008	0.00187	<0.0014	<0.0011	0.00165	0.00135	0.00107	<0.0008
Hexachlorobutadiene	6.11E+01	(1)	2.38E+02	(4)	5.91E+00	(7)	5.91E+00	-	mg/Kg	<0.0007	<0.0009	<0.001	<0.0008	<0.0009	<0.0008	<0.0008	<0.0014	<0.0011	<0.0008	<0.0008	<0.0008	<0.0008
Isopropylbenzene	2.43E+03	(1)	2.81E+03	(4)	3.99E+02	(7)	3.99E+02	-	mg/Kg	<0.0007	<0.0009	<0.001	<0.0008	<0.0009	<0.0008	<0.0008	<0.0014	<0.0011	<0.0008	<0.0008	<0.0008	<0.0008
Methyl tert-butyl ether (MTBE)	9.01E+02	(1)	2.49E+04	(4)	1.11E+01	(7)	1.11E+01	-	mg/Kg	<0.0007	<0.0009	<0.001	<0.0008	0.00957	0.00477	<0.0008	0.0444	0.0101	<0.0008	<0.0008	<0.0008	<0.0008
Methylene chloride	4.09E+02	(1)	1.12E+03	(4)	1.90E+01	(7)	1.90E+01	-	mg/Kg	<0.0021	<0.0028	<0.0029	<0.0023	<0.0028	<0.0025	<0.0024	<0.0041	<0.0032	<0.0025	<0.0024	<0.0024	<0.0023
Naphthalene	4.30E+01	(1)	1.58E+02	(4)	1.64E+00	(7)	1.64E+00	-	mg/Kg	<0.0014	<0.0019	<0.0019	<0.0015	<0.0018	<0.0017	<0.0016	<0.0027	<0.0021	<0.0017	<0.0016	<0.0016	<0.0015
n-Butylbenzene	3.90E+03	(2)	5.10E+04	(5)	1.15E+03	(8)	1.15E+03	-	mg/Kg	<0.0007	<0.0009	<0.001	<0.0008	<0.0009	<0.0008	<0.0008	<0.0014	<0.0011	<0.0008	<0.0008	<0.0008	<0.0008
n-Propylbenzene	3.40E+03	(2)	2.10E+04	(5)	4.56E+02	(8)	4.56E+02	-	mg/Kg	<0.0007	<0.0009	<0.001	<0.0008	<0.0009	<0.0008	<0.0008	<0.0014	<0.0011	<0.0008	<0.0008	<0.0008	<0.0008
sec-Butylbenzene	-	-	-	-	-	-	-	-	mg/Kg	<0.0007	<0.0009	<0.001	<0.0008	<0.0009	<0.0008	<0.0008	<0.0014	<0.0011	<0.0008	<0.0008	<0.0008	<0.0008
Styrene	7.28E+03	(1)	9.99E+03	(4)	6.40E+02	(7)	6.40E+02	-	mg/Kg	<0.0007	<0.0009	<0.001	<0.0008	<0.0009	<0.0008	<0.0008	<0.0014	<0.0011	<0.0008	<0.0008	<0.0008	<0.0008
tert-Butylbenzene	-	-	-	-	-	-	-	-	mg/Kg	<0.0007	<0.0009	<0.001	<0.0008	<0.0009	<0.0008	<0.0008	<0.0014	<0.0011	<0.0008	<0.0008	<0.0008	<0.0008
Tetrachloroethene (PCE)	7.02E+00	(1)	2.12E+02	(4)	1.98E-01	(7)	1.98E-01	-	mg/Kg	<0.0007	<0.0009	<0.001	<0.0008	<0.0009	<0.0008	<0.0008	<0.0014	<0.0011	<0.0008	<0.0008	<0.0008	<0.0008
Toluene	5.27E+03	(1)	1.34E+04	(4)	5.84E+02	(7)	5.84E+02	-	mg/Kg	0.00423	0.00652	0.00454	0.00259	0.000948	0.00127	0.0074	0.00179	0.00109	0.0019	0.00114	0.00448	0.00109
trans-1,2-DCE	2.70E+02	(1)	2.73E+02	(4)	1.24E+01	(7)	1.24E+01	-	mg/Kg	<0.0007	<0.0009	<0.001	<0.0008	<0.0009	<0.0008	<0.0008	<0.0014	<0.0011	<0.0008	<0.0008	<0.0008	<0.0008
trans-1,3-Dichloropropene	-	-	-	-	-	-	-	-	mg/Kg	<0.0007	<0.0009	<0.001	<0.0008	<0.0009	<0.0008	<0.0008	<0.0014	<0.0011	<0.0008	<0.0008	<0.0008	<0.0008
Trichloroethene (TCE)	8.77E+0																					

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

Analytes	Residential Soil Screening Level	Source	Non- Residential Soil Screening Level	Source	Leachate DAF (461) (mg/kg) SoilGW NMED	Source	Min	Background Concentrations (11)	Units	SWMU 1-35 (4-6')	SWMU 1-36 (0-0.5')	SWMU 1-37 (0-0.5')	SWMU 1-37 (1.5-2')	SWMU 1-37 (1.5-13')	SWMU 1-37 (1.5-14')	SWMU 1-37 (17-18')	SWMU 1-37 (8.5-9')	SWMU 1-37 (8-8.5')	SWMU 1-38 (0-0.5')	SWMU 1-38 (1.5-2')	SWMU 1-38 (6-8')	SWMU 1-39 (0-0.5')
										1210692-019 10/12/2012	1210856-006 10/16/2012	1210653-001 10/10/2012	1210653-002 10/10/2012	1210653-005 10/10/2012	1210653-006 10/10/2012	1210653-007 10/10/2012	1210653-004 10/10/2012	1210653-003 10/10/2012	1210692-006 10/11/2012	1210692-007 10/11/2012	1210692-008 10/11/2012	1210859-002 10/16/2012
3,3'-Dichlorobenzidine	1.08E+01	(1)	3.64E+02	(4)	3.41E+00	(7)	3.41E+00	-	mg/Kg	<0.5013	<2.4992	<0.5007	<0.51	<0.249	<0.247	<0.2503	<0.2476	<0.2471	<0.2529	<0.5032	<0.2495	<0.2488
3+4-Methylphenol	-	-	-	-	-	-	-	-	mg/Kg	<0.4011	<1.9993	<0.4005	<0.408	<0.1992	<0.1976	<0.2002	<0.1981	<0.1977	<0.2023	<0.4025	<0.1996	<0.199
3-Nitroaniline	-	-	-	-	-	-	-	-	mg/Kg	<0.4011	<1.9993	<0.4005	<0.408	<0.1992	<0.1976	<0.2002	<0.1981	<0.1977	<0.2023	<0.4025	<0.1996	<0.199
4,6-Dinitro-2-methylphenol	4.90E+00	(2)	4.90E+01	(5)	9.22E-01	(8)	9.22E-01	-	mg/Kg	<1.0027	<4.9983	<1.0013	<1.0201	<0.498	<0.4939	<0.5005	<0.4952	<0.4942	<0.5057	<1.0064	<0.499	<0.4975
4-Bromophenyl phenyl ether	-	-	-	-	-	-	-	-	mg/Kg	<0.4011	<1.9993	<0.4005	<0.408	<0.1992	<0.1976	<0.2002	<0.1981	<0.1977	<0.2023	<0.4025	<0.1996	<0.199
4-Chloro-3-methylphenol	6.10E+03	(2)	6.20E+04	(5)	5.99E+02	(8)	5.99E+02	-	mg/Kg	<1.0027	<4.9983	<1.0013	<1.0201	<0.498	<0.4939	<0.5005	<0.4952	<0.4942	<0.5057	<1.0064	<0.499	<0.4975
4-Chloroaniline	2.40E+01	(3)	8.60E+01	(6)	5.99E-02	(8)	5.99E-02	-	mg/Kg	<1.0027	<4.9983	<1.0013	<1.0201	<0.498	<0.4939	<0.5005	<0.4952	<0.4942	<0.5057	<1.0064	<0.499	<0.4975
4-Chlorophenyl phenyl ether	-	-	-	-	-	-	-	-	mg/Kg	<0.4011	<1.9993	<0.4005	<0.408	<0.1992	<0.1976	<0.2002	<0.1981	<0.1977	<0.2023	<0.4025	<0.1996	<0.199
4-Nitroaniline	2.40E+02	(3)	8.60E+02	(6)	6.45E-01	(8)	6.45E-01	-	mg/Kg	<0.8021	<3.9987	<0.8011	<0.816	<0.3984	<0.3951	<0.4004	<0.3962	<0.3954	<0.4046	<0.8051	<0.3992	<0.398
4-Nitrophenol	-	-	-	-	-	-	-	-	mg/Kg	<0.5013	<2.4992	<0.5007	<0.51	<0.249	<0.247	<0.2503	<0.2476	<0.2471	<0.2529	<0.5032	<0.2495	<0.2488
Acenaphthene	3.44E+03	(1)	1.86E+04	(4)	7.79E+03	(7)	3.44E+03	-	mg/Kg	<0.4011	<1.9993	<0.4005	<0.408	<0.1992	<0.1976	<0.2002	<0.1981	<0.1977	<0.2023	<0.4025	<0.1996	<0.199
Acenaphthylene	-	-	-	-	-	-	-	-	mg/Kg	<0.4011	<1.9993	<0.4005	<0.408	<0.1992	<0.1976	<0.2002	<0.1981	<0.1977	<0.2023	<0.4025	<0.1996	<0.199
Aniline	8.50E+02	(3)	3.00E+03	(6)	1.80E+00	(8)	1.80E+00	-	mg/Kg	<0.4011	<1.9993	<0.4005	<0.408	<0.1992	<0.1976	<0.2002	<0.1981	<0.1977	<0.2023	<0.4025	<0.1996	<0.199
Anthracene	1.72E+04	(1)	6.68E+04	(4)	1.25E+05	(7)	1.72E+04	-	mg/Kg	<0.4011	<1.9993	<0.4005	<0.408	<0.1992	<0.1976	<0.2002	<0.1981	<0.1977	<0.2023	<0.4025	<0.1996	<0.199
Azobenzene	5.10E+01	(3)	2.30E+02	(6)	3.69E-01	(8)	3.69E-01	-	mg/Kg	<0.4011	<1.9993	<0.4005	<0.408	<0.1992	<0.1976	<0.2002	<0.1981	<0.1977	<0.2023	<0.4025	<0.1996	<0.199
Benz(a)anthracene	1.48E+00	(1)	2.13E+02	(4)	3.61E+01	(7)	1.48E+00	-	mg/Kg	<0.4011	<1.9993	<0.4005	<0.408	<0.1992	<0.1976	<0.2002	<0.1981	<0.1977	<0.2023	<0.4025	<0.1996	<0.199
Benzo(a)pyrene	1.48E+00	(1)	2.13E+01	(4)	1.20E+01	(7)	1.48E-01	-	mg/Kg	<0.4011	<1.9993	<0.4005	<0.408	<0.1992	<0.1976	<0.2002	<0.1981	<0.1977	<0.2023	<0.4025	<0.1996	<0.199
Benzo(b)fluoranthene	1.48E+00	(1)	2.13E+02	(4)	1.22E+02	(7)	1.48E+00	-	mg/Kg	<0.4011	<1.9993	<0.4005	<0.408	<0.1992	<0.1976	<0.2002	<0.1981	<0.1977	<0.2023	<0.4025	<0.1996	<0.199
Benzo(g,h,i)perylene	-	-	-	-	-	-	-	-	mg/Kg	<0.4011	<1.9993	<0.4005	<0.408	<0.1992	<0.1976	<0.2002	<0.1981	<0.1977	<0.2023	<0.4025	<0.1996	<0.199
Benzo(k)fluoranthene	1.48E+01	(1)	2.06E+03	(4)	1.20E+03	(7)	1.48E+01	-	mg/Kg	<0.4011	<1.9993	<0.4005	<0.408	<0.1992	<0.1976	<0.2002	<0.1981	<0.1977	<0.2023	<0.4025	<0.1996	<0.199
Benzoic acid	2.40E+05	(2)	2.50E+06	(5)	6.45E+03	(8)	6.45E+03	-	mg/Kg	<1.0027	<4.9983	<1.0013	<1.0201	<0.498	<0.4939	<0.5005	<0.4952	<0.4942	<0.5057	<1.0064	<0.499	<0.4975
Benzyl alcohol	6.10E+03	(2)	6.20E+04	(5)	1.71E+02	(8)	1.71E+02	-	mg/Kg	<0.4011	<1.9993	<0.4005	<0.408	<0.1992	<0.1976	<0.2002	<0.1981	<0.1977	<0.2023	<0.4025	<0.1996	<0.199
Bis(2-chloroethoxy)methane	1.80E+02	(2)	1.80E+03	(5)	5.07E+00	(8)	5.07E+00	-	mg/Kg	<0.4011	<1.9993	<0.4005	<0.408	<0.1992	<0.1976	<0.2002	<0.1981	<0.1977	<0.2023	<0.4025	<0.1996	<0.199
Bis(2-chloroethyl)ether	2.68E+00	(1)	7.78E+01	(4)	1.21E-02	(7)	1.21E-02	-	mg/Kg	<0.4011	<1.9993	<0.4005	<0.408	<0.1992	<0.1976	<0.2002	<0.1981	<0.1977	<0.2023	<0.4025	<0.1996	<0.199
Bis(2-chloroisopropyl)ether	9.15E+01	(1)	3.10E+03	(4)	1.07E+00	(7)	1.07E+00	-	mg/Kg	<0.4011	<1.9993	<0.4005	<0.408	<0.1992	<0.1976	<0.2002	<0.1981	<0.1977	<0.2023	<0.4025	<0.1996	<0.199
Bis(2-ethylhexyl)phthalate	3.47E+02	(1)	4.76E+03	(4)	3.97E+03	(7)	3.47E+02	-	mg/Kg	<1.0027	<4.9983	<1.0013	<1.0201	<0.498	<0.4939	<0.5005	<0.4952	<0.4942	<0.5057	<1.0064	<0.499	<0.4975
Butyl benzyl phthalate	2.60E+03	(3)	9.10E+03	(6)	9.22E+01	(8)	9.22E+01	-	mg/Kg	<0.4011	<1.9993	<0.4005	<0.408	<0.1992	<0.1976	<0.2002	<0.1981	<0.1977	<0.2023	<0.4025	<0.1996	<0.199
Carbazole	-	-	-	-	-	-	-	-	mg/Kg	<0.4011	<1.9993	<0.4005	<0.408	<0.1992	<0.1976	<0.2002	<0.1981	<0.1977	<0.2023	<0.4025	<0.1996	<0.199
Chrysene	1.48E+02	(1)	2.06E+04	(4)	3.68E+03	(7)	1.48E+02	-	mg/Kg	<0.4011	<1.9993	<0.4005	<0.408	<0.1992	<0.1976	<0.2002	<0.1981	<0.1977	<0.2023	<0.4025	<0.1996	<0.199
Dibenz(a,h)anthracene	1.48E-01	(1)	2.13E+01	(4)	3.90E+01	(7)	1.48E-01	-	mg/Kg	<0.4011	<1.9993	<0.4005	<0.408	<0.1992	<0.1976	<0.2002	<0.1981	<0.1977	<0.2023	<0.4025	<0.1996	<0.199
Dibenzofuran	7.80E+01	(2)	1.00E+03	(5)	5.07E+01	(8)	5.07E+01	-	mg/Kg	<0.4011	<1.9993	<0.4005	<0.408	<0.1992	<0.1976	<0.2002	<0.1981	<0.1977	<0.2023	<0.4025	<0.1996	<0.199
Diethyl phthalate	4.89E+04	(1)	1.91E+05	(4)	4.45E+03	(7)	4.45E+03	-	mg/Kg	<0.4011	<1.9993	<0.4005	<0.408	<0.1992	<0.1976	<0.2002	<0.1981	<0.1977	<0.2023	<0.4025	<0.1996	<0.199
Dimethyl phthalate	6.11E+05	(1)	2.38E+06	(4)	3.71E+04	(7)	3.71E+04	-	mg/Kg	<0.4011	<1.9993	<0.4005	<0.408	<0.1992	<0.1976	<0.2002	<0.1981	<0.1977	<0.2023	<0.4025	<0.1996	<0.199
Di-n-butyl phthalate	6.11E+03	(1)	2.38E+04	(4)	3.21E+03	(7)	3.21E+03	-	mg/Kg	<1.0027	<4.9983	<1.0013	<1.0201	<0.498	<0.4939	<0.5005	<0.4952	<0.4942	<0.5057	<1.0064	<0.499	<0.4975
Di-n-octyl phthalate	-	-	-	-	-	-	-	-	mg/Kg	<0.8021	<3.9987	<0.8011	<0.816	<0.3984	<0.3951	<0.4004	<0.3962	<0.3954	<0.4046	<0.8051	<0.3992	<0.398
Fluoranthene	2.29E+03	(1)	8.91E+03	(4)	5.61E+04	(7)	2.29E+03	-	mg/Kg	<0.4011	<1.9993	<0.4005	<0.408	<0.1992	<0.1976	<0.2002	<0.1981	<0.1977	<0.2023	<0.4025	<0.1996	<0.199
Fluorene	2.29E+03	(1)	8.91E+03	(4)	9.36E+03	(7)	2.29E+03	-	mg/Kg	<0.4011	<1.9993	<0.4005	<0.408	<0.1992	<0.1976	<0.2002	<0.1981	<0.1977	<0.2023	<0.4025	<0.1996	<0.199
Hexachlorobenzene	3.04E+00	(1)	1.03E+02	(4)	1.83E+00	(7)	1.83E+00	-	mg/Kg	<0.4011	<1.9993	<0.4005	<0.408	<0.1992	<0.1976	<0.2002	<0.1981	<0.1977	<0.2023	<0.4025	<0.1996	<0.199
Hexachlorobutadiene	6.11E+01	(1)	2.38E+02	(4)	5.91E+00	(7)	5.91E+00	-	mg/Kg	<0.4011	<1.9993	<0.4005	<0.408	<0.1992	<0.1976	<0.2002	<0.1981	<0.1977	<0.2023	<0.4025	<0.1996	<0.199
Hexachlorocyclopentadiene	3.67E+02	(1)	8.11E+02	(4)	2.43E+02	(7)	2.43E+02	-	mg/Kg	<0.4011	<1.9993	<0.4005	<0.408	<0.1992	<0.1976	<0.2002	<0.1981	<0.1977	<0.2023	<0.4025	<0.1996	<0.199
Hexachloroethane	4.28E+01	(1)	1.67E+02	(4)	3.77E+00	(7)	3.77E+00	-	mg/Kg	<0.4011	<1.9993	<0.4005	<0.408	<0.1992	<0.1976	<0.2002	<0.1981	<0.1977	<0.2023	<0.4025	<0.1996	<0.199
Indeno(1,2,3-cd)pyrene	1.48E+00	(1)	2.13E+02	(4)	3.98E+02	(7)	1.48E+00	-	mg/Kg	<0.4011	<1.9993	<0.4005	<0.408	<0.1992	<0.1976	<0.2002	<0.1981	<0.1977	<0.2023	<0.4025	<0.1996	<0.199
Isophorone	5.12E+03	(1)	4.75E+04	(4)	8.84E+01	(7)	8.84E+01	-	mg/Kg	<1.0027	<4.9983	<1.0013	<1.0201	<0.498	<0.4939	<0.5005	<0.4952	<0.4942	<0.5057	<1.0064	<0.499	<0.4975
Naphthalene	4.30E+01	(1)	1.58E+02	(4)	1.64E+00	(7)	1.64E+00	-	mg/Kg	<0.4011	<1.9993	<0.4005	<0.408	<0.1992	<0.1976	<0.2002	<0.1981	<0.1977	<0.2023	<0.4025	<0.1996	<0.199
Nitrobenzene																						

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

Analytes	Residential Soil Screening Level	Source	Non- Residential Soil Screening Level	Source	Leachate DAF (461) (mg/kg) SoilGW NMED	Source	Min	Background Concentrations (11)	Units	SWMU 1-35 (4-6')	SWMU 1-36 (0-0.5')	SWMU 1-37 (0-0.5')	SWMU 1-37 (1.5-2')	SWMU 1-37 (12-13')	SWMU 1-37 (13-14')	SWMU 1-37 (17-18')	SWMU 1-37 (8.5-9')	SWMU 1-37 (8-8.5')	SWMU 1-38 (0-0.5')	SWMU 1-38 (1.5-2')	SWMU 1-38 (6-8')	SWMU 1-39 (0-0.5')
										1210692-019 10/12/2012	1210856-006 10/16/2012	1210653-001 10/10/2012	1210653-002 10/10/2012	1210653-005 10/10/2012	1210653-006 10/10/2012	1210653-007 10/10/2012	1210653-004 10/10/2012	1210653-003 10/10/2012	1210692-006 10/11/2012	1210692-007 10/11/2012	1210692-008 10/11/2012	1210859-002 10/16/2012
Total Petroleum Hydrocarbons - (EPA Method 8015B) mg/kg																						
Diesel Range Organics (DRO)	1.00E+03	(10)	1.00E+03	(10)	1.00E+03	(10)	-	-	mg/Kg	<10	56	100	100	<10	<10	<10	<10	<10	<10	<10	<10	<10
Gasoline Range Organics (GRO)	-	-	-	-	-	-	-	-	mg/Kg	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Motor Oil Range Organics (MRO)	1.00E+03	(10)	1.00E+03	(10)	1.00E+03	(10)	-	-	mg/Kg	<52	150	130	130	<50	<50	<49	<51	<51	<51	<51	<51	<51

-- No screening level or analytical result available
NMED - Risk Assessment Guidance for Site Investigations and Remediation (June 14, 2012)
EPA - Regional Screening Levels (May 2012)
(1) NMED Residential Screening Level
(2) EPA Residential Screening Level
(3) EPA Residential - Screening Levels (May 2012) multiplied by 10 because the constituent is listed as carcinogenic
(4) NMED Construction Worker Screening Level
(5) EPA Industrial - Screening Levels (May 2012)
(6) EPA Industrial - Screening Levels (May 2012) multiplied by 10 pursuant to Provision VII.B. of the July 7, 2007 NMED Order because the constituent is listed as carcinogenic
(7) SoilGW NMED Dilution Attenuation Factor (DAF) = 461
(8) SoilGW Risk-based EPA DAF = 461
(9) SoilGW MCL-based EPA DAF = 461
(10) NMED Table 6-2 TPH Screening Guidelines for Potable Groundwater "unknown oil" with DAF = 1.0 - see report Section 5 for use of screening levels
(11) Background concentrations to be determined

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

Table 8
Old API Separator Soil Analytical Results Summary
Western Refining Southwest, Inc. - Gallup Refinery
Gallup, New Mexico

Analytes	Residential Soil Screening Level	Source	Non- Residential Soil Screening Level	Source	Leachate DAF (461) Soil/GW NMED	Source	Min	Background Concentrations (11)	SWMU 14-1 (0-0.5)	SWMU 14-1 (1.5-2)	SWMU 14-1 (10-12)	SWMU 14-1 (48-50')	SWMU 14-2 (0-0.5')	SWMU 14-2 (1.5-2.0')	SWMU 14-2 (16-18')	SWMU 14-2 (24-25')	SWMU 14-2 (8-10')	SWMU 14-3 (0-0.5')	SWMU 14-3 (1.5-2')	SWMU 14-3 (12-14')	SWMU 14-3 (25.5-26')	SWMU 14-3 (8-10')	SWMU 14-4 (0-0.5')	SWMU 14-4 (1.5-2.0')
									1207748-001 7/16/2012	1207748-002 7/16/2012	1207748-003 7/16/2012	1207900-006 7/18/2012	1207917-005 7/17/2012	1207917-006 7/17/2012	1207917-009 7/17/2012	1207917-010 7/17/2012	1207917-007 7/17/2012	1207900-001 7/18/2012	1207900-002 7/18/2012	1207900-004 7/18/2012	1207900-005 7/18/2012	1207900-003 7/18/2012	1207917-001 7/17/2012	1207917-002 7/17/2012
Metals (mg/kg)																								
Antimony	3.13E+01	(1)	1.24E+02	(4)	3.05E+02	(8)	3.13E+01	-	<12.5	<12.5	<12.5	<12.5	4	3.6	4.7	3.3	0.82	4.8	<2.5	<12.5	<12.5	<12.5	<2.5	<2.5
Arsenic	3.90E+00	(1)	5.30E+01	(4)	6.05E+00	(8)	3.90E+00	-	<0.77	<0.77	<0.77	<3.1	<3.1	<3.1	<3.1	<3.1	1.6J	<3.1	<3.1	<3.1	<3.1	<3.1	<3.1	<3.1
Barium	1.56E+04	(1)	4.35E+03	(4)	1.39E+05	(8)	4.35E+03	-	790	550	1100	750	700	470	520	460	400	920	560	350	630	380	870	870
Beryllium	1.56E+02	(1)	1.44E+02	(4)	2.66E+04	(8)	1.44E+02	-	0.61	0.89	0.69	1.4	0.68	0.76	1.3	1.1	0.58	0.77	0.65	0.67	1.1	0.8	0.33	0.51
Cadmium	7.03E+01	(1)	2.77E+02	(4)	6.33E+02	(8)	7.03E+01	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.5	<0.1	<0.5	<0.5	<0.5	<0.1	<0.1
Chromium III	1.17E+05	(1)	4.65E+05	(4)	4.54E+10	(8)	1.17E+05	-	6.8	11	11	20	8.8	12	18	18	76	11	19	110	17	100	3.4	5.2
Chromium VI	2.97E+00	(1)	6.56E+01	(4)	3.83E+00	(8)	2.97E+00	-	6.8	11	11	20	8.8	12	18	18	76	11	19	110	17	100	3.4	5.2
Cobalt	2.30E+01	(2)	3.00E+02	(5)	9.68E+01	(8)	2.30E+01	-	5.4	5.1	5	6.7	4.4	3.8	7.2	9.7	3.7	5.1	3.6	4.9	10	5.6	2.5	2.7
Cyanide	4.69E+01	(1)	1.86E+02	(4)	1.02E+02	(8)	4.69E+01	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.8	<0.5	<0.5	<0.5	<0.5	<0.5
Iron	5.48E+04	(1)	2.17E+05	(4)	2.98E+05	(8)	5.48E+04	-	9000	17000	14000	23000	14000	11000	26000	19000	14000	13000	11000	14000	21000	14000	3200	7500
Lead	4.00E+02	(1)	8.00E+02	(4)	6.45E+03	(8)	4.00E+02	-	3.6	4.6	2.5	2	3.3	4.4	1.2	<1.25	4.6	2.7	1.7	12	<1.25	11	<0.25	0.37
Manganese	1.86E+03	(1)	4.40E+02	(4)	2.64E+04	(8)	4.40E+02	-	570	510	590	720	510	530	1100	980	400	600	400	570	1400	350	320	340
Mercury	1.56E+01	(1)	1.36E+01	(4)	1.51E+01	(8)	1.36E+01	-	0.038	0.015	<0.033	<0.033	0.01	0.024	<0.033	<0.033	0.29	0.15	0.23	0.28	<0.033	0.65	0.014	0.017
Nickel	1.56E+03	(1)	6.19E+03	(4)	2.20E+04	(8)	1.56E+03	-	6.1	8.3	7.6	16	6.2	7.3	16	17	6.6	8	6	8.5	17	9.3	3.1	4.4
Selenium	3.91E+02	(1)	1.55E+03	(4)	4.45E+02	(8)	3.91E+02	-	<12.5	<50	<12.5	<12.5	<12.5	<12.501	<12.5	<12.5	<2.5	<12.5	<2.5	<12.5	<12.5	<12.5	<2.5	<2.5
Silver	3.91E+02	(1)	1.55E+03	(4)	7.22E+02	(8)	3.91E+02	-	<1.25	<1.25	<1.25	<1.25	<1.25	<1.25	<1.25	<1.25	<0.25	<1.25	<0.25	<1.25	<1.25	<1.25	<0.25	<0.25
Vanadium	3.91E+02	(1)	1.55E+03	(4)	8.42E+04	(8)	3.91E+02	-	17	26	24	9.8	31	21	22	52	20	23	18	31	24	29	17	13
Zinc	2.35E+04	(1)	9.29E+04	(4)	3.14E+05	(8)	2.35E+04	-	21	21	20	23	17	35	26	31	37	42	42	65	34	67	8.3	10
Volatile Organic Compounds - (EPA Method 8260) mg/kg																								
1,1,1,2-Tetrachloroethane	2.91E+01	(1)	7.79E+02	(4)	7.59E-01	(8)	7.59E-01	-	<0.001	<0.001	<0.001	<0.001	<0.05	<1	<0.001	<0.001	<1	<0.001	<0.05	<1	<0.001	<1	<0.001	<0.001
1,1,1-Trichloroethane	1.56E+04	(1)	1.48E+04	(4)	1.34E+03	(8)	1.34E+03	-	<0.001	<0.001	<0.001	<0.001	<0.05	<1	<0.001	<0.001	<1	<0.001	<0.05	<1	<0.001	<1	<0.001	<0.001
1,1,2,2-Tetrachloroethane	8.02E+00	(1)	2.21E+02	(4)	9.82E-02	(8)	9.82E-02	-	<0.001	<0.001	<0.001	<0.001	<0.05	<1	<0.001	<0.001	<1	<0.001	<0.05	<1	<0.001	<1	<0.001	<0.001
1,1,2-Trichloroethane	2.81E+00	(1)	4.72E+02	(4)	5.14E-02	(8)	5.14E-02	-	<0.001	<0.001	<0.001	<0.001	<0.05	<1	<0.001	<0.001	<1	<0.001	<0.05	<1	<0.001	<1	<0.001	<0.001
1,1-Dichloroethane	6.45E+01	(1)	1.70E+03	(4)	2.75E+00	(8)	2.75E+00	-	<0.001	<0.001	0.000229	<0.001	<0.1	<2	<0.001	<0.001	<2	<0.001	<0.1	<2	<0.001	<2	<0.001	<0.001
1,1-Dichloroethene	4.49E+02	(1)	4.32E+02	(4)	5.36E+01	(8)	5.36E+01	-	<0.001	<0.001	<0.001	<0.001	<0.05	<1	<0.001	<0.001	<1	<0.001	<0.05	<1	<0.001	<1	<0.001	<0.001
1,1-Dichloropropene	-	-	-	-	-	-	-	-	<0.001	<0.001	<0.001	<0.001	<0.1	<2	<0.001	<0.001	<2	<0.001	<0.1	<2	<0.001	<2	<0.001	<0.001
1,2,3-Trichlorobenzene	4.90E+01	(2)	4.90E+02	(5)	6.92E+00	(8)	6.92E+00	-	<0.001	<0.001	<0.001	<0.001	<0.1	<2	<0.001	<0.001	<2	<0.001	<0.1	<2	<0.001	<2	<0.001	<0.001
1,2,3-Trichloropropane	4.97E-02	(1)	7.23E+00	(4)	1.15E-03	(8)	1.15E-03	-	<0.001	<0.001	<0.001	<0.001	<0.1	<2	<0.001	<0.001	<2	<0.001	<0.1	<2	<0.001	<2	<0.001	<0.001
1,2,4-Trichlorobenzene	7.30E+01	(1)	6.87E+01	(4)	4.21E+00	(8)	4.21E+00	-	<0.001	<0.001	<0.001	<0.001	<0.05	<1	<0.001	<0.001	<1	<0.001	<0.05	<1	<0.001	<1	<0.001	<0.001
1,2,4-Trimethylbenzene	6.20E+01	(2)	2.60E+02	(5)	9.68E+00	(8)	9.68E+00	-	<0.001	<0.001	<0.001	<0.001	<0.05	1.8	<0.001	0.011	6.2	<0.001	<0.05	4.3	<0.001	6.2	<0.001	<0.001
1,2-Dibromo-3-chloropropane	1.86E+00	(1)	5.07E+00	(4																				

Table 8
Old API Separator Soil Analytical Results Summary
Western Refining Southwest, Inc. - Gallup Refinery
Gallup, New Mexico

Analytes	Residential Soil Screening Level	Source	Non- Residential Soil Screening Level	Source	Leachate DAF (461) SoilGW NMED	Source	Min	Background Concentrations (11)	SWMU 14-1 (0-0.5)	SWMU 14-1 (1.5-2)	SWMU 14-1 (10-12)	SWMU 14-1 (48-50')	SWMU 14-2 (0-0.5')	SWMU 14-2 (1.5-2.0')	SWMU 14-2 (16-18')	SWMU 14-2 (24-25')	SWMU 14-2 (8-10')	SWMU 14-3 (0-0.5')	SWMU 14-3 (1.5-2')	SWMU 14-3 (12-14')	SWMU 14-3 (25.5-26')	SWMU 14-3 (8-10')	SWMU 14-4 (0-0.5')	SWMU 14-4 (1.5-2.0')
									1207748-001 7/16/2012	1207748-002 7/16/2012	1207748-003 7/16/2012	1207900-006 7/18/2012	1207917-005 7/17/2012	1207917-006 7/17/2012	1207917-009 7/17/2012	1207917-010 7/17/2012	1207917-007 7/17/2012	1207900-001 7/18/2012	1207900-002 7/18/2012	1207900-004 7/18/2012	1207900-005 7/18/2012	1207900-003 7/18/2012	1207917-001 7/17/2012	1207917-002 7/17/2012
Bromomethane	1.65E+01	(1)	1.64E+01	(4)	8.86E-01	(8)	8.86E-01	-	-	-	-	-	<0.15	<3	-	-	<3	-	<0.15	<3	-	<3	-	-
Carbon disulfide	1.53E+03	(1)	1.58E+03	(4)	1.30E+02	(8)	1.30E+02	-	<0.002	<0.002	<0.002	<0.002	0.025	<10	<0.005	<0.005	<10	<0.002	<0.5	<10	<0.002	<10	<0.005	<0.004
Carbon tetrachloride	1.08E+01	(1)	2.26E+02	(4)	7.39E-01	(8)	7.39E-01	-	<0.001	<0.001	<0.001	<0.001	<0.1	<2	<0.001	<0.001	<2	<0.001	<0.1	<2	<0.001	<2	<0.001	<0.001
Chlorobenzene	3.76E+02	(1)	4.06E+02	(4)	2.27E+01	(8)	2.27E+01	-	<0.001	<0.001	<0.001	<0.001	<0.05	<1	<0.001	<0.001	<1	<0.001	<0.05	<1	<0.001	<1	<0.001	<0.001
Chloroethane	2.98E+04	(1)	2.61E+04	(4)	2.48E+03	(8)	2.48E+03	-	<0.001	<0.001	<0.001	<0.001	<0.1	<2	<0.001	<0.001	<2	<0.001	<0.1	<2	<0.001	<2	<0.001	<0.001
Chloroform	5.86E+00	(1)	1.54E+02	(4)	2.12E-01	(8)	2.12E-01	-	<0.001	<0.001	<0.001	<0.001	<0.05	<1	<0.001	<0.001	<1	<0.001	<0.05	<1	<0.001	<1	<0.001	<0.001
Chloromethane	2.75E+02	(1)	2.41E+02	(4)	2.03E+01	(8)	2.03E+01	-	<0.001	<0.001	<0.001	0.000764	0.013	<3	<0.001	<0.001	<3	<0.001	<0.15	<3	0.000433	<3	<0.001	<0.001
cis-1,2-DCE	1.56E+02	(1)	6.19E+02	(4)	8.47E+00	(8)	8.47E+00	-	<0.001	<0.001	<0.001	<0.001	<0.05	<1	<0.001	<0.001	<1	<0.001	<0.05	<1	<0.001	<1	<0.001	<0.001
cis-1,3-Dichloropropene	3.37E+01	(1)	2.09E+02	(4)	5.71E-01	(8)	5.71E-01	-	<0.001	<0.001	<0.001	<0.001	<0.05	<1	<0.001	<0.001	<1	<0.001	<0.05	<1	<0.001	<1	<0.001	<0.001
Dibromochloromethane	1.21E+01	(1)	3.32E+02	(4)	1.52E-01	(8)	1.52E-01	-	<0.001	<0.001	<0.001	<0.001	<0.05	<1	<0.001	<0.001	<1	<0.001	<0.05	<1	<0.001	<1	<0.001	<0.001
Dibromomethane	5.16E+01	(1)	3.10E+03	(4)	7.89E-01	(8)	7.89E-01	-	<0.001	<0.001	<0.001	<0.001	<0.1	<2	<0.001	<0.001	<2	<0.001	<0.1	<2	<0.001	<2	<0.001	<0.001
Dichlorodifluoromethane	1.68E+02	(1)	1.49E+02	(4)	1.71E+02	(8)	1.49E+02	-	<0.001	<0.001	<0.001	<0.001	<0.05	<1	<0.001	<0.001	<1	<0.001	<0.05	<1	<0.001	<1	<0.001	<0.001
Ethylbenzene	6.84E+01	(1)	1.83E+03	(4)	5.98E+00	(8)	5.98E+00	-	<0.001	<0.001	<0.001	<0.001	<0.05	0.19	<0.001	0.000973	1.1	<0.001	<0.05	0.84	<0.001	0.75	<0.001	<0.001
Hexachlorobutadiene	6.11E+01	(1)	2.38E+02	(4)	5.91E+00	(8)	5.91E+00	-	<0.001	<0.001	<0.001	<0.001	<0.1	<2	<0.001	<0.001	<2	<0.001	<0.1	<2	<0.001	<2	<0.001	<0.001
Isopropylbenzene	2.43E+03	(1)	2.81E+03	(4)	3.99E+02	(8)	3.99E+02	-	<0.001	<0.001	<0.001	<0.001	<0.05	<1	<0.001	0.000758	0.33	<0.001	<0.05	0.28	<0.001	0.3	<0.001	<0.001
Methyl tert-butyl ether (MTBE)	9.01E+02	(1)	2.49E+04	(4)	1.11E+01	(8)	1.11E+01	-	<0.001	<0.001	0.0131	<0.001	<0.05	<1	<0.002	<0.002	<1	<0.001	<0.05	<1	<0.001	<1	<0.002	0.00107
Methylene chloride	4.09E+02	(1)	1.12E+03	(4)	1.90E+01	(8)	1.90E+01	-	0.00171	0.00159	0.00197	<0.002	<0.15	<3	<0.005	<0.005	<3	<0.002	0.0078	0.14	<0.002	0.12	<0.005	<0.004
Naphthalene	4.30E+01	(1)	1.58E+02	(4)	1.64E+00	(8)	1.64E+00	-	<0.001	<0.001	<0.001	<0.001	<0.1	1.2	<0.001	0.00334	3	<0.001	0.013	2.2	<0.001	3.3	<0.001	<0.001
n-Butylbenzene	3.90E+03	(2)	5.10E+04	(5)	1.15E+03	(8)	1.15E+03	-	<0.001	<0.001	<0.001	<0.001	<0.05	0.27	<0.001	0.00168	0.66	<0.001	<0.05	0.67	<0.001	0.7	<0.001	<0.001
n-Propylbenzene	3.40E+03	(2)	2.10E+04	(5)	4.56E+02	(8)	4.56E+02	-	<0.001	<0.001	<0.001	<0.001	<0.05	0.16	<0.001	0.00203	0.69	<0.001	<0.05	0.56	<0.001	0.56	<0.001	<0.001
sec-Butylbenzene	-	-	-	-	-	-	-	-	<0.001	<0.001	0.000388	<0.001	<0.05	0.15	<0.001	0.000903	0.34	<0.001	<0.05	0.29	<0.001	0.34	<0.001	<0.001
Styrene	7.28E+03	(1)	9.99E+03	(4)	6.40E+02	(8)	6.40E+02	-	<0.001	<0.001	<0.001	<0.001	<0.05	<1	<0.001	<0.001	<1	<0.001	<0.05	<1	<0.001	<1	<0.001	<0.001
tert-Butylbenzene	-	-	-	-	-	-	-	-	<0.001	<0.001	<0.001	<0.001	<0.05	<1	<0.001	<0.001	<1	<0.001	<0.05	<1	<0.001	<1	<0.001	<0.001
Tetrachloroethene (PCE)	7.02E+00	(1)	2.12E+02	(4)	1.98E-01	(8)	1.98E-01	-	<0.001	<0.001	<0.001	<0.001	<0.05	<1	<0.001	<0.001	<1	<0.001	<0.05	<1	<0.001	<1	<0.001	<0.001
Toluene	5.27E+03	(1)	1.34E+04	(4)	5.84E+02	(8)	5.84E+02	-	<0.001	<0.001	<0.001	<0.001	<0.05	<1	<0.001	<0.001	<1	<0.001	<0.05	<1	<0.001	<1	<0.001	<0.001
trans-1,2-DCE	2.70E+02	(1)	2.73E+02	(4)	1.24E+01	(8)	1.24E+01	-	<0.001	<0.001	<0.001	<0.001	<0.05	<1	<0.001	<0.001	<1	<0.001	<0.05	<1	<0.001	<1	<0.001	<0.001
trans-1,3-Dichloropropene	-	-	-	-	-	-	-	-	<0.001	<0.001	<0.001	<0.001	<0.05	<1	<0.001	<0.001	<1	<0.001	<0.05	<1	<0.001	<1	<0.001	<0.001
Trichloroethene (TCE)	8.77E+00	(1)	7.68E+00	(4)	4.85E-01	(8)	4.85E-01	-	<0.001	<0.001	<0.001	<0.001	<0.05	<1	<0.001	<0.001	<1	<0.001	<0.05	<1	<0.0			

Table 8
Old API Separator Soil Analytical Results Summary
Western Refining Southwest, Inc. - Gallup Refinery
Gallup, New Mexico

Analytes	Residential Soil Screening Level	Source	Non- Residential Soil Screening Level	Source	Leachate DAF (461) Soil/GW NMED	Source	Min	Background Concentrations (11)	SWMU 14-1 (0-0.5)	SWMU 14-1 (1.5-2)	SWMU 14-1 (10-12)	SWMU 14-1 (48-50')	SWMU 14-2 (0-0.5)	SWMU 14-2 (1.5-2.0')	SWMU 14-2 (16-18')	SWMU 14-2 (24-25')	SWMU 14-2 (8-10')	SWMU 14-3 (0-0.5)	SWMU 14-3 (1.5-2')	SWMU 14-3 (12-14')	SWMU 14-3 (25.5-26')	SWMU 14-3 (8-10')	SWMU 14-4 (0-0.5')	SWMU 14-4 (1.5-2.0')
									1207748-001 7/16/2012	1207748-002 7/16/2012	1207748-003 7/16/2012	1207900-006 7/18/2012	1207917-005 7/17/2012	1207917-006 7/17/2012	1207917-009 7/17/2012	1207917-010 7/17/2012	1207917-007 7/17/2012	1207900-001 7/18/2012	1207900-002 7/18/2012	1207900-004 7/18/2012	1207900-005 7/18/2012	1207900-003 7/18/2012	1207917-001 7/17/2012	1207917-002 7/17/2012
4-Bromophenyl phenyl ether	-	-	-	-	-	-	-	-	<0.997	<1.001	<0.199	<0.199	<0.198	<0.996	<0.199	<0.2	<1.012	<1.003	<0.998	<1.003	<0.199	<2.001	<0.399	<0.402
4-Chloro-3-methylphenol	6.10E+03	(2)	6.20E+04	(5)	5.99E+02	(8)	5.99E+02	-	<2.492	<2.503	<0.498	<0.497	<0.496	<2.489	<0.498	<0.5	<2.53	<2.507	<2.494	<2.508	<0.497	<5.003	<0.997	<1.004
4-Chloroaniline	2.40E+01	(3)	8.60E+00	(6)	5.99E-02	(8)	5.99E-02	-	<2.492	<2.503	<0.498	<0.497	<0.496	<2.489	<0.498	<0.5	<2.53	<2.507	<2.494	<2.508	<0.497	<5.003	<0.997	<1.004
4-Chlorophenyl phenyl ether	-	-	-	-	-	-	-	-	<0.997	<1.001	<0.199	<0.199	<0.198	<0.996	<0.199	<0.2	<1.012	<1.003	<0.998	<1.003	<0.199	<2.001	<0.399	<0.402
4-Nitroaniline	2.40E+02	(3)	8.60E+01	(6)	6.45E-01	(8)	6.45E-01	-	<1.993	<2.002	<0.399	<0.398	<0.397	<1.991	<0.398	<0.4	<2.024	<2.005	<1.995	<2.006	<0.397	<4.003	<0.798	<0.803
4-Nitrophenol	-	-	-	-	-	-	-	-	<1.246	<1.251	<0.249	<0.249	<0.248	<1.245	<0.249	<0.25	<1.265	<1.253	<1.247	<1.254	<0.248	<2.502	<0.499	<0.502
Acenaphthene	3.44E+03	(1)	1.86E+04	(4)	7.79E+03	(8)	3.44E+03	-	<0.997	<1.001	<0.199	<0.199	<0.198	<0.996	<0.199	<0.2	<1.012	<1.003	<0.998	<1.003	<0.199	2	<0.399	<0.402
Acenaphthylene	-	-	-	-	-	-	-	-	<0.997	<1.001	<0.199	<0.199	<0.198	<0.996	<0.199	<0.2	<1.012	<1.003	<0.998	<1.003	<0.199	<2.001	<0.399	<0.402
Aniline	8.50E+02	(3)	3.00E+02	(6)	1.80E+00	(8)	1.80E+00	-	<0.997	<1.001	<0.199	<0.199	<0.198	<0.996	<0.199	<0.2	<1.012	<1.003	<0.998	<1.003	<0.199	<2.001	<0.399	<0.402
Anthracene	1.72E+04	(1)	6.68E+04	(4)	1.25E+05	(8)	1.72E+04	-	<0.997	<1.001	<0.199	<0.199	<0.198	<0.996	<0.199	<0.2	<1.012	<1.003	<0.998	<1.003	<0.199	<2.001	<0.399	<0.402
Azobenzene	5.10E+01	(3)	2.30E+01	(6)	3.69E-01	(8)	3.69E-01	-	<0.997	<1.001	<0.199	<0.199	<0.198	<0.996	<0.199	<0.2	<1.012	<1.003	<0.998	<1.003	<0.199	<2.001	<0.399	<0.402
Benz(a)anthracene	1.48E+00	(1)	2.13E+02	(4)	3.61E+01	(8)	1.48E+00	-	<0.997	<1.001	<0.199	<0.199	<0.198	<0.996	<0.199	<0.2	<1.012	<1.003	<0.998	<1.003	<0.199	<2.001	<0.399	<0.402
Benzo(a)pyrene	1.48E-01	(1)	2.13E+01	(4)	1.20E+01	(8)	1.48E-01	-	<0.997	<1.001	<0.199	<0.199	<0.198	<0.996	<0.199	<0.2	<1.012	<1.003	<0.998	<1.003	<0.199	<2.001	<0.399	<0.402
Benzo(b)fluoranthene	1.48E+00	(1)	2.13E+02	(4)	1.22E+02	(8)	1.48E+00	-	<0.997	<1.001	<0.199	<0.199	<0.198	<0.996	<0.199	<0.2	<1.012	<1.003	<0.998	<1.003	<0.199	<2.001	<0.399	<0.402
Benzo(g,h,i)perylene	-	-	-	-	-	-	-	-	<0.997	<1.001	<0.199	<0.199	<0.198	<0.996	<0.199	<0.2	<1.012	<1.003	<0.998	<1.003	<0.199	<2.001	<0.399	<0.402
Benzo(k)fluoranthene	1.48E+01	(1)	2.06E+03	(4)	1.20E+03	(8)	1.48E+01	-	<0.997	<1.001	<0.199	<0.199	<0.198	<0.996	<0.199	<0.2	<1.012	<1.003	<0.998	<1.003	<0.199	<2.001	<0.399	<0.402
Benzoic acid	2.40E+05	(2)	2.50E+06	(5)	6.45E+03	(8)	6.45E+03	-	<2.492	<2.503	<0.498	<0.497	<0.496	<2.489	<0.498	0.088	<2.53	<2.507	0.52	1.7	<0.497	<5.003	<0.997	<1.004
Benzyl alcohol	6.10E+03	(2)	6.20E+04	(5)	1.71E+02	(8)	1.71E+02	-	<0.997	<1.001	<0.199	<0.199	<0.198	<0.996	<0.199	<0.2	<1.012	<1.003	<0.998	<1.003	<0.199	<2.001	<0.399	<0.402
Bis(2-chloroethoxy)methane	1.80E+02	(2)	1.80E+03	(5)	5.07E+00	(8)	5.07E+00	-	<0.997	<1.001	<0.199	<0.199	<0.198	<0.996	<0.199	<0.2	<1.012	<1.003	<0.998	<1.003	<0.199	<2.001	<0.399	<0.402
Bis(2-chloroethyl)ether	2.68E+00	(1)	7.78E+01	(4)	1.21E-02	(8)	1.21E-02	-	<0.997	<1.001	<0.199	<0.199	<0.198	<0.996	<0.199	<0.2	<1.012	<1.003	<0.998	<1.003	<0.199	<2.001	<0.399	<0.402
Bis(2-chloroisopropyl)ether	9.15E+01	(1)	3.10E+03	(4)	1.07E+00	(8)	1.07E+00	-	<0.997	<1.001	<0.199	<0.199	<0.198	<0.996	<0.199	<0.2	<1.012	<1.003	<0.998	<1.003	<0.199	<2.001	<0.399	<0.402
Bis(2-ethylhexyl)phthalate	3.47E+02	(1)	4.76E+03	(4)	3.97E+03	(8)	3.47E+02	-	<2.492	<2.503	<0.498	<0.497	<0.496	<2.489	0.11	<0.5	<2.53	<2.507	<2.494	<2.508	<0.497	<5.003	0.24	<1.004
Butyl benzyl phthalate	2.60E+03	(3)	9.10E+02	(6)	9.22E+01	(8)	9.22E+01	-	<0.997	<1.001	<0.199	<0.199	<0.198	<0.996	<0.199	<0.2	<1.012	<1.003	<0.998	<1.003	<0.199	<2.001	<0.399	<0.402
Carbazole	-	-	-	-	-	-	-	-	<0.997	<1.001	<0.199	<0.199	<0.198	<0.996	<0.199	<0.2	<1.012	<1.003	<0.998	<1.003	<0.199	<2.001	<0.399	<0.402
Chrysene	1.48E+02	(1)	2.06E+04	(4)	3.68E+03	(8)	1.48E+02	-	<0.997	<1.001	<0.199	<0.199	<0.198	<0.996	<0.199	<0.2	<1.012	<1.003	<0.998	<1.003	<0.199	<2.001	<0.399	<0.402
Dibenz(a,h)anthracene	1.48E-01	(1)	2.13E+01	(4)	3.90E+01	(8)	1.48E-01	-	<0.997	<1.001	<0.199	<0.199	<0.198	<0.996	<0.199	<0.2	<1.012	<1.003	<0.998	<1.003	<0.199	<2.001	<0.399	<0.402
Dibenzofuran	7.80E+01	(2)	1.00E+03	(5)	5.07E+01	(8)	5.07E+01	-	<0.997	<1.001	<0.199	&lt												

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

Analytes	Residential Soil Screening Level	Source	Non- Residential Soil Screening Level	Source	Leachate DAF (461) (mg/kg) SoilGW NMED	Source	Min	Background Concentrations (11)	SWMU 14-1 (0-0.5)	SWMU 14-1 (1.5-2)	SWMU 14-1 (10-12)	SWMU 14-1 (48-50')	SWMU 14-2 (0-0.5)	SWMU 14-2 (1.5-2.0')	SWMU 14-2 (16-18')	SWMU 14-2 (24-25')	SWMU 14-2 (8-10')	SWMU 14-3 (0-0.5)	SWMU 14-3 (1.5-2')	SWMU 14-3 (12-14')	SWMU 14-3 (25.5-26')	SWMU 14-3 (8-10')	SWMU 14-4 (0-0.5')	SWMU 14-4 (1.5-2.0')
									1207748-001 7/16/2012	1207748-002 7/16/2012	1207748-003 7/16/2012	1207900-006 7/18/2012	1207917-005 7/17/2012	1207917-006 7/17/2012	1207917-009 7/17/2012	1207917-010 7/17/2012	1207917-007 7/17/2012	1207900-001 7/18/2012	1207900-002 7/18/2012	1207900-004 7/18/2012	1207900-005 7/18/2012	1207900-003 7/18/2012	1207917-001 7/17/2012	1207917-002 7/17/2012

EPA - Regional Screening Levels (November 2012)

(1) NMED Residential Screening Level

(2) EPA Residential Screening Level

(3) EPA Residential - Screening Levels (November 2012) multiplied by 10 because the constituent is listed as carcinogenic

(4) NMED Construction Worker Screening Level

(5) EPA Industrial - Screening Levels (Nov. 2012)

(6) EPA Industrial - Screening Levels (Nov. 2012) multiplied by 10

(7) SoilGW NMED Dilution Attenuation Factor (DAF) = 461

(8) SoilGW Risk-based EPA DAF = 461

(9) SoilGW MCL-based EPA DAF = 461

(10) NMED Table 6-2 TPH Screening Guidelines for Potable Groundwater "unknown oil" with DAF = 1.0 - see report Section 5 for use of screening levels

(11) Background concentrations to be determined.

Bold represents value above Residential Screening Level

yellow highlight represents value above Leachate (DAF) Screening Level

Bold with yellow - value exceeds Residential Screening Level and DAF

Table 8
Old API Separator Soil Analytical Results Summary
Western Refining Southwest, Inc. - Gallup Refinery
Gallup, New Mexico

Analytes	Residential Soil Screening Level	Source	Non- Residential Soil Screening Level	Source	Leachate DAF (461) (mg/kg) SoilGW NMED	Source	Min	Background Concentrations (11)	SWMU 14-4 (10-12')	SWMU 14-4 (19.5-20')	SWMU 14-5 (0-0.5')	SWMU 14-5 (1.5-2.0')	SWMU 14-6 (0-0.5')	SWMU 14-6 (1.5-2')	SWMU 14-6 (10-12')	SWMU 14-6 (17-18')	SWMU 14-7 (0-0.5')	SWMU 14-7 (1.5-2')	SWMU 14-7 (23.5-24')	SWMU 14-7 (6-8')	SWMU 14-8 (0-0.5')	SWMU 14-8 (1.5-2.0')	SWMU 14-9 (0-0.5')	SWMU 14-9 (1.5-2')	
									1207917-003 7/17/2012	1207917-004 7/17/2012	1207940-016 7/19/2012	1207940-018 7/19/2012	1210582-001 10/9/2012	1210582-002 10/9/2012	1210582-003 10/9/2012	1210582-004 10/9/2012	1207922-006 7/18/2012	1207922-007 7/18/2012	1207922-009 7/18/2012	1207922-008 7/18/2012	1207940-003 7/19/2012	1207940-004 7/19/2012	1207922-001 7/18/2012	1207922-003 7/18/2012	
Metals (mg/kg)																									
Antimony	3.13E+01	(1)	1.24E+02	(4)	3.05E+02	(8)	3.13E+01	-	<12.5	<12.5	<12.5	3.4	<12.5	<12.5	<12.5	<12.5	5.3	<12.501	4.5	4.6	4.5	<12.5	<12.499	<12.5	
Arsenic	3.90E+00	(1)	5.30E+01	(4)	6.05E+00	(8)	3.90E+00	-	<3.1	<3.1	<3.1	<3.1	<3.1	<3.1	<3.1	<3.1	<3.1	<3.1	<3.1	<3.1	<3.1	<3.1	<3.1	<3.1	
Barium	1.56E+04	(1)	4.35E+03	(4)	1.39E+05	(8)	4.35E+03	-	460	480	490	340	350	330	340	290	650	550	350	2400	610	690	480	500	
Beryllium	1.56E+02	(1)	1.44E+02	(4)	2.66E+04	(8)	1.44E+02	-	0.86	1.3	0.68	0.61	1	0.78	0.83	0.87	0.76	0.68	1.2	1.2	0.77	0.88	0.58	0.52	
Cadmium	7.03E+01	(1)	2.77E+02	(4)	6.33E+02	(8)	7.03E+01	-	<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	
Chromium III	1.17E+05	(1)	4.65E+05	(4)	4.54E+10	(8)	1.17E+05	-	12	22	63	11	9.7	23	9.1	8.9	9.6	7.1	17	14	16	10	13	10	
Chromium VI	2.97E+00	(1)	6.56E+01	(4)	3.83E+00	(8)	2.97E+00	-	12	22	63	11	9.7	23	9.1	8.9	9.6	7.1	17	14	16	10	13	10	
Cobalt	2.30E+01	(2)	3.00E+02	(5)	9.68E+01	(8)	2.30E+01	-	5	8	5.3	4.6	5	4.5	4.7	5.6	4.1	3.7	7.6	6	5	4.7	3.8	3.1	
Cyanide	4.69E+01	(1)	1.86E+02	(4)	1.02E+02	(8)	4.69E+01	-	<0.5	<0.5	0.6	<0.5	<0.3	<0.3	<0.3	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
Iron	5.48E+04	(1)	2.17E+05	(4)	2.98E+05	(8)	5.48E+04	-	16000	23000	18000	13000	15000	13000	13000	16000	15000	11000	21000	20000	15000	13000	14000	8800	
Lead	4.00E+02	(1)	8.00E+02	(4)	6.45E+03	(8)	4.00E+02	-	2.4	1.4	14	2.5	6.4	5.6	4.5	2.9	3.5	3.2	<1.25	2.6	6.2	5	5.5	1.9	
Manganese	1.86E+03	(1)	4.40E+02	(4)	2.64E+04	(8)	4.40E+02	-	720	1000	550	450	420	370	340	1100	600	1100	740	400	470	190	1800	930	
Mercury	1.56E+01	(1)	1.36E+01	(4)	1.51E+01	(8)	1.36E+01	-	<0.033	<0.033	0.27	0.011	<0.033	0.095	<0.033	<0.033	0.0068	<0.033	<0.033	<0.033	0.041	<0.033	0.68	0.09	
Nickel	1.56E+03	(1)	6.19E+03	(4)	2.20E+04	(8)	1.56E+03	-	8.6	17	9.8	7.1	8.2	7.1	7.6	11	6.8	5.6	16	11	7.4	7.9	6.3	5.9	
Selenium	3.91E+02	(1)	1.55E+03	(4)	4.45E+02	(8)	3.91E+02	-	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.501	<12.5	<12.501	<12.5	<12.5	<12.499	<12.5	
Silver	3.91E+02	(1)	1.55E+03	(4)	7.22E+02	(8)	3.91E+02	-	<1.25	<1.25	<1.25	<1.25	<1.25	<1.25	<1.25	<1.25	<1.25	<1.25	<1.25	<1.25	<1.25	<1.25	<1.25	<1.25	
Vanadium	3.91E+02	(1)	1.55E+03	(4)	8.42E+04	(8)	3.91E+02	-	25	15	26	26	17	23	21	<12.5	22	18	16	27	25	18	18	19	
Zinc	2.35E+04	(1)	9.29E+04	(4)	3.14E+05	(8)	2.35E+04	-	22	25	190	20	17	26	16	17	30	12	25	22	33	15	44	28	
Volatile Organic Compounds - (EPA Method 8260) mg/kg																									
1,1,1,2-Tetrachloroethane	2.91E+01	(1)	7.79E+02	(4)	7.59E-01	(8)	7.59E-01	-	<1	<0.001	<0.001	<0.05	<0.001	<0.0008	<0.5	<0.0011	<1	<0.001	<0.001	<1	<0.001	<1	<0.001	<0.5	
1,1,1-Trichloroethane	1.56E+04	(1)	1.48E+04	(4)	1.34E+03	(8)	1.34E+03	-	<1	<0.001	<0.001	<0.05	<0.001	<0.0008	<0.5	<0.0011	<1	<0.001	<0.001	<1	<0.001	<1	<0.001	<0.5	
1,1,2,2-Tetrachloroethane	8.02E+00	(1)	2.21E+02	(4)	9.82E-02	(8)	9.82E-02	-	<1	<0.001	0.00104	<0.05	<0.001	<0.0008	<0.5	<0.0011	<1	<0.001	<0.001	<1	<0.001	<1	0.00043	<0.5	
1,1,2-Trichloroethane	2.81E+00	(1)	4.72E+02	(4)	5.14E-02	(8)	5.14E-02	-	<1	<0.001	<0.001	<0.05	<0.001	<0.0008	<0.5	<0.0011	<1	<0.001	<0.001	<1	<0.001	<1	<0.001	<0.5	
1,1-Dichloroethane	6.45E+01	(1)	1.70E+03	(4)	2.75E+00	(8)	2.75E+00	-	<2	<0.001	<0.001	<0.1	<0.001	<0.0008	<1	<0.0011	<2	<0.001	<0.001	<2	0.000918	<2	<0.001	<1	
1,1-Dichloroethene	4.49E+02	(1)	4.32E+02	(4)	5.36E+01	(8)	5.36E+01	-	<1	<0.001	<0.001	<0.05	<0.001	<0.0008	<0.5	<0.0011	<1	<0.001	<0.001	<1	<0.001	<1	<0.001	<0.5	
1,1-Dichloropropene	-	-	-	-	-	-	-	-	<2	<0.001	<0.001	<0.1	<0.001	<0.0008	<1	<0.0011	<2	<0.001	<0.001	<2	<0.001	<2	<0.001	<1	
1,2,3-Trichlorobenzene	4.90E+01	(2)	4.90E+02	(5)	6.92E+00	(8)	6.92E+00	-	<2	<0.001	<0.001	<0.1	<0.001	<0.0008	<1	<0.0011	<2	<0.001	<0.001	<2	<0.001	<2	<0.001	<1	
1,2,3-Trichloropropane	4.97E-02	(1)	7.23E+00	(4)	1.15E-03	(8)	1.15E-03	-	<2	<0.001	<0.001	<0.1	<0.001	<0.0008	<1	<0.0011	<2	<0.001	<0.001	<2	<0.001	<2	<0.001	<1	
1,2,4-Trichlorobenzene	7.30E+01	(1)	6.87E+01	(4)	4.21E+00	(8)	4.21E+00	-	<1	<0.001	<0.001	<0.05	<0.001	<0.0008	<0.5	<0.0011	<1	<0.001	<0.001	<1	<0.001	<1	<0.001	<0.5	
1,2,4-Trimethylbenzene	6.20E+01	(2)	2.60E+02	(5)	9.68E+00	(8)	9.68E+00	-	7.8	<0.001	<0.001	<0.05	0.00104	<0.0008	13	0.00148	0.32	0.00562	<0.001	12	<0.001	6.7	0.002	1.5	
1,2-Dibromo-3-chloropropane	1.86E+00	(1)	5.07E+00	(4)	5.07E-04	(8)	5.07E-04	-	<2	<0.002	<0.002	<0.1	<0.001	<0.0008											

Table 8
Old API Separator Soil Analytical Results Summary
Western Refining Southwest, Inc. - Gallup Refinery
Gallup, New Mexico

Analytes	Residential Soil Screening Level	Source	Non- Residential Soil Screening Level	Source	Leachate DAF (461) (mg/kg) SoilGW NMED	Source	Min	Background Concentrations (11)	SWMU 14-4 (10-12')	SWMU 14-4 (19.5-20')	SWMU 14-5 (0-0.5')	SWMU 14-5 (1.5-2.0')	SWMU 14-6 (0-0.5')	SWMU 14-6 (1.5-2')	SWMU 14-6 (10-12')	SWMU 14-6 (17-18')	SWMU 14-7 (0-0.5')	SWMU 14-7 (1.5-2')	SWMU 14-7 (23.5-24')	SWMU 14-7 (6-8')	SWMU 14-8 (0-0.5')	SWMU 14-8 (1.5-2.0')	SWMU 14-9 (0-0.5')	SWMU 14-9 (1.5-2')
									1207917-003 7/17/2012	1207917-004 7/17/2012	1207940-016 7/19/2012	1207940-018 7/19/2012	1210582-001 10/9/2012	1210582-002 10/9/2012	1210582-003 10/9/2012	1210582-004 10/9/2012	1207922-006 7/18/2012	1207922-007 7/18/2012	1207922-009 7/18/2012	1207922-008 7/18/2012	1207940-003 7/19/2012	1207940-004 7/19/2012	1207922-001 7/18/2012	1207922-003 7/18/2012
Bromomethane	1.65E+01	(1)	1.64E+01	(4)	8.86E-01	(8)	8.86E-01	-	<3	-	-	<0.15	<0.001	<0.0008	<1.5	<0.0011	<3	-	-	<3	-	<3	-	<1.5
Carbon disulfide	1.53E+03	(1)	1.58E+03	(4)	1.30E+02	(8)	1.30E+02	-	<10	<0.005	<0.006	<0.5	<0.0101	<0.0081	<5	<0.0108	<10	0.000629	<0.002	<10	<0.004	<10	<0.002	<5
Carbon tetrachloride	1.08E+01	(1)	2.26E+02	(4)	7.39E-01	(8)	7.39E-01	-	<2	<0.001	<0.001	<0.1	<0.001	<0.0008	<1	<0.0011	<2	<0.001	<0.001	<2	<0.001	<2	<0.001	<1
Chlorobenzene	3.76E+02	(1)	4.06E+02	(4)	2.27E+01	(8)	2.27E+01	-	<1	<0.001	<0.001	<0.05	<0.001	<0.0008	<0.5	<0.0011	<1	0.000323	<0.001	<1	<0.001	<1	<0.001	<0.5
Chloroethane	2.98E+04	(1)	2.61E+04	(4)	2.48E+03	(8)	2.48E+03	-	<2	<0.001	<0.001	<0.1	<0.001	<0.0008	<1	<0.0011	<2	<0.001	<0.001	<2	<0.001	<2	<0.001	<1
Chloroform	5.86E+00	(1)	1.54E+02	(4)	2.12E-01	(8)	2.12E-01	-	<1	<0.001	<0.001	0.006	<0.001	<0.0008	<0.5	<0.0011	<1	<0.001	<0.001	<1	<0.001	<1	<0.001	<0.5
Chloromethane	2.75E+02	(1)	2.41E+02	(4)	2.03E+01	(8)	2.03E+01	-	<3	<0.001	<0.001	<0.15	<0.001	<0.0008	<1.5	<0.0011	<3	<0.001	<0.001	<3	0.00053	<3	<0.001	<1.5
cis-1,2-DCE	1.56E+02	(1)	6.19E+02	(4)	8.47E+00	(8)	8.47E+00	-	<1	<0.001	<0.001	<0.05	<0.001	<0.0008	<0.5	<0.0011	<1	<0.001	<0.001	<1	<0.001	<1	<0.001	<0.5
cis-1,3-Dichloropropene	3.37E+01	(1)	2.09E+02	(4)	5.71E-01	(8)	5.71E-01	-	<1	<0.001	<0.001	<0.05	<0.001	<0.0008	<0.5	<0.0011	<1	<0.001	<0.001	<1	<0.001	<1	<0.001	<0.5
Dibromochloromethane	1.21E+01	(1)	3.32E+02	(4)	1.52E-01	(8)	1.52E-01	-	<1	<0.001	<0.001	<0.05	<0.001	<0.0008	<0.5	<0.0011	<1	<0.001	<0.001	<1	<0.001	<1	<0.001	<0.5
Dibromomethane	5.16E+01	(1)	3.10E+03	(4)	7.89E-01	(8)	7.89E-01	-	<2	<0.001	<0.001	<0.1	<0.001	<0.0008	<1	<0.0011	<2	<0.001	<0.001	<2	<0.001	<2	<0.001	<1
Dichlorodifluoromethane	1.68E+02	(1)	1.49E+02	(4)	1.71E+02	(8)	1.49E+02	-	<1	<0.001	<0.001	<0.05	<0.001	<0.0008	<0.5	<0.0011	<1	<0.001	<0.001	<1	<0.001	<1	<0.001	<0.5
Ethylbenzene	6.84E+01	(1)	1.83E+03	(4)	5.98E+00	(8)	5.98E+00	-	1.4	<0.001	<0.001	<0.05	0.00157	<0.0008	7.5	0.00134	<1	0.00691	<0.001	3.1	<0.001	3.8	0.000542	0.35
Hexachlorobutadiene	6.11E+01	(1)	2.38E+02	(4)	5.91E+00	(8)	5.91E+00	-	<2	<0.001	<0.001	<0.1	<0.001	<0.0008	<1	<0.0011	<2	<0.001	<0.001	<2	<0.001	<2	<0.001	<1
Isopropylbenzene	2.43E+03	(1)	2.81E+03	(4)	3.99E+02	(8)	3.99E+02	-	0.58	<0.001	<0.001	<0.05	<0.001	<0.0008	1.7	<0.0011	<1	0.00208	<0.001	0.84	<0.001	0.97	<0.001	0.064
Methyl tert-butyl ether (MTBE)	9.01E+02	(1)	2.49E+04	(4)	1.11E+01	(8)	1.11E+01	-	<1	<0.002	<0.002	<0.05	<0.001	<0.0008	<0.5	<0.0011	<1	0.0102	<0.001	0.8	0.00157	<1	<0.001	<0.5
Methylene chloride	4.09E+02	(1)	1.12E+03	(4)	1.90E+01	(8)	1.90E+01	-	<3	<0.005	<0.006	0.042	<0.003	0.0173	<1.5	0.031	<3	<0.002	<0.002	<3	<0.004	<3	<0.002	<1.5
Naphthalene	4.30E+01	(1)	1.58E+02	(4)	1.64E+00	(8)	1.64E+00	-	9.2	<0.001	<0.001	0.016	<0.002	<0.0016	9.1	<0.0022	0.35	0.00218	<0.001	3.9	<0.001	1.1	0.0183	0.3
n-Butylbenzene	3.90E+03	(2)	5.10E+04	(5)	1.15E+03	(8)	1.15E+03	-	1	<0.001	<0.001	<0.05	<0.001	<0.0008	2	<0.0011	0.15	0.00116	<0.001	1.6	<0.001	0.58	0.000177	0.1
n-Propylbenzene	3.40E+03	(2)	2.10E+04	(5)	4.56E+02	(8)	4.56E+02	-	0.89	<0.001	<0.001	<0.05	<0.001	<0.0008	3.3	<0.0011	<1	0.00257	<0.001	2	<0.001	1.4	<0.001	0.17
sec-Butylbenzene	-	-	-	-	-	-	-	-	0.48	<0.001	<0.001	<0.05	<0.001	<0.0008	1.2	<0.0011	<1	0.00203	<0.001	0.86	<0.001	0.47	<0.001	<0.5
Styrene	7.28E+03	(1)	9.99E+03	(4)	6.40E+02	(8)	6.40E+02	-	<1	<0.001	<0.001	<0.05	<0.001	<0.0008	<0.5	<0.0011	<1	<0.001	<0.001	<1	<0.001	<1	<0.001	0.077
tert-Butylbenzene	-	-	-	-	-	-	-	-	<1	<0.001	<0.001	<0.05	<0.001	<0.0008	<0.5	<0.0011	<1	<0.001	<0.001	<1	<0.001	<1	<0.001	<0.5
Tetrachloroethene (PCE)	7.02E+00	(1)	2.12E+02	(4)	1.98E-01	(8)	1.98E-01	-	<1	<0.001	<0.001	<0.05	<0.001	<0.0008	<0.5	<0.0011	<1	<0.001	<0.001	<1	<0.001	<1	<0.001	<0.5
Toluene	5.27E+03	(1)	1.34E+04	(4)	5.84E+02	(8)	5.84E+02	-	<1	<0.001	0.000344	<0.05	0.00336	<0.0008	<0.5	0.00596	<1	<0.001	<0.001	0.75	0.000743	1.4	0.000262	0.14
trans-1,2-DCE	2.70E+02	(1)	2.73E+02	(4)	1.24E+01	(8)	1.24E+01	-	<1	<0.001	<0.001	<0.05	<0.001	<0.0008	<0.5	<0.0011	<1	<0.001	<0.001	<1	<0.001	<1	<0.001	<0.5
trans-1,3-Dichloropropene	-	-	-	-	-	-	-	-	<1	<0.001	<0.001	<0.05	<0.001	<0.0008	<0.5	<0.0011	<1	<0.001	<0.001	<1	<0.001	<1	<0.001	<0.5
Trichloroethene (TCE)	8.77E+00	(1)	7.68E+00	(4)	4.85E-01	(8)	4.85E-01	-	<															

Table 8
Old API Separator Soil Analytical Results Summary
Western Refining Southwest, Inc. - Gallup Refinery
Gallup, New Mexico

Analytes	Residential Soil Screening Level	Source	Non- Residential Soil Screening Level	Source	Leachate DAF (461) SoilGW NMED	Source	Min	Background Concentrations (11)	SWMU 14-4 (10-12')	SWMU 14-4 (19.5-20')	SWMU 14-5 (0-0.5')	SWMU 14-5 (1.5-2.0')	SWMU 14-6 (0-0.5')	SWMU 14-6 (1.5-2')	SWMU 14-6 (10-12')	SWMU 14-6 (17-18')	SWMU 14-7 (0-0.5')	SWMU 14-7 (1.5-2')	SWMU 14-7 (23.5-24')	SWMU 14-7 (6-8')	SWMU 14-8 (0-0.5')	SWMU 14-8 (1.5-2.0')	SWMU 14-9 (0-0.5')	SWMU 14-9 (1.5-2')
									1207917-003 7/17/2012	1207917-004 7/17/2012	1207940-016 7/19/2012	1207940-018 7/19/2012	1210582-001 10/9/2012	1210582-002 10/9/2012	1210582-003 10/9/2012	1210582-004 10/9/2012	1207922-006 7/18/2012	1207922-007 7/18/2012	1207922-009 7/18/2012	1207922-008 7/18/2012	1207940-003 7/19/2012	1207940-004 7/19/2012	1207922-001 7/18/2012	1207922-003 7/18/2012
4-Bromophenyl phenyl ether	-	-	-	-	-	-	-	-	<0.398	<0.199	<0.996	<0.198	<0.3995	<0.397	<0.396	<0.1996	<1.008	<0.403	<0.199	<0.398	<1.002	<0.998	<0.991	<0.994
4-Chloro-3-methylphenol	6.10E+03	(2)	6.20E+04	(5)	5.99E+02	(8)	5.99E+02	-	<0.996	<0.498	<2.49	<0.496	<0.9987	<0.9924	<0.9901	<0.499	<2.521	<1.007	<0.498	<0.996	<2.504	<2.494	<2.477	<2.485
4-Chloroaniline	2.40E+01	(3)	8.60E+00	(6)	5.99E-02	(8)	5.99E-02	-	<0.996	<0.498	<2.49	<0.496	<0.9987	<0.9924	<0.9901	<0.499	<2.521	<1.007	<0.498	<0.996	<2.504	<2.494	<2.477	<2.485
4-Chlorophenyl phenyl ether	-	-	-	-	-	-	-	-	<0.398	<0.199	<0.996	<0.198	<0.3995	<0.397	<0.396	<0.1996	<1.008	<0.403	<0.199	<0.398	<1.002	<0.998	<0.991	<0.994
4-Nitroaniline	2.40E+02	(3)	8.60E+01	(6)	6.45E-01	(8)	6.45E-01	-	<0.797	<0.398	<1.992	<0.397	<0.7989	<0.7939	<0.7921	<0.3992	<2.017	<0.805	<0.399	<0.797	<2.003	<1.995	<1.982	<1.988
4-Nitrophenol	-	-	-	-	-	-	-	-	<0.498	<0.249	<1.245	<0.248	<0.4993	<0.4962	<0.495	<0.2495	<1.261	<0.503	<0.249	<0.498	<1.252	<1.247	<1.238	<1.243
Acenaphthene	3.44E+03	(1)	1.86E+04	(4)	7.79E+03	(8)	3.44E+03	-	1	<0.199	<0.996	<0.198	<0.3995	<0.397	<0.396	<0.1996	<1.008	<0.403	<0.199	<0.398	<1.002	<0.998	<0.991	<0.994
Acenaphthylene	-	-	-	-	-	-	-	-	<0.398	<0.199	<0.996	<0.198	<0.3995	<0.397	<0.396	<0.1996	<1.008	<0.403	<0.199	<0.398	<1.002	<0.998	<0.991	<0.994
Aniline	8.50E+02	(3)	3.00E+02	(6)	1.80E+00	(8)	1.80E+00	-	<0.398	<0.199	<0.996	<0.198	<0.3995	<0.397	<0.396	<0.1996	<1.008	<0.403	<0.199	<0.398	<1.002	<0.998	<0.991	<0.994
Anthracene	1.72E+04	(1)	6.68E+04	(4)	1.25E+05	(8)	1.72E+04	-	<0.398	<0.199	<0.996	<0.198	<0.3995	<0.397	<0.396	<0.1996	<1.008	<0.403	<0.199	<0.398	<1.002	<0.998	<0.991	<0.994
Azobenzene	5.10E+01	(3)	2.30E+01	(6)	3.69E-01	(8)	3.69E-01	-	<0.398	<0.199	<0.996	<0.198	<0.3995	<0.397	<0.396	<0.1996	<1.008	<0.403	<0.199	<0.398	<1.002	<0.998	<0.991	<0.994
Benz(a)anthracene	1.48E+00	(1)	2.13E+02	(4)	3.61E+01	(8)	1.48E+00	-	<0.398	<0.199	<0.996	<0.198	<0.3995	<0.397	<0.396	<0.1996	<1.008	<0.403	<0.199	<0.398	<1.002	<0.998	<0.991	<0.994
Benzo(a)pyrene	1.48E-01	(1)	2.13E+01	(4)	1.20E+01	(8)	1.48E-01	-	<0.398	<0.199	<0.996	<0.198	<0.3995	<0.397	<0.396	<0.1996	<1.008	<0.403	<0.199	<0.398	<1.002	<0.998	<0.991	<0.994
Benzo(b)fluoranthene	1.48E+00	(1)	2.13E+02	(4)	1.22E+02	(8)	1.48E+00	-	<0.398	<0.199	<0.996	<0.198	<0.3995	<0.397	<0.396	<0.1996	<1.008	<0.403	<0.199	<0.398	<1.002	<0.998	<0.991	<0.994
Benzo(g,h,i)perylene	-	-	-	-	-	-	-	-	<0.398	<0.199	<0.996	<0.198	<0.3995	<0.397	<0.396	<0.1996	<1.008	<0.403	<0.199	<0.398	<1.002	<0.998	<0.991	<0.994
Benzo(k)fluoranthene	1.48E+01	(1)	2.06E+03	(4)	1.20E+03	(8)	1.48E+01	-	<0.398	<0.199	<0.996	<0.198	<0.3995	<0.397	<0.396	<0.1996	<1.008	<0.403	<0.199	<0.398	<1.002	<0.998	<0.991	<0.994
Benzoic acid	2.40E+05	(2)	2.50E+06	(5)	6.45E+03	(8)	6.45E+03	-	<0.996	<0.498	0.44	<0.496	<0.9987	<0.9924	<0.9901	<0.499	1.2	<1.007	<0.498	<0.996	<2.504	2.3	0.59	0.5
Benzyl alcohol	6.10E+03	(2)	6.20E+04	(5)	1.71E+02	(8)	1.71E+02	-	<0.398	<0.199	<0.996	<0.198	<0.3995	<0.397	<0.396	<0.1996	<1.008	<0.403	<0.199	<0.398	<1.002	<0.998	<0.991	<0.994
Bis(2-chloroethoxy)methane	1.80E+02	(2)	1.80E+03	(5)	5.07E+00	(8)	5.07E+00	-	<0.398	<0.199	<0.996	<0.198	<0.3995	<0.397	<0.396	<0.1996	<1.008	<0.403	<0.199	<0.398	<1.002	<0.998	<0.991	<0.994
Bis(2-chloroethyl)ether	2.68E+00	(1)	7.78E+01	(4)	1.21E-02	(8)	1.21E-02	-	<0.398	<0.199	<0.996	<0.198	<0.3995	<0.397	<0.396	<0.1996	<1.008	<0.403	<0.199	<0.398	<1.002	<0.998	<0.991	<0.994
Bis(2-chloroisopropyl)ether	9.15E+01	(1)	3.10E+03	(4)	1.07E+00	(8)	1.07E+00	-	<0.398	<0.199	<0.996	<0.198	<0.3995	<0.397	<0.396	<0.1996	<1.008	<0.403	<0.199	<0.398	<1.002	<0.998	<0.991	<0.994
Bis(2-ethylhexyl)phthalate	3.47E+02	(1)	4.76E+03	(4)	3.97E+03	(8)	3.47E+02	-	0.52	<0.498	<2.49	<0.496	<0.9987	<0.9924	<0.9901	<0.499	<2.521	<1.007	<0.498	<0.996	<2.504	<2.494	2.6	<2.485
Butyl benzyl phthalate	2.60E+03	(3)	9.10E+02	(6)	9.22E+01	(8)	9.22E+01	-	<0.398	<0.199	<0.996	<0.198	<0.3995	<0.397	<0.396	<0.1996	<1.008	<0.403	<0.199	<0.398	<1.002	<0.998	<0.991	<0.994
Carbazole	-	-	-	-	-	-	-	-	<0.398	<0.199	<0.996	<0.198	<0.3995	<0.397	<0.396	<0.1996	<1.008	<0.403	<0.199	<0.398	<1.002	<0.998	<0.991	<0.994
Chrysene	1.48E+02	(1)	2.06E+04	(4)	3.68E+03	(8)	1.48E+02	-	<0.398	<0.199	<0.996	<0.198	<0.3995	<0.397	<0.396	<0.1996	<1.008	<0.403	<0.199	<0.398	<1.002	<0.998	<0.991	<0.994
Dibenz(a,h)anthracene	1.48E-01	(1)	2.13E+01	(4)	3.90E+01	(8)	1.48E-01	-	<0.398	<0.199	<0.996	<0.198	<0.3995	<0.397	<0.396	<0.1996	<1.008	<0.403	<0.199	<0.398	<1.002	<0.998	<0.991	<0.994
Dibenzofuran	7.80E+01	(2)	1.00E+03	(5)	5.07E+01	(8)	5.07E+01	-	<0.398	<0.199	<0.996	<0.198	<0.3995	<0.397	<0.396	<0.1996	<1.008	<0.403	<0.199	<0.398	<1.002	<0.998	<0.991	<0.994
Diethyl phthalate	4.89E+04	(1)	1.91E+05	(4)	4.45E+03	(8)	4.45E+03	-	<0.398	<0.199	<0.996	<0.198	<0.3995	<0.397	<0.396	<0.1996	<1.008	<0.403	<0.199	<0.398	<1.002	<0.998	<0.991	<0.994
Dimethyl phthalate	6.11E+05	(1)	2.38E+06	(4)	3.71E+04	(8)	3.71E+04	-	<0.398	<0.199	<0.996	<0.198	<0.3995	<0.397	<0.396	<0.1996	<1.008	<0.403	<0.199	<0.398	<1.002	<0.998	<0.991	<0.994
Di-n-butyl phthalate	6.11E+03	(1)	2.38E+04	(4)	3.21E+03	(8)	3.21E+03	-	<0.996	<0.498	<2.49	<0.496	<0.9987	<0.9924	<0.9901	<0.499	<2.521	<1.007	<0.498	<0.996	<2.504	<2.494	<2.477	<2.485
Di-n-octyl phthalate	-	-	-	-	-	-	-	-	<0.498	<0.249	<1.245	<0.248	<0.4993	<0.4962	<0.495	<0.2495	<1.261	<0.503	<0.249	<0.498	<1.252	<1.247	<1.238	<1.243
Fluoranthene	2.29E+03	(1)	8.91E+03	(4)	5.61E+04	(8)	2.29E+03	-	<0.398	<0.199	<0.996	<0.198	<0.3995	<0.397	<0.396	<0.1996	<1.008	<0.403	<0.199	<0.398	<1.002	<0.998	<0.991	<0.994
Fluorene	2.29E+03	(1)	8.91E+03	(4)	9.36E+03	(8)	2.29E+03	-	1.4	<0.199	<0.996	<0.198	<0.3995	<0.397	1.2	<0.1996	<1.008	<0.403	<0.199	<0.398	<1.002	<0.998	<0.991	<0.994
Hexachlorobenzene	3.04E+00	(1)	1.03E+02	(4)	1.83E+00	(8)	1.83E+00	-	<0.398	<0.199	<0.996	<0.198	<0.3995	<0.397	<0.396	<0.1996	<1.008	<0.403	<0.199	<0.398	<1.002	<0.998	<0.991	<0.994
Hexachlorobutadiene	6.11E+01	(1)	2.38E+02	(4)	5.91E+00	(8)	5.91E+00	-	<0.398	<0.199	<0.996	<0.198	<0.3995	<0.397	<0.396	<0.1996	<1.008	<0.403	<0.199	<0.398	<1.002	<0.998	<0.991	<0.994
Hexachlorocyclopentadiene	3.67E+02	(1)	8.11E+02	(4)	2.43E+02	(8)	2.43E+02	-	<0.398	<0.199	<0.996	<0.198	<0.3995	<0.397	<0.396	<0.1996	<1.008	<0.403	<0.199	<0.398	<1.002	<0.998	<0.991	<0.994
Hexachloroethane	4.28E+01	(1)	1.67E+02	(4)	3.77E+00	(8)	3.77E+00	-	<0.398	<0.199	<0.996	<0.198	<0.3995	<0.397	<0.396	<0.1996	<1.008	<0.403	<0.199	<0.398	<1.002	<0.998	<0.991	<0.994
Indeno(1,2,3-cd)pyrene	1.48E+00	(1)	2.13E+02	(4)	3.98E+02	(8)	1.48E+00	-	<0.398	<0.199	<0.996	<0.198	<0.3995	<0.397	<0.396	<0.1996	<1.008	<0.403	<0.199	<0.398	<1.002	<0.998	<0.991	<0.994
Isophorone	5.12E+03	(1)	4.75E+04	(4)	8.84E+01	(8)	8.84E+01	-	<0.996	<0.498	<2.49	<0.496	<0.9987	<0.9924	<0.9901	<0.499	<2.521	<1.007	<0.498	<0.996	<2.504	<2.494	<2.477	<2.485
Naphthalene	4.30E+01	(1)	1.58E+02	(4)	1.64E+00	(8)	1.64E+00	-	4	<0.199	<0.996	<0.198	<0.3995	<0.397	4.2	<0.1996	<1.008	<0.403	<0.199	2.2	<1.002	1.5	<0.991	<0.994
Nitrobenzene	5.35E+01	(1)	3.32E+02	(4)	2.88E-01	(8)	2.88E-01	-	<0.996	<0.498	<2.49	<0.496	<0.9987	<0.9924	<0.9901	<0.499	<2.521	<1.0						

Table 8
Old API Separator Soil Analytical Results Summary
Western Refining Southwest, Inc. - Gallup Refinery
Gallup, New Mexico

Analytes	Residential Soil Screening Level	Source	Non- Residential Soil Screening Level	Source	Leachate DAF (461) (mg/kg) SoilGW NMED	Source	Min	Background Concentrations (11)	SWMU 14-4 (10-12')	SWMU 14-4 (19.5-20')	SWMU 14-5 (0-0.5')	SWMU 14-5 (1.5-2.0')	SWMU 14-6 (0-0.5')	SWMU 14-6 (1.5-2')	SWMU 14-6 (10-12')	SWMU 14-6 (17-18')	SWMU 14-7 (0-0.5')	SWMU 14-7 (1.5-2')	SWMU 14-7 (23.5-24')	SWMU 14-7 (6-8')	SWMU 14-8 (0-0.5')	SWMU 14-8 (1.5-2.0')	SWMU 14-9 (0-0.5')	SWMU 14-9 (1.5-2')
									1207917-003 7/17/2012	1207917-004 7/17/2012	1207940-016 7/19/2012	1207940-018 7/19/2012	1210582-001 10/9/2012	1210582-002 10/9/2012	1210582-003 10/9/2012	1210582-004 10/9/2012	1207922-006 7/18/2012	1207922-007 7/18/2012	1207922-009 7/18/2012	1207922-008 7/18/2012	1207940-003 7/19/2012	1207940-004 7/19/2012	1207922-001 7/18/2012	1207922-003 7/18/2012

EPA - Regional Screening Levels (November 2012)
(1) NMED Residential Screening Level
(2) EPA Residential Screening Level
(3) EPA Residential - Screening Levels (November 2012) multiplied by 10 because the constituent is listed as carcinogenic
(4) NMED Construction Worker Screening Level
(5) EPA Industrial - Screening Levels (Nov. 2012)
(6) EPA Industrial - Screening Levels (Nov. 2012) multiplied by 10
(7) SoilGW NMED Dilution Attenuation Factor (DAF) = 461
(8) SoilGW Risk-based EPA DAF = 461
(9) SoilGW MCL-based EPA DAF = 461
(10) NMED Table 6-2 TPH Screening Guidelines for Potable Groundwater "unknown oil" with DAF = 1.0 - see report Section 5 for use of screening levels
(11) Background concentrations to be determined.

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

Table 8
Old API Separator Soil Analytical Results Summary
Western Refining Southwest, Inc. - Gallup Refinery
Gallup, New Mexico

Analytes	Residential Soil Screening Level	Source	Non- Residential Soil Screening Level	Source	Leachate DAF (461) Soil/GW NMED	Source	Min	Background Concentrations (11)	SWMU 14-9 (13-14')	SWMU 14-9 (4-6')	SWMU 14-10 (0-0.5')	SWMU 14-10 (1.5-2.0')	SWMU 14-11 (0-0.5')	SWMU 14-11 (1.5-2.0')	SWMU 14-12 (0-0.5')	SWMU 14-12 (1.5-2.0')	SWMU 14-13 (0-0.5')	SWMU 14-13 (1.5-2.0')	SWMU 14-14 (0-0.5')	SWMU 14-14 (1.5-2.0')	SWMU 14-15 (0-0.5')	SWMU 14-15 (1.5-2.0')	SWMU 14-16 (0-0.5')	SWMU 14-16 (1.5-2.0')
									1207922-005 7/18/2012	1207922-004 7/18/2012	1207940-001 7/19/2012	1207940-002 7/19/2012	1207940-012 7/19/2012	1207940-013 7/19/2012	1207940-006 7/19/2012	1207940-007 7/19/2012	1207940-008 7/19/2012	1207940-009 7/19/2012	1207940-010 7/19/2012	1207940-011 7/19/2012	1207940-025 7/19/2012	1207940-026 7/19/2012	1207940-023 7/19/2012	1207940-024 7/19/2012
Metals (mg/kg)																								
Antimony	3.13E+01	(1)	1.24E+02	(4)	3.05E+02	(8)	3.13E+01	-	4.5	<12.501	3.3	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	
Arsenic	3.90E+00	(1)	5.30E+01	(4)	6.05E+00	(8)	3.90E+00	-	<3.1	<3.1	<3.1	<3.1	<3.1	<3.1	<3.1	<3.1	<3.1	<3.1	<3.1	<3.1	<3.1	<3.1	<3.1	
Barium	1.56E+04	(1)	4.35E+03	(4)	1.39E+05	(8)	4.35E+03	-	190	200	430	430	590	620	150	120	350	230	980	190	670	650	550	1000
Beryllium	1.56E+02	(1)	1.44E+02	(4)	2.66E+04	(8)	1.44E+02	-	1.3	1.1	0.89	0.83	0.83	0.84	1	0.95	0.97	1	0.93	1	0.67	0.51	0.62	0.73
Cadmium	7.03E+01	(1)	2.77E+02	(4)	6.33E+02	(8)	7.03E+01	-	<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	
Chromium III	1.17E+05	(1)	4.65E+05	(4)	4.54E+10	(8)	1.17E+05	-	19	12	23	23	21	17	12	12	17	13	18	11	14	8.9	13	15
Chromium VI	2.97E+00	(1)	6.56E+01	(4)	3.83E+00	(8)	2.97E+00	-	19	12	23	23	21	17	12	12	17	13	18	11	14	8.9	13	15
Cobalt	2.30E+01	(2)	3.00E+02	(5)	9.68E+01	(8)	2.30E+01	-	6.5	4.9	5.4	5.1	5.4	4.9	5.9	5.3	5.7	5.7	5.7	4.9	4.7	3.6	4.4	4.5
Cyanide	4.69E+01	(1)	1.86E+02	(4)	1.02E+02	(8)	4.69E+01	-	<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	
Iron	5.48E+04	(1)	2.17E+05	(4)	2.98E+05	(8)	5.48E+04	-	23000	16000	15000	14000	14000	15000	15000	15000	8400	16000	16000	14000	12000	7300	11000	15000
Lead	4.00E+02	(1)	8.00E+02	(4)	6.45E+03	(8)	4.00E+02	-	<1.25	2.4	7.7	6.8	7	5.8	4.4	2.6	2	3.3	3.3	2.9	4.1	1.3	4.8	5.1
Manganese	1.86E+03	(1)	4.40E+02	(4)	2.64E+04	(8)	4.40E+02	-	460	280	510	530	550	700	240	300	340	390	350	240	540	360	1100	560
Mercury	1.56E+01	(1)	1.36E+01	(4)	1.51E+01	(8)	1.36E+01	-	<0.033	<0.033	0.32	0.21	0.14	0.058	0.04	0.097	0.14	<0.033	0.33	0.0074	0.13	0.22	0.062	0.052
Nickel	1.56E+03	(1)	6.19E+03	(4)	2.20E+04	(8)	1.56E+03	-	13	8.5	9.3	8.8	9.7	7.9	9.8	8.7	9.1	9.5	9.1	8.1	8.2	5.6	6.9	7.1
Selenium	3.91E+02	(1)	1.55E+03	(4)	4.45E+02	(8)	3.91E+02	-	<12.5	<12.501	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	
Silver	3.91E+02	(1)	1.55E+03	(4)	7.22E+02	(8)	3.91E+02	-	<1.25	<1.25	<1.25	<1.25	<1.25	<1.25	<1.25	<1.25	<1.25	<1.25	<1.25	<1.25	<1.25	<1.25	<1.25	
Vanadium	3.91E+02	(1)	1.55E+03	(4)	8.42E+04	(8)	3.91E+02	-	29	20	25	23	25	24	23	22	26	23	27	21	23	20	22	25
Zinc	2.35E+04	(1)	9.29E+04	(4)	3.14E+05	(8)	2.35E+04	-	27	17	49	43	59	38	18	18	36	19	34	19	140	68	69	25
Volatile Organic Compounds - (EPA Method 8260) mg/kg																								
1,1,1,2-Tetrachloroethane	2.91E+01	(1)	7.79E+02	(4)	7.59E-01	(8)	7.59E-01	-	<0.001	<0.5	<0.001	<0.001	<0.001	<0.001	<2.5	<2.5	<1	<0.5	<2.5	<0.5	<0.001	<2.5	<0.001	<1
1,1,1-Trichloroethane	1.56E+04	(1)	1.48E+04	(4)	1.34E+03	(8)	1.34E+03	-	<0.001	<0.5	<0.001	<0.001	<0.001	<0.001	<2.5	<2.5	<1	<0.5	<2.5	<0.5	<0.001	<2.5	<0.001	<1
1,1,2,2-Tetrachloroethane	8.02E+00	(1)	2.21E+02	(4)	9.82E-02	(8)	9.82E-02	-	<0.001	<0.5	<0.001	<0.001	<0.001	<0.001	<2.5	<2.5	<1	<0.5	<2.5	<0.5	<0.001	<2.5	<0.001	<1
1,1,2-Trichloroethane	2.81E+00	(1)	4.72E+02	(4)	5.14E-02	(8)	5.14E-02	-	<0.001	<0.5	<0.001	<0.001	<0.001	<0.001	<2.5	<2.5	<1	<0.5	<2.5	<0.5	<0.001	<2.5	<0.001	<1
1,1-Dichloroethane	6.45E+01	(1)	1.70E+03	(4)	2.75E+00	(8)	2.75E+00	-	<0.001	<1	<0.001	<0.001	<0.001	<0.001	<5	<5	<2	<1	<5	<1	<0.001	<5	<0.001	<2
1,1-Dichloroethene	4.49E+02	(1)	4.32E+02	(4)	5.36E+01	(8)	5.36E+01	-	<0.001	<0.5	<0.001	<0.001	<0.001	<0.001	<2.5	<2.5	<1	<0.5	<2.5	<0.5	<0.001	<2.5	<0.001	<1
1,1-Dichloropropene	-	-	-	-	-	-	-	-	<0.001	<1	<0.001	<0.001	<0.001	<0.001	<5	<5	<2	<1	<5	<1	<0.001	<5	<0.001	<2
1,2,3-Trichlorobenzene	4.90E+01	(2)	4.90E+02	(5)	6.92E+00	(8)	6.92E+00	-	<0.001	<1	<0.001	<0.001	<0.001	<0.001	<5	<5	<2	<1	<5	<1	<0.001	<5	<0.001	<2
1,2,3-Trichloropropane	4.97E-02	(1)	7.23E+00	(4)	1.15E-03	(8)	1.15E-03	-	<0.001	<1	<0.001	<0.001	<0.001	<0.001	<5	<5	<2	<1	<5	<1	<0.001	<5	<0.001	<2
1,2,4-Trichlorobenzene	7.30E+01	(1)	6.87E+01	(4)	4.21E+00	(8)	4.21E+00	-	<0.001	<0.5	<0.001	<0.001	<0.001	<0.001	<2.5	<2.5	<1	<0.5	<2.5	<0.5	<0.001	<2.5	<0.001	<1
1,2,4-Trimethylbenzene	6.20E+01	(2)	2.60E+02	(5)	9.68E+00	(8)	9.68E+00	-	<0.001	3.2	<0.001	<0.001	<0.001	0.000507	38	22	3.7	3.5	38	4.8	<0.001	44	<0.001	3.6
1,2-Dibromo-3-chloropropane	1.86E+00	(1)	5.07E+00	(4)	5.07E-04	(8)	5.07E-04	-	<0.002	<1	<0.002	<0.002	<0.002	<0.003	2.2	<5	<2	<1	<5	<1	<0.002	<5	<0.002	<2
1,2-Dibromoethane (EDB)	5.88E-01	(1)	1.60E+01	(4)	7.10E-03	(8)	7.10E-03	-	<0.001	0.12	<0.001	<0.001	<0.001	<0.001	0.82	0.56	0.15	0.14	1	0.17	<0.001	<2.5	<0.001	

Table 8
Old API Separator Soil Analytical Results Summary
Western Refining Southwest, Inc. - Gallup Refinery
Gallup, New Mexico

Analytes	Residential Soil Screening Level	Source	Non- Residential Soil Screening Level	Source	Leachate DAF (461) SoilGW NMED	Source	Min	Background Concentrations (11)	SWMU 14-9 (13-14')	SWMU 14-9 (4-6')	SWMU 14-10 (0-0.5')	SWMU 14-10 (1.5-2.0')	SWMU 14-11 (0-0.5')	SWMU 14-11 (1.5-2.0')	SWMU 14-12 (0-0.5')	SWMU 14-12 (1.5-2.0')	SWMU 14-13 (0-0.5')	SWMU 14-13 (1.5-2.0')	SWMU 14-14 (0-0.5')	SWMU 14-14 (1.5-2.0')	SWMU 14-15 (0-0.5')	SWMU 14-15 (1.5-2.0')	SWMU 14-16 (0-0.5')	SWMU 14-16 (1.5-2.0')
									1207922-005 7/18/2012	1207922-004 7/18/2012	1207940-001 7/19/2012	1207940-002 7/19/2012	1207940-012 7/19/2012	1207940-013 7/19/2012	1207940-006 7/19/2012	1207940-007 7/19/2012	1207940-008 7/19/2012	1207940-009 7/19/2012	1207940-010 7/19/2012	1207940-011 7/19/2012	1207940-025 7/19/2012	1207940-026 7/19/2012	1207940-023 7/19/2012	1207940-024 7/19/2012
Bromomethane	1.65E+01	(1)	1.64E+01	(4)	8.86E-01	(8)	8.86E-01	-	-	<1.5	-	-	-	-	<7.5	<7.5	<3	<1.5	<7.5	<1.5	-	<7.5	-	<3
Carbon disulfide	1.53E+03	(1)	1.58E+03	(4)	1.30E+02	(8)	1.30E+02	-	<0.002	<5	0.00144	<0.004	<0.005	<0.006	<25	<25	<10	<5	<25	<5	<0.005	<25	<0.005	<10
Carbon tetrachloride	1.08E+01	(1)	2.26E+02	(4)	7.39E-01	(8)	7.39E-01	-	<0.001	<1	<0.001	<0.001	<0.001	<0.001	<5	<5	<2	<1	<5	<1	<0.001	<5	<0.001	<2
Chlorobenzene	3.76E+02	(1)	4.06E+02	(4)	2.27E+01	(8)	2.27E+01	-	<0.001	<0.5	<0.001	<0.001	<0.001	<0.001	<2.5	<2.5	<1	<0.5	<2.5	<0.5	<0.001	<2.5	<0.001	<1
Chloroethane	2.98E+04	(1)	2.61E+04	(4)	2.48E+03	(8)	2.48E+03	-	<0.001	<1	<0.001	<0.001	<0.001	<0.001	<5	<5	<2	<1	<5	<1	<0.001	<5	<0.001	<2
Chloroform	5.86E+00	(1)	1.54E+02	(4)	2.12E-01	(8)	2.12E-01	-	<0.001	<0.5	<0.001	<0.001	<0.001	<0.001	<2.5	<2.5	<1	<0.5	<2.5	<0.5	<0.001	<2.5	<0.001	<1
Chloromethane	2.75E+02	(1)	2.41E+02	(4)	2.03E+01	(8)	2.03E+01	-	<0.001	<1.5	<0.001	<0.001	<0.001	<0.001	<7.5	<7.5	<3	<1.5	<7.5	<1.5	<0.001	<7.5	<0.001	<3
cis-1,2-DCE	1.56E+02	(1)	6.19E+02	(4)	8.47E+00	(8)	8.47E+00	-	<0.001	<0.5	<0.001	<0.001	<0.001	<0.001	<2.5	<2.5	<1	<0.5	<2.5	<0.5	<0.001	<2.5	<0.001	<1
cis-1,3-Dichloropropene	3.37E+01	(1)	2.09E+02	(4)	5.71E-01	(8)	5.71E-01	-	<0.001	<0.5	<0.001	<0.001	<0.001	<0.001	<2.5	<2.5	<1	<0.5	<2.5	<0.5	<0.001	<2.5	<0.001	<1
Dibromochloromethane	1.21E+01	(1)	3.32E+02	(4)	1.52E-01	(8)	1.52E-01	-	<0.001	<0.5	<0.001	<0.001	<0.001	<0.001	<2.5	<2.5	<1	<0.5	<2.5	<0.5	<0.001	<2.5	<0.001	<1
Dibromomethane	5.16E+01	(1)	3.10E+03	(4)	7.89E-01	(8)	7.89E-01	-	<0.001	<1	<0.001	<0.001	<0.001	<0.001	<5	<5	<2	<1	<5	<1	<0.001	<5	<0.001	<2
Dichlorodifluoromethane	1.68E+02	(1)	1.49E+02	(4)	1.71E+02	(8)	1.49E+02	-	<0.001	<0.5	<0.001	<0.001	<0.001	<0.001	<2.5	<2.5	<1	<0.5	<2.5	<0.5	<0.001	<2.5	<0.001	<1
Ethylbenzene	6.84E+01	(1)	1.83E+03	(4)	5.98E+00	(8)	5.98E+00	-	<0.001	1.1	<0.001	<0.001	<0.001	<0.001	17	7.5	0.47	1.3	4.3	1.7	<0.001	23	<0.001	0.67
Hexachlorobutadiene	6.11E+01	(1)	2.38E+02	(4)	5.91E+00	(8)	5.91E+00	-	<0.001	<1	<0.001	<0.001	<0.001	<0.001	<5	<5	<2	<1	<5	<1	<0.001	<5	<0.001	<2
Isopropylbenzene	2.43E+03	(1)	2.81E+03	(4)	3.99E+02	(8)	3.99E+02	-	<0.001	0.19	<0.001	<0.001	<0.001	<0.001	3	1.6	0.2	0.28	1.6	0.39	<0.001	6.6	<0.001	0.13
Methyl tert-butyl ether (MTBE)	9.01E+02	(1)	2.49E+04	(4)	1.11E+01	(8)	1.11E+01	-	<0.001	0.1	<0.002	<0.002	<0.002	<0.003	0.83	1.5	<1	0.19	<2.5	0.2	<0.002	<2.5	<0.002	<1
Methylene chloride	4.09E+02	(1)	1.12E+03	(4)	1.90E+01	(8)	1.90E+01	-	<0.002	<1.5	<0.005	<0.004	<0.005	<0.006	<7.5	0.31	<3	0.24	0.35	0.24	<0.005	2	<0.005	0.63
Naphthalene	4.30E+01	(1)	1.58E+02	(4)	1.64E+00	(8)	1.64E+00	-	<0.001	1.1	0.00069	<0.001	<0.001	<0.001	16	10	1.8	1.2	11	1.4	<0.001	3.6	<0.001	3.9
n-Butylbenzene	3.90E+03	(2)	5.10E+04	(5)	1.15E+03	(8)	1.15E+03	-	<0.001	0.28	<0.001	<0.001	<0.001	<0.001	4	2.4	0.66	0.4	3.3	0.51	<0.001	3.8	<0.001	0.31
n-Propylbenzene	3.40E+03	(2)	2.10E+04	(5)	4.56E+02	(8)	4.56E+02	-	<0.001	0.45	<0.001	<0.001	<0.001	<0.001	6.2	3.6	0.47	0.55	4	0.73	<0.001	8.1	<0.001	0.22
sec-Butylbenzene	-	-	-	-	-	-	-	-	<0.001	0.15	<0.001	<0.001	<0.001	<0.001	2.4	1.4	0.28	0.23	1.6	0.3	<0.001	3.8	<0.001	0.17
Styrene	7.28E+03	(1)	9.99E+03	(4)	6.40E+02	(8)	6.40E+02	-	<0.001	<0.5	<0.001	<0.001	<0.001	<0.001	<2.5	<2.5	<1	<0.5	<2.5	<0.5	<0.001	<2.5	<0.001	<1
tert-Butylbenzene	-	-	-	-	-	-	-	-	<0.001	<0.5	<0.001	<0.001	<0.001	<0.001	<2.5	<2.5	<1	<0.5	<2.5	<0.5	<0.001	<2.5	<0.001	<1
Tetrachloroethene (PCE)	7.02E+00	(1)	2.12E+02	(4)	1.98E-01	(8)	1.98E-01	-	<0.001	<0.5	<0.001	<0.001	<0.001	<0.001	<2.5	<2.5	<1	<0.5	<2.5	<0.5	<0.001	<2.5	<0.001	<1
Toluene	5.27E+03	(1)	1.34E+04	(4)	5.84E+02	(8)	5.84E+02	-	<0.001	2.8	0.00292	0.000892	<0.001	<0.001	45	14	0.15	0.61	1.3	0.83	<0.001	<2.5	0.00033	<1
trans-1,2-DCE	2.70E+02	(1)	2.73E+02	(4)	1.24E+01	(8)	1.24E+01	-	<0.001	<0.5	<0.001	<0.001	<0.001	<0.001	<2.5	<2.5	<1	<0.5	<2.5	<0.5	<0.001	<2.5	<0.001	<1
trans-1,3-Dichloropropene	-	-	-	-	-	-	-	-	<0.001	<0.5	<0.001	<0.001	<0.001	<0.001	<2.5	<2.5	<1	<0.5	<2.5	<0.5	<0.001	<2.5	<0.001	<1
Trichloroethene (TCE)	8.77E+00	(1)	7.68E+00	(4)	4.85E-01	(8)	4.85E-01	-	<0.001	<0.5	<0.001	<0.001	<0.001	<0.001	<2.5	<2.5	<1	<0.5	<2.5	<0.5	<0.001	<2.5	<0.001	<1
Trichlorofluoromethane	1.41E+03	(1)	1.30E+03	(4)	4.10E+02	(8)	4.10E+02	-	<0.001	<0.5	<0.001	0.00												

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

Analytes	Residential Soil Screening Level	Source	Non- Residential Soil Screening Level	Source	Leachate DAF (461) Soil/GW NMED	Source	Min	Background Concentrations (11)	SWMU 14-9 (13-14')	SWMU 14-9 (4-6')	SWMU 14-10 (0-0.5')	SWMU 14-10 (1.5-2.0')	SWMU 14-11 (0-0.5')	SWMU 14-11 (1.5-2.0')	SWMU 14-12 (0-0.5')	SWMU 14-12 (1.5-2.0')	SWMU 14-13 (0-0.5')	SWMU 14-13 (1.5-2.0')	SWMU 14-14 (0-0.5')	SWMU 14-14 (1.5-2.0')	SWMU 14-15 (0-0.5')	SWMU 14-15 (1.5-2.0')	SWMU 14-16 (0-0.5')	SWMU 14-16 (1.5-2.0')
									1207922-005 7/18/2012	1207922-004 7/18/2012	1207940-001 7/19/2012	1207940-002 7/19/2012	1207940-012 7/19/2012	1207940-013 7/19/2012	1207940-006 7/19/2012	1207940-007 7/19/2012	1207940-008 7/19/2012	1207940-009 7/19/2012	1207940-010 7/19/2012	1207940-011 7/19/2012	1207940-025 7/19/2012	1207940-026 7/19/2012	1207940-023 7/19/2012	1207940-024 7/19/2012
4-Bromophenyl phenyl ether	-	-	-	-	-	-	-	-	<0.202	<0.401	<1.006	<0.989	<0.997	<1.004	<0.401	<0.402	<0.201	<0.199	<1.002	<0.992	<1.003	<0.998	<1.006	<1
4-Chloro-3-methylphenol	6.10E+03	(2)	6.20E+04	(5)	5.99E+02	(8)	5.99E+02	-	<0.504	<1.004	<2.514	<2.473	<2.493	<2.511	<1.001	<1.006	<0.502	<0.498	<2.505	<2.479	<2.507	<2.495	<2.515	<2.5
4-Chloroaniline	2.40E+01	(3)	8.60E+00	(6)	5.99E-02	(8)	5.99E-02	-	<0.504	<1.004	<2.514	<2.473	<2.493	<2.511	<1.001	<1.006	<0.502	<0.498	<2.505	<2.479	<2.507	<2.495	<2.515	<2.5
4-Chlorophenyl phenyl ether	-	-	-	-	-	-	-	-	<0.202	<0.401	<1.006	<0.989	<0.997	<1.004	<0.401	<0.402	<0.201	<0.199	<1.002	<0.992	<1.003	<0.998	<1.006	<1
4-Nitroaniline	2.40E+02	(3)	8.60E+01	(6)	6.45E-01	(8)	6.45E-01	-	<0.403	<0.803	<2.011	<1.978	<1.995	<2.009	<0.801	<0.805	<0.401	<0.398	<2.004	<1.983	<2.005	<1.996	<2.012	<2
4-Nitrophenol	-	-	-	-	-	-	-	-	<0.252	0.22	<1.257	<1.236	<1.247	<1.255	<0.501	<0.503	<0.251	<0.249	<1.253	<1.24	<1.253	<1.248	<1.258	<1.25
Acenaphthene	3.44E+03	(1)	1.86E+04	(4)	7.79E+03	(8)	3.44E+03	-	<0.202	<0.401	<1.006	<0.989	<0.997	<1.004	<0.401	<0.402	<0.201	<0.199	<1.002	<0.992	<1.003	<0.998	<1.006	<1
Acenaphthylene	-	-	-	-	-	-	-	-	<0.202	<0.401	<1.006	<0.989	<0.997	<1.004	<0.401	<0.402	<0.201	<0.199	<1.002	<0.992	<1.003	<0.998	<1.006	<1
Aniline	8.50E+02	(3)	3.00E+02	(6)	1.80E+00	(8)	1.80E+00	-	<0.202	<0.401	<1.006	<0.989	<0.997	<1.004	<0.401	<0.402	<0.201	<0.199	<1.002	<0.992	<1.003	<0.998	<1.006	<1
Anthracene	1.72E+04	(1)	6.68E+04	(4)	1.25E+05	(8)	1.72E+04	-	<0.202	<0.401	<1.006	<0.989	<0.997	<1.004	<0.401	<0.402	<0.201	<0.199	<1.002	<0.992	<1.003	<0.998	<1.006	<1
Azobenzene	5.10E+01	(3)	2.30E+01	(6)	3.69E-01	(8)	3.69E-01	-	<0.202	<0.401	<1.006	<0.989	<0.997	<1.004	<0.401	<0.402	<0.201	<0.199	<1.002	<0.992	<1.003	<0.998	<1.006	<1
Benz(a)anthracene	1.48E+00	(1)	2.13E+02	(4)	3.61E+01	(8)	1.48E+00	-	<0.202	<0.401	<1.006	<0.989	<0.997	<1.004	<0.401	<0.402	<0.201	<0.199	<1.002	<0.992	<1.003	0.61	<1.006	<1
Benzo(a)pyrene	1.48E-01	(1)	2.13E+01	(4)	1.20E+01	(8)	1.48E-01	-	<0.202	<0.401	<1.006	<0.989	<0.997	<1.004	<0.401	<0.402	<0.201	<0.199	<1.002	<0.992	<1.003	<0.998	<1.006	<1
Benzo(b)fluoranthene	1.48E+00	(1)	2.13E+02	(4)	1.22E+02	(8)	1.48E+00	-	<0.202	<0.401	<1.006	<0.989	<0.997	<1.004	<0.401	<0.402	<0.201	<0.199	<1.002	<0.992	<1.003	<0.998	<1.006	<1
Benzo(g,h,i)perylene	-	-	-	-	-	-	-	-	<0.202	<0.401	<1.006	<0.989	<0.997	<1.004	<0.401	<0.402	<0.201	<0.199	<1.002	<0.992	<1.003	<0.998	<1.006	<1
Benzo(k)fluoranthene	1.48E+01	(1)	2.06E+03	(4)	1.20E+03	(8)	1.48E+01	-	<0.202	<0.401	<1.006	<0.989	<0.997	<1.004	<0.401	<0.402	<0.201	<0.199	<1.002	<0.992	<1.003	<0.998	<1.006	<1
Benzoic acid	2.40E+05	(2)	2.50E+06	(5)	6.45E+03	(8)	6.45E+03	-	<0.504	<1.004	<2.514	<2.473	0.47	0.66	<1.001	<1.006	<0.502	<0.498	<2.505	<2.479	<2.507	<2.495	<2.515	<2.5
Benzyl alcohol	6.10E+03	(2)	6.20E+04	(5)	1.71E+02	(8)	1.71E+02	-	<0.202	<0.401	<1.006	<0.989	<0.997	<1.004	<0.401	<0.402	<0.201	<0.199	<1.002	<0.992	<1.003	<0.998	<1.006	<1
Bis(2-chloroethoxy)methane	1.80E+02	(2)	1.80E+03	(5)	5.07E+00	(8)	5.07E+00	-	<0.202	<0.401	<1.006	<0.989	<0.997	<1.004	<0.401	<0.402	<0.201	<0.199	<1.002	<0.992	<1.003	<0.998	<1.006	<1
Bis(2-chloroethyl)ether	2.68E+00	(1)	7.78E+01	(4)	1.21E-02	(8)	1.21E-02	-	<0.202	0.18	<1.006	<0.989	<0.997	<1.004	<0.401	<0.402	<0.201	<0.199	<1.002	<0.992	<1.003	0.43	<1.006	<1
Bis(2-chloroisopropyl)ether	9.15E+01	(1)	3.10E+03	(4)	1.07E+00	(8)	1.07E+00	-	<0.202	<0.401	<1.006	<0.989	<0.997	<1.004	<0.401	<0.402	<0.201	<0.199	<1.002	<0.992	<1.003	<0.998	<1.006	<1
Bis(2-ethylhexyl)phthalate	3.47E+02	(1)	4.76E+03	(4)	3.97E+03	(8)	3.47E+02	-	<0.504	<1.004	<2.514	<2.473	<2.493	<2.511	<1.001	<1.006	<0.502	<0.498	<2.505	<2.479	<2.507	1.1	<2.515	<2.5
Butyl benzyl phthalate	2.60E+03	(3)	9.10E+02	(6)	9.22E+01	(8)	9.22E+01	-	<0.202	<0.401	<1.006	<0.989	<0.997	<1.004	<0.401	<0.402	<0.201	<0.199	<1.002	<0.992	<1.003	<0.998	<1.006	<1
Carbazole	-	-	-	-	-	-	-	-	<0.202	<0.401	<1.006	<0.989	<0.997	<1.004	<0.401	<0.402	<0.201	<0.199	<1.002	<0.992	<1.003	<0.998	<1.006	<1
Chrysene	1.48E+02	(1)	2.06E+04	(4)	3.68E+03	(8)	1.48E+02	-	<0.202	<0.401	<1.006	<0.989	<0.997	<1.004	<0.401	<0.402	0.16	<0.199	<1.002	<0.992	<1.003	0.65	<1.006	<1
Dibenz(a,h)anthracene	1.48E-01	(1)	2.13E+01	(4)	3.90E+01	(8)	1.48E-01	-	<0.202	<0.401	<1.006	<0.989	<0.997	<1.004	<0.401	<0.402	<0.201	<0.199	<1.002	<0.992	<1.003	<0.998	<1.006	<1
Dibenzofuran	7.80E+01	(2)	1.00E+03	(5)	5.07E+01	(8)	5.07E+01	-	<0.															

Table 8
Old API Separator Soil Analytical Results Summary
Western Refining Southwest, Inc. - Gallup Refinery
Gallup, New Mexico

Analytes	Residential Soil Screening Level	Source	Non- Residential Soil Screening Level	Source	Leachate DAF (461) (mg/kg) SoilGW NMED	Source	Min	Background Concentrations (11)	SWMU 14-9 (13-14')	SWMU 14-9 (4-6')	SWMU 14-10 (0-0.5')	SWMU 14-10 (1.5-2.0')	SWMU 14-11 (0-0.5')	SWMU 14-11 (1.5-2.0')	SWMU 14-12 (0-0.5')	SWMU 14-12 (1.5-2.0')	SWMU 14-13 (0-0.5')	SWMU 14-13 (1.5-2.0')	SWMU 14-14 (0-0.5')	SWMU 14-14 (1.5-2.0')	SWMU 14-15 (0-0.5')	SWMU 14-15 (1.5-2.0')	SWMU 14-16 (0-0.5')	SWMU 14-16 (1.5-2.0')
									1207922-005 7/18/2012	1207922-004 7/18/2012	1207940-001 7/19/2012	1207940-002 7/19/2012	1207940-012 7/19/2012	1207940-013 7/19/2012	1207940-006 7/19/2012	1207940-007 7/19/2012	1207940-008 7/19/2012	1207940-009 7/19/2012	1207940-010 7/19/2012	1207940-011 7/19/2012	1207940-025 7/19/2012	1207940-026 7/19/2012	1207940-023 7/19/2012	1207940-024 7/19/2012

EPA - Regional Screening Levels (November 2012)

(1) NMED Residential Screening Level

(2) EPA Residential Screening Level

(3) EPA Residential - Screening Levels (November 2012) multiplied by 10 because the constituent is listed as carcinogenic

(4) NMED Construction Worker Screening Level

(5) EPA Industrial - Screening Levels (Nov. 2012)

(6) EPA Industrial - Screening Levels (Nov. 2012) multiplied by 10

(7) SoilGW NMED Dilution Attenuation Factor (DAF) = 461

(8) SoilGW Risk-based EPA DAF = 461

(9) SoilGW MCL-based EPA DAF = 461

(10) NMED Table 6-2 TPH Screening Guidelines for Potable Groundwater "unknown oil" with DAF = 1.0 - see report Section 5 for use of screening levels

(11) Background concentrations to be determined.

Bold represents value above Residential Screening Level

yellow highlight represents value above Leachate (DAF) Screening Level

Bold with yellow - value exceeds Residential Screening Level and DAF

Table 8
Old API Separator Soil Analytical Results Summary
Western Refining Southwest, Inc. - Gallup Refinery
Gallup, New Mexico

Analytes	Residential Soil Screening Level	Source	Non- Residential Soil Screening Level	Source	Leachate DAF (461) Soil/GW NMED	Source	Min	Background Concentrations (11)	SWMU 14-17 (0-0.5')	SWMU 14-17 (1.5-2.0')	SWMU 14-18 (0-0.5')	SWMU 14-18 (1.5-2.0')	SWMU 14-19 (0-0.5')	SWMU 14-19 (1.5-2.0')	SWMU 14-20 (0-0.5')	SWMU 14-21 (0-0.5')	SWMU 14-21 (1.5-2')	SWMU 14-21 (8-10')	SWMU 14-22 (0-0.5')	SWMU 14-22 (1.5-2')	SWMU 14-22 (4-6')	SWMU 14-22 (8-10')	SWMU 14-23 (0-0.5')	SWMU 14-23 (1.5-2')	
									1207940-021 7/19/2012	1207940-022 7/19/2012	1207940-014 7/19/2012	1207940-015 7/19/2012	1207940-019 7/19/2012	1207940-020 7/19/2012	1207940-027 7/19/2012	1210582-005 10/9/2012	1210582-006 10/9/2012	1210582-007 10/9/2012	1210583-001 10/9/2012	1210583-002 10/9/2012	1210583-003 10/9/2012	1210583-005 10/9/2012	1210656-001 10/10/2012	1210656-002 10/10/2012	
Metals (mg/kg)																									
Antimony	3.13E+01	(1)	1.24E+02	(4)	3.05E+02	(8)	3.13E+01	-	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<5	<5	<5	<5	<5		
Arsenic	3.90E+00	(1)	5.30E+01	(4)	6.05E+00	(8)	3.90E+00	-	<3.1	<3.1	<3.1	<3.1	<3.1	<3.1	<3.1	<3.1	<3.1	<3.1	1.6J	<1.3	<1.3	2.2J	3.0J		
Barium	1.56E+04	(1)	4.35E+03	(4)	1.39E+05	(8)	4.35E+03	-	850	600	620	680	180	790	940	470	750	160	630	430	170	250	600	460	
Beryllium	1.56E+02	(1)	1.44E+02	(4)	2.66E+04	(8)	1.44E+02	-	0.86	0.87	0.86	0.76	0.38	0.81	0.69	<0.75	<0.75	0.91	0.9	0.83	0.89	0.8	0.61	0.62	
Cadmium	7.03E+01	(1)	2.77E+02	(4)	6.33E+02	(8)	7.03E+01	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<0.2	<0.2	<0.2	<0.2	
Chromium III	1.17E+05	(1)	4.65E+05	(4)	4.54E+10	(8)	1.17E+05	-	20	25	25	26	6.6	12	9.4	5.7	7.4	8	12	10	7.6	9.3	9.6	15	
Chromium VI	2.97E+00	(1)	6.56E+01	(4)	3.83E+00	(8)	2.97E+00	-	20	25	25	26	6.6	12	9.4	5.7	7.4	8	12	10	7.6	9.3	9.6	15	
Cobalt	2.30E+01	(2)	3.00E+02	(5)	9.68E+01	(8)	2.30E+01	-	5.4	5.4	5.2	5.5	3.2	4.8	5.2	3.2	3.9	4.3	5.5	4.2	4.3	3.8	3.4	3.7	
Cyanide	4.69E+01	(1)	1.86E+02	(4)	1.02E+02	(8)	4.69E+01	-	1.33	<0.5	1.22	1.5	<0.5	<0.5	<0.5	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	0.36	5.5	
Iron	5.48E+04	(1)	2.17E+05	(4)	2.98E+05	(8)	5.48E+04	-	17000	15000	16000	15000	8200	12000	13000	11000	12000	12000	15000	14000	13000	13000	13000	12000	
Lead	4.00E+02	(1)	8.00E+02	(4)	6.45E+03	(8)	4.00E+02	-	7.1	3.2	10	14	2.2	4.1	2.7	10	5	4.7	5.9	4.3	4	3.9	4.2	7.6	
Manganese	1.86E+03	(1)	4.40E+02	(4)	2.64E+04	(8)	4.40E+02	-	560	640	580	540	300	640	650	550	550	220	550	540	370	270	720	570	
Mercury	1.56E+01	(1)	1.36E+01	(4)	1.51E+01	(8)	1.36E+01	-	1.3	0.12	0.2	0.15	0.011	0.063	0.0064	<0.033	<0.033	<0.033	0.083	0.05	<0.033	<0.033	0.1	<0.033	
Nickel	1.56E+03	(1)	6.19E+03	(4)	2.20E+04	(8)	1.56E+03	-	12	8.7	8.5	8.9	6.9	8	6.9	4.3	6.1	7.3	8.3	7.2	7.2	7.4	5.9	6.5	
Selenium	3.91E+02	(1)	1.55E+03	(4)	4.45E+02	(8)	3.91E+02	-	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<5	<5	<5	<5	<5	
Silver	3.91E+02	(1)	1.55E+03	(4)	7.22E+02	(8)	3.91E+02	-	<1.25	<1.25	<1.25	<1.25	<1.25	<1.25	<1.25	<1.25	<1.25	<1.25	<1.2499	<0.5	<0.5	<0.5	<0.5	<0.5	
Vanadium	3.91E+02	(1)	1.55E+03	(4)	8.42E+04	(8)	3.91E+02	-	28	27	30	26	22	21	21	17	16	14	25	17	13	13	18	16	
Zinc	2.35E+04	(1)	9.29E+04	(4)	3.14E+05	(8)	2.35E+04	-	230	37	68	65	18	34	17	29	22	13	33	20	13	14	140	41	
Volatile Organic Compounds - (EPA Method 8260) mg/kg																									
1,1,1,2-Tetrachloroethane	2.91E+01	(1)	7.79E+02	(4)	7.59E-01	(8)	7.59E-01	-	<0.001	<1	<0.001	<2.5	<0.05	<0.05	<0.001	<0.0008	<0.001	<0.0009	<0.0009	<0.0009	<0.0009	<0.001	<0.0011	<0.0011	<0.0007
1,1,1-Trichloroethane	1.56E+04	(1)	1.48E+04	(4)	1.34E+03	(8)	1.34E+03	-	<0.001	<1	<0.001	<2.5	<0.05	<0.05	<0.001	<0.0008	<0.001	<0.0009	<0.0009	<0.0009	<0.0009	<0.001	<0.0011	<0.0011	<0.0007
1,1,2,2-Tetrachloroethane	8.02E+00	(1)	2.21E+02	(4)	9.82E-02	(8)	9.82E-02	-	<0.001	<1	<0.001	<2.5	<0.05	<0.05	<0.001	<0.0008	<0.001	<0.0009	<0.0009	<0.0009	<0.0009	<0.001	<0.0011	<0.0011	<0.0007
1,1,2-Trichloroethane	2.81E+00	(1)	4.72E+02	(4)	5.14E-02	(8)	5.14E-02	-	<0.001	1	<0.001	<2.5	<0.05	<0.05	<0.001	<0.0008	<0.001	<0.0009	<0.0009	<0.0009	<0.0009	<0.001	<0.0011	<0.0011	<0.0007
1,1-Dichloroethane	6.45E+01	(1)	1.70E+03	(4)	2.75E+00	(8)	2.75E+00	-	<0.001	<2	<0.001	<5	<0.1	<0.1	<0.001	<0.0008	<0.001	<0.0009	<0.0009	<0.0009	<0.0009	<0.001	<0.0011	<0.0011	<0.0007
1,1-Dichloroethene	4.49E+02	(1)	4.32E+02	(4)	5.36E+01	(8)	5.36E+01	-	<0.001	<1	<0.001	<2.5	<0.05	<0.05	<0.001	<0.0008	<0.001	<0.0009	<0.0009	<0.0009	<0.0009	<0.001	<0.0011	<0.0011	<0.0007
1,1-Dichloropropene	-	-	-	-	-	-	-	-	<0.001	<2	<0.001	<5	<0.1	<0.1	<0.001	<0.0008	<0.001	<0.0009	<0.0009	<0.0009	<0.0009	<0.001	<0.0011	<0.0011	<0.0007
1,2,3-Trichlorobenzene	4.90E+01	(2)	4.90E+02	(5)	6.92E+00	(8)	6.92E+00	-	<0.001	<2	<0.001	<5	<0.1	<0.1	<0.001	<0.0008	<0.001	<0.0009	<0.0009	<0.0009	<0.0009	<0.001	<0.0011	<0.0011	<0.0007
1,2,3-Trichloropropane	4.97E-02	(1)	7.23E+00	(4)	1.15E-03	(8)	1.15E-03	-	<0.001	<2	<0.001	<5	<0.1	<0.1	<0.001	<0.0008	<0.001	<0.0009	<0.0009	<0.0009	<0.0009	<0.001	<0.0011	<0.0011	<0.0007
1,2,4-Trichlorobenzene	7.30E+01	(1)	6.87E+01	(4)	4.21E+00	(8)	4.21E+00	-	<0.001	<1	<0.001	<2.5	<0.05	<0.05	<0.001	<0.0008	<0.001	<0.0009	<0.0009	<0.0009	<0.0009	<0.001	<0.0011	<0.0011	<0.0007
1,2,4-Trimethylbenzene	6.20E+01	(2)	2.60E+02	(5)	9.68E+00	(8)	9.68E+00	-	<0.001	33	<0.001	37	<0.05	<0.05	<0.001	0.00163	&lt								

Table 8
Old API Separator Soil Analytical Results Summary
Western Refining Southwest, Inc. - Gallup Refinery
Gallup, New Mexico

Analytes	Residential Soil Screening Level	Source	Non- Residential Soil Screening Level	Source	Leachate DAF (461) SoilGW NMED	Source	Min	Background Concentrations (11)	SWMU 14-17 (0-0.5')	SWMU 14-17 (1.5-2.0')	SWMU 14-18 (0-0.5')	SWMU 14-18 (1.5-2.0')	SWMU 14-19 (0-0.5')	SWMU 14-19 (1.5-2.0')	SWMU 14-20 (0-0.5')	SWMU 14-21 (0-0.5')	SWMU 14-21 (1.5-2')	SWMU 14-21 (8-10')	SWMU 14-22 (0-0.5')	SWMU 14-22 (1.5-2')	SWMU 14-22 (4-6')	SWMU 14-22 (8-10')	SWMU 14-23 (0-0.5')	SWMU 14-23 (1.5-2')
									1207940-021 7/19/2012	1207940-022 7/19/2012	1207940-014 7/19/2012	1207940-015 7/19/2012	1207940-019 7/19/2012	1207940-020 7/19/2012	1207940-027 7/19/2012	1210582-005 10/9/2012	1210582-006 10/9/2012	1210582-007 10/9/2012	1210583-001 10/9/2012	1210583-002 10/9/2012	1210583-003 10/9/2012	1210583-005 10/9/2012	1210656-001 10/10/2012	1210656-002 10/10/2012
Bromomethane	1.65E+01	(1)	1.64E+01	(4)	8.86E-01	(8)	8.86E-01	-	-	<3	-	<7.5	<0.15	<0.15	-	<0.0008	<0.001	<0.0009	<0.0009	<0.0009	<0.001	<0.0011	<0.0011	<0.0007
Carbon disulfide	1.53E+03	(1)	1.58E+03	(4)	1.30E+02	(8)	1.30E+02	-	<0.005	<10	<0.005	<25	<0.5	<0.5	<0.006	<0.0081	<0.0104	<0.0093	<0.0095	<0.0089	<0.01	<0.0112	<0.0108	<0.0073
Carbon tetrachloride	1.08E+01	(1)	2.26E+02	(4)	7.39E-01	(8)	7.39E-01	-	<0.001	<2	<0.001	<5	<0.1	<0.1	<0.001	<0.0008	<0.001	<0.0009	<0.0009	<0.0009	<0.001	<0.0011	<0.0011	<0.0007
Chlorobenzene	3.76E+02	(1)	4.06E+02	(4)	2.27E+01	(8)	2.27E+01	-	<0.001	0.11	<0.001	<2.5	<0.05	<0.05	<0.001	<0.0008	<0.001	<0.0009	<0.0009	<0.0009	<0.001	<0.0011	<0.0011	<0.0007
Chloroethane	2.98E+04	(1)	2.61E+04	(4)	2.48E+03	(8)	2.48E+03	-	<0.001	<2	<0.001	<5	<0.1	<0.1	<0.001	<0.0008	<0.001	<0.0009	<0.0009	<0.0009	<0.001	<0.0011	<0.0011	<0.0007
Chloroform	5.86E+00	(1)	1.54E+02	(4)	2.12E-01	(8)	2.12E-01	-	<0.001	<1	<0.001	<2.5	<0.05	0.0069	<0.001	<0.0008	<0.001	<0.0009	<0.0009	<0.0009	<0.001	<0.0011	<0.0011	<0.0007
Chloromethane	2.75E+02	(1)	2.41E+02	(4)	2.03E+01	(8)	2.03E+01	-	0.000352	<3	<0.001	<7.5	<0.15	<0.15	<0.001	<0.0008	<0.001	<0.0009	<0.0009	<0.0009	<0.001	<0.0011	<0.0011	<0.0007
cis-1,2-DCE	1.56E+02	(1)	6.19E+02	(4)	8.47E+00	(8)	8.47E+00	-	<0.001	<1	<0.001	<2.5	<0.05	<0.05	<0.001	<0.0008	<0.001	<0.0009	<0.0009	<0.0009	<0.001	<0.0011	<0.0011	<0.0007
cis-1,3-Dichloropropene	3.37E+01	(1)	2.09E+02	(4)	5.71E-01	(8)	5.71E-01	-	<0.001	<1	<0.001	<2.5	<0.05	<0.05	<0.001	<0.0008	<0.001	<0.0009	<0.0009	<0.0009	<0.001	<0.0011	<0.0011	<0.0007
Dibromochloromethane	1.21E+01	(1)	3.32E+02	(4)	1.52E-01	(8)	1.52E-01	-	<0.001	<1	<0.001	<2.5	<0.05	<0.05	<0.001	<0.0008	<0.001	<0.0009	<0.0009	<0.0009	<0.001	<0.0011	<0.0011	<0.0007
Dibromomethane	5.16E+01	(1)	3.10E+03	(4)	7.89E-01	(8)	7.89E-01	-	<0.001	<2	<0.001	<5	<0.1	<0.1	<0.001	<0.0008	<0.001	<0.0009	<0.0009	<0.0009	<0.001	<0.0011	<0.0011	<0.0007
Dichlorodifluoromethane	1.68E+02	(1)	1.49E+02	(4)	1.71E+02	(8)	1.49E+02	-	<0.001	<1	<0.001	<2.5	<0.05	<0.05	<0.001	<0.0008	<0.001	<0.0009	<0.0009	<0.0009	<0.001	<0.0011	<0.0011	<0.0007
Ethylbenzene	6.84E+01	(1)	1.83E+03	(4)	5.98E+00	(8)	5.98E+00	-	<0.001	13	<0.001	17	<0.05	<0.05	<0.001	0.00194	<0.001	<0.0009	0.00152	<0.0009	<0.001	<0.0011	0.00207	<0.0007
Hexachlorobutadiene	6.11E+01	(1)	2.38E+02	(4)	5.91E+00	(8)	5.91E+00	-	<0.001	<2	<0.001	<5	<0.1	<0.1	<0.001	<0.0008	<0.001	<0.0009	<0.0009	<0.0009	<0.001	<0.0011	<0.0011	<0.0007
Isopropylbenzene	2.43E+03	(1)	2.81E+03	(4)	3.99E+02	(8)	3.99E+02	-	<0.001	2.9	<0.001	3.5	<0.05	<0.05	<0.001	<0.0008	<0.001	<0.0009	<0.0009	<0.0009	<0.001	<0.0011	<0.0011	<0.0007
Methyl tert-butyl ether (MTBE)	9.01E+02	(1)	2.49E+04	(4)	1.11E+01	(8)	1.11E+01	-	<0.002	0.16	<0.002	<2.5	<0.05	<0.05	<0.002	<0.0008	<0.001	<0.0009	<0.0009	<0.0009	<0.001	<0.0011	<0.0011	<0.0007
Methylene chloride	4.09E+02	(1)	1.12E+03	(4)	1.90E+01	(8)	1.90E+01	-	<0.005	0.14	<0.005	0.31	0.048	0.016	<0.006	<0.0024	0.0142	0.00978	0.00694	<0.0027	<0.003	<0.0034	<0.0032	<0.0022
Naphthalene	4.30E+01	(1)	1.58E+02	(4)	1.64E+00	(8)	1.64E+00	-	<0.001	17	0.000458	8.8	<0.1	<0.1	<0.001	<0.0016	<0.0021	<0.0019	<0.0019	<0.0018	<0.002	<0.0022	<0.0022	<0.0015
n-Butylbenzene	3.90E+03	(2)	5.10E+04	(5)	1.15E+03	(8)	1.15E+03	-	<0.001	4.6	<0.001	2.8	<0.05	<0.05	<0.001	<0.0008	<0.001	<0.0009	<0.0009	<0.0009	<0.001	<0.0011	<0.0011	<0.0007
n-Propylbenzene	3.40E+03	(2)	2.10E+04	(5)	4.56E+02	(8)	4.56E+02	-	<0.001	4.9	<0.001	5.7	<0.05	<0.05	<0.001	<0.0008	<0.001	<0.0009	<0.0009	<0.0009	<0.001	<0.0011	<0.0011	<0.0007
sec-Butylbenzene	-	-	-	-	-	-	-	-	<0.001	2.9	<0.001	2	<0.05	<0.05	<0.001	<0.0008	<0.001	<0.0009	<0.0009	<0.0009	<0.001	<0.0011	<0.0011	<0.0007
Styrene	7.28E+03	(1)	9.99E+03	(4)	6.40E+02	(8)	6.40E+02	-	<0.001	<1	<0.001	<2.5	<0.05	<0.05	<0.001	<0.0008	<0.001	<0.0009	<0.0009	<0.0009	<0.001	<0.0011	<0.0011	<0.0007
tert-Butylbenzene	-	-	-	-	-	-	-	-	<0.001	<1	<0.001	<2.5	<0.05	<0.05	<0.001	<0.0008	<0.001	<0.0009	<0.0009	<0.0009	<0.001	<0.0011	<0.0011	<0.0007
Tetrachloroethene (PCE)	7.02E+00	(1)	2.12E+02	(4)	1.98E-01	(8)	1.98E-01	-	<0.001	<1	<0.001	<2.5	<0.05	<0.05	<0.001	<0.0008	<0.001	<0.0009	<0.0009	<0.0009	<0.001	<0.0011	<0.0011	<0.0007
Toluene	5.27E+03	(1)	1.34E+04	(4)	5.84E+02	(8)	5.84E+02	-	0.00273	0.17	0.00075	<2.5	<0.05	<0.05	<0.001	0.003	0.00126	<0.0009	0.00318	0.00135	0.00162	<0.0011	0.0075	0.00235
trans-1,2-DCE	2.70E+02	(1)	2.73E+02</																					

Table 8
Old API Separator Soil Analytical Results Summary
Western Refining Southwest, Inc. - Gallup Refinery
Gallup, New Mexico

Analytes	Residential Soil Screening Level	Source	Non- Residential Soil Screening Level	Source	Leachate DAF (461) SoilGW NMED	Source	Min	Background Concentrations (11)	SWMU 14-17 (0-0.5')	SWMU 14-17 (1.5-2.0')	SWMU 14-18 (0-0.5')	SWMU 14-18 (1.5-2.0')	SWMU 14-19 (0-0.5')	SWMU 14-19 (1.5-2.0')	SWMU 14-20 (0-0.5')	SWMU 14-21 (0-0.5')	SWMU 14-21 (1.5-2')	SWMU 14-21 (8-10')	SWMU 14-22 (0-0.5')	SWMU 14-22 (1.5-2')	SWMU 14-22 (4-6')	SWMU 14-22 (8-10')	SWMU 14-23 (0-0.5')	SWMU 14-23 (1.5-2')
									1207940-021 7/19/2012	1207940-022 7/19/2012	1207940-014 7/19/2012	1207940-015 7/19/2012	1207940-019 7/19/2012	1207940-020 7/19/2012	1207940-027 7/19/2012	1210582-005 10/9/2012	1210582-006 10/9/2012	1210582-007 10/9/2012	1210583-001 10/9/2012	1210583-002 10/9/2012	1210583-003 10/9/2012	1210583-005 10/9/2012	1210656-001 10/10/2012	1210656-002 10/10/2012
4-Bromophenyl phenyl ether	-	-	-	-	-	-	-	-	<1.979	<1.004	<0.995	<1.995	<1.004	<1.977	<0.4	<0.1996	<0.1995	<0.1983	<0.1995	<0.1978	<0.2018	<0.1989	<0.3999	<0.9865
4-Chloro-3-methylphenol	6.10E+03	(2)	6.20E+04	(5)	5.99E+02	(8)	5.99E+02	-	<4.947	<2.509	<2.487	<4.988	<2.509	<4.942	<1	<0.499	<0.4988	<0.4957	<0.4987	<0.4944	<0.5045	<0.4973	<0.9997	<2.4663
4-Chloroaniline	2.40E+01	(3)	8.60E+00	(6)	5.99E-02	(8)	5.99E-02	-	<4.947	<2.509	<2.487	<4.988	<2.509	<4.942	<1	<0.499	<0.4988	<0.4957	<0.4987	<0.4944	<0.5045	<0.4973	<0.9997	<2.4663
4-Chlorophenyl phenyl ether	-	-	-	-	-	-	-	-	<1.979	<1.004	<0.995	<1.995	<1.004	<1.977	<0.4	<0.1996	<0.1995	<0.1983	<0.1995	<0.1978	<0.2018	<0.1989	<0.3999	<0.9865
4-Nitroaniline	2.40E+02	(3)	8.60E+01	(6)	6.45E-01	(8)	6.45E-01	-	<3.958	<2.007	<1.989	<3.991	<2.007	<3.954	<0.8	<0.3992	<0.3991	<0.3966	<0.3989	<0.3955	<0.4036	<0.3979	<0.7997	<1.973
4-Nitrophenol	-	-	-	-	-	-	-	-	<2.474	<1.255	<1.243	<2.494	<1.255	<2.471	<0.5	<0.2495	<0.2494	<0.2479	<0.2493	<0.2472	<0.2523	<0.2487	<0.4998	<1.2331
Acenaphthene	3.44E+03	(1)	1.86E+04	(4)	7.79E+03	(8)	3.44E+03	-	<1.979	<1.004	<0.995	<1.995	<1.004	<1.977	<0.4	<0.1996	<0.1995	<0.1983	<0.1995	<0.1978	<0.2018	<0.1989	<0.3999	<0.9865
Acenaphthylene	-	-	-	-	-	-	-	-	<1.979	<1.004	<0.995	<1.995	<1.004	<1.977	<0.4	<0.1996	<0.1995	<0.1983	<0.1995	<0.1978	<0.2018	<0.1989	<0.3999	<0.9865
Aniline	8.50E+02	(3)	3.00E+02	(6)	1.80E+00	(8)	1.80E+00	-	<1.979	<1.004	<0.995	<1.995	<1.004	<1.977	<0.4	<0.1996	<0.1995	<0.1983	<0.1995	<0.1978	<0.2018	<0.1989	<0.3999	<0.9865
Anthracene	1.72E+04	(1)	6.68E+04	(4)	1.25E+05	(8)	1.72E+04	-	<1.979	<1.004	<0.995	<1.995	<1.004	<1.977	<0.4	<0.1996	<0.1995	<0.1983	<0.1995	<0.1978	<0.2018	<0.1989	<0.3999	<0.9865
Azobenzene	5.10E+01	(3)	2.30E+01	(6)	3.69E-01	(8)	3.69E-01	-	<1.979	<1.004	<0.995	<1.995	<1.004	<1.977	<0.4	<0.1996	<0.1995	<0.1983	<0.1995	<0.1978	<0.2018	<0.1989	<0.3999	<0.9865
Benz(a)anthracene	1.48E+00	(1)	2.13E+02	(4)	3.61E+01	(8)	1.48E+00	-	<1.979	<1.004	<0.995	<1.995	<1.004	<1.977	<0.4	<0.1996	<0.1995	<0.1983	<0.1995	<0.1978	<0.2018	<0.1989	<0.3999	<0.9865
Benzo(a)pyrene	1.48E-01	(1)	2.13E+01	(4)	1.20E+01	(8)	1.48E-01	-	<1.979	<1.004	<0.995	<1.995	<1.004	<1.977	<0.4	<0.1996	<0.1995	<0.1983	<0.1995	<0.1978	<0.2018	<0.1989	<0.3999	<0.9865
Benzo(b)fluoranthene	1.48E+00	(1)	2.13E+02	(4)	1.22E+02	(8)	1.48E+00	-	<1.979	<1.004	<0.995	<1.995	<1.004	<1.977	<0.4	<0.1996	<0.1995	<0.1983	<0.1995	<0.1978	<0.2018	<0.1989	<0.3999	<0.9865
Benzo(g,h,i)perylene	-	-	-	-	-	-	-	-	<1.979	<1.004	<0.995	<1.995	<1.004	<1.977	<0.4	<0.1996	<0.1995	<0.1983	<0.1995	<0.1978	<0.2018	<0.1989	<0.3999	<0.9865
Benzo(k)fluoranthene	1.48E+01	(1)	2.06E+03	(4)	1.20E+03	(8)	1.48E+01	-	<1.979	<1.004	<0.995	<1.995	<1.004	<1.977	<0.4	<0.1996	<0.1995	<0.1983	<0.1995	<0.1978	<0.2018	<0.1989	<0.3999	<0.9865
Benzoic acid	2.40E+05	(2)	2.50E+06	(5)	6.45E+03	(8)	6.45E+03	-	<4.947	<2.509	<2.487	<4.988	<2.509	<4.942	<1	<0.499	<0.4988	<0.4957	<0.4987	<0.4944	<0.5045	<0.4973	<0.9997	<2.4663
Benzyl alcohol	6.10E+03	(2)	6.20E+04	(5)	1.71E+02	(8)	1.71E+02	-	<1.979	<1.004	<0.995	<1.995	<1.004	<1.977	<0.4	<0.1996	<0.1995	<0.1983	0.26	<0.1978	<0.2018	<0.1989	<0.3999	<0.9865
Bis(2-chloroethoxy)methane	1.80E+02	(2)	1.80E+03	(5)	5.07E+00	(8)	5.07E+00	-	<1.979	<1.004	<0.995	<1.995	<1.004	<1.977	<0.4	<0.1996	<0.1995	<0.1983	<0.1995	<0.1978	<0.2018	<0.1989	<0.3999	<0.9865
Bis(2-chloroethyl)ether	2.68E+00	(1)	7.78E+01	(4)	1.21E-02	(8)	1.21E-02	-	<1.979	<1.004	<0.995	<1.995	<1.004	<1.977	<0.4	<0.1996	<0.1995	<0.1983	<0.1995	<0.1978	<0.2018	<0.1989	<0.3999	<0.9865
Bis(2-chloroisopropyl)ether	9.15E+01	(1)	3.10E+03	(4)	1.07E+00	(8)	1.07E+00	-	<1.979	<1.004	<0.995	<1.995	<1.004	<1.977	<0.4	<0.1996	<0.1995	<0.1983	<0.1995	<0.1978	<0.2018	<0.1989	<0.3999	<0.9865
Bis(2-ethylhexyl)phthalate	3.47E+02	(1)	4.76E+03	(4)	3.97E+03	(8)	3.47E+02	-	<4.947	<2.509	<2.487	<4.988	<2.509	<4.942	<1	<0.499	<0.4988	<0.4957	<0.4987	<0.4944	<0.5045	<0.4973	<0.9997	<2.4663
Butyl benzyl phthalate	2.60E+03	(3)	9.10E+02	(6)	9.22E+01	(8)	9.22E+01	-	<1.979	<1.004	<0.995	<1.995	<1.004	<1.977	<0.4	<0.1996	<0.1995	<0.1983	<0.1995	<0.1978	<0.2018	<0.1989	<0.3999	<0.9865
Carbazole	-	-	-	-	-	-	-	-	<1.979	<1.004	<0.995	<1.995	<1.004	<1.977	<0.4	<0.1996	<0.1995	<0.1983	<0.1995	<0.1978	<0.2018	<0.1989	<0.3999	<0.9865
Chrysene	1.48E+02	(1)	2.06E+04	(4)	3.68E+03	(8)	1.48E+02	-	<1.979	<1.004	<0.995	<1.995	<1.004	<1.977	<0.4	<0.1996	<0.1995	<0.1983	<0.1995	<0.1978	<0.2018	<0.1989	<0.3999	<0.9865
Dibenz(a,h)anthracene	1.48E-01	(1)	2.13E+01	(4)	3.90E+01	(8)	1.48E-01	-	<1.979	<1.004	<0.995	<1.995	<1.004	<1.977	<0.4	<0.1996	<0.1995	<0.1983	<0.1995	<0.1978	<0.2018	<0.1989	<0.3999	<0.9865
Dibenzofuran	7.80E+01	(2)	1.00E+03	(5)	5.07E+01	(8)	5.07E+01	-	<1.979	<1.004	<0.995	<1.995	<1.004	<1.977	<0.4	<0.1996	<0.1995	<0.1983	<0.1995	<0.1978	<0.2018	<0.1989	<0.3999	<0.9865
Diethyl phthalate	4.89E+04	(1)	1.91E+05	(4)	4.45E+03	(8)	4.45E+03	-	<1.979	<1.004	<0.995	<1.995	<1.004	<1.977	<0.4	<0.1996	<0.1995	<0.1983	<0.1995	<0.1978	<0.2018	<0.1989	<0.3999	<0.9865
Dimethyl phthalate	6.11E+05	(1)	2.38E+06	(4)	3.71E+04	(8)	3.71E+04	-	<1.979	<1.004	<0.995	<1.995	<1.004	<1.977	<0.4	<0.1996	<0.1995	<0.1983	<0.1995	<0.1978	<0.2018	<0.1989	<0.3999	<0.9865
Di-n-butyl phthalate	6.11E+03	(1)	2.38E+04	(4)	3.21E+03	(8)	3.21E+03	-	<4.947	<2.509	<2.487	<4.988	<2.509	<4.942	<1	<0.499	<0.4988	<0.4957	<0.4987	<0.4944	<0.5045	<0.4973	<0.9997	<2.4663
Di-n-octyl phthalate	-	-	-	-	-	-	-	-	<2.474	<1.255	<1.243	<2.494	<1.255	<2.471	<0.5	<0.2495	<0.2494	<0.2479	<0.2493	<0.2472	<0.2523	<0.2487	<0.7997	<1.973
Fluoranthene	2.29E+03	(1)	8.91E+03	(4)	5.61E+04	(8)	2.29E+03	-	<1.979	<1.004	<0.995	<1.995	<1.004	<1.977	<0.4	<0.1996	<0.1995	<0.1983	<0.1995	<0.1978	<0.2018	<0.1989	<0.3999	<0.9865
Fluorene	2.29E+03	(1)	8.91E+03	(4)	9.36E+03	(8)	2.29E+03	-	<1.979	3	<0.995	<1.995	<1.004	<1.977	<0.4	<0.1996	<0.1995	<0.1983	<0.1995	<0.1978	<0.2018	<0.1989	<0.3999	<0.9865
Hexachlorobenzene	3.04E+00	(1)	1.03E+02	(4)	1.83E+00	(8)	1.83E+00	-	<1.979	<1.004	<0.995	<1.995	<1.004	<1.977	<0.4	<0.1996	<0.1995	<0.1983	<0.1995	<0.1978	<0.2018	<0.1989	<0.3999	<0.9865
Hexachlorobutadiene	6.11E+01	(1)	2.38E+02	(4)	5.91E+00	(8)	5.91E+00	-	<1.979	<1.004	<0.995	<1.995	<1.004	<1.977	<0.4	<0.1996	<0.1995	<0.1983	<0.1995	<0.1978	<0.2018	<0.1989	<0.3999	<0.9865
Hexachlorocyclopentadiene	3.67E+02	(1)	8.11E+02	(4)	2.43E+02	(8)	2.43E+02	-	<1.979	<1.004	<0.995	<1.995	<1.004	<1.977	<0.4	<0.1996	<0.1995	<0.1983	<0.1995	<0.1978	<0.2018	<0.1989	<0.3999	<0.9865
Hexachloroethane	4.28E+01	(1)	1.67E+02	(4)	3.77E+00	(8)	3.77E+00	-	<1.979	<1.004	<0.995	<1.995	<1.004	<1.977	<0.4	<0.1996	<0.1995	<0.1983	<0.1995	<0.1978	<0.2018	<0.1989	<0.3999	<0.9865
Indeno(1,2,3-cd)pyrene	1.48E+00	(1)	2.13E+02	(4)	3.98E+02	(8)	1.48E+00	-	<1.979	<1.004	<0.995	<1.995	<1.004	<1.977	<0.4	<0.1996	<0.1995	<0.1983	<0.1995	<0.1978	<0.2018	<0.1989	<0.3999	<0.9865
Isophorone	5.12E+03	(1)	4.75E+04	(4)	8.84E+01	(8)	8.84E+01	-	<4.947	<2.509	<2.487	<4.988	<2.509	<4.942	<1	<0.499	<0.4988	<0.4957	<0.4987	<0.4944	<0.5045	<0.4973	<0.9997	<2.4663
Naphthalene	4.30E+01	(1)	1.58E+02	(4)	1.64E+00	(8)	1.64E+00	-	<1.979	7.1	<0.995	2.8	<1.004	<1.977	<0.4	<0.1996	<0.1995	<0.1983	<0.1995	<0.1978	<0.2018	<0.1989	&lt	

Table 8
Old API Separator Soil Analytical Results Summary
Western Refining Southwest, Inc. - Gallup Refinery
Gallup, New Mexico

Analytes	Residential Soil Screening Level	Source	Non- Residential Soil Screening Level	Source	Leachate DAF (461) (mg/kg) SoilGW NMED	Source	Min	Background Concentrations (11)	SWMU 14-17 (0-0.5')	SWMU 14-17 (1.5-2.0')	SWMU 14-18 (0-0.5')	SWMU 14-18 (1.5-2.0')	SWMU 14-19 (0-0.5')	SWMU 14-19 (1.5-2.0')	SWMU 14-20 (0-0.5')	SWMU 14-21 (0-0.5')	SWMU 14-21 (1.5-2')	SWMU 14-21 (8-10')	SWMU 14-22 (0-0.5')	SWMU 14-22 (1.5-2')	SWMU 14-22 (4-6')	SWMU 14-22 (8-10')	SWMU 14-23 (0-0.5')	SWMU 14-23 (1.5-2')
									1207940-021	1207940-022	1207940-014	1207940-015	1207940-019	1207940-020	1207940-027	1210582-005	1210582-006	1210582-007	1210583-001	1210583-002	1210583-003	1210583-005	1210656-001	1210656-002
									7/19/2012	7/19/2012	7/19/2012	7/19/2012	7/19/2012	7/19/2012	7/19/2012	10/9/2012	10/9/2012	10/9/2012	10/9/2012	10/9/2012	10/9/2012	10/9/2012	10/10/2012	10/10/2012

EPA - Regional Screening Levels (November 2012)
(1) NMED Residential Screening Level
(2) EPA Residential Screening Level
(3) EPA Residential - Screening Levels (November 2012) multiplied by 10 because the constituent is listed as carcinogenic
(4) NMED Construction Worker Screening Level
(5) EPA Industrial - Screening Levels (Nov. 2012)
(6) EPA Industrial - Screening Levels (Nov. 2012) multiplied by 10
(7) SoilGW NMED Dilution Attenuation Factor (DAF) = 461
(8) SoilGW Risk-based EPA DAF = 461
(9) SoilGW MCL-based EPA DAF = 461
(10) NMED Table 6-2 TPH Screening Guidelines for Potable Groundwater "unknown oil" with DAF = 1.0 - see report Section 5 for use of screening levels
(11) Background concentrations to be determined.

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

Table 8
Old API Separator Soil Analytical Results Summary
Western Refining Southwest, Inc. - Gallup Refinery
Gallup, New Mexico

Analytes	Residential Soil Screening Level	Source	Non- Residential Soil Screening Level	Source	Leachate DAF (461) (mg/kg) SoilGW NMED	Source	Min	Background Concentrations (11)	SWMU 14-23 (12-14')	SWMU 14-23 (14-16')	SWMU 14-24 (0-0.5')	SWMU 14-24 (1.5-2')
									1210656-003 10/10/2012	1210656-004 10/10/2012	1210860-001 10/17/2012	1210860-002 10/17/2012
Metals (mg/kg)												
Antimony	3.13E+01	(1)	1.24E+02	(4)	3.05E+02	(8)	3.13E+01	-	<5	<5	<5	<5
Arsenic	3.90E+00	(1)	5.30E+01	(4)	6.05E+00	(8)	3.90E+00	-	1.6J	1.3J	2.1J	1.7J
Barium	1.56E+04	(1)	4.35E+03	(4)	1.39E+05	(8)	4.35E+03	-	220	130	440	43
Beryllium	1.56E+02	(1)	1.44E+02	(4)	2.66E+04	(8)	1.44E+02	-	0.87	0.75	0.8	0.83
Cadmium	7.03E+01	(1)	2.77E+02	(4)	6.33E+02	(8)	7.03E+01	-	<0.2	<0.2	<0.2	<0.2
Chromium III	1.17E+05	(1)	4.65E+05	(4)	4.54E+10	(8)	1.17E+05	-	8.3	7.8	10	7.8
Chromium VI	2.97E+00	(1)	6.56E+01	(4)	3.83E+00	(8)	2.97E+00	-	8.3	7.8	10	7.8
Cobalt	2.30E+01	(2)	3.00E+02	(5)	9.68E+01	(8)	2.30E+01	-	4	4	4.6	3.5
Cyanide	4.69E+01	(1)	1.86E+02	(4)	1.02E+02	(8)	4.69E+01	-	<0.3	<0.3	<0.263	<0.311
Iron	5.48E+04	(1)	2.17E+05	(4)	2.98E+05	(8)	5.48E+04	-	13000	12000	15000	16000
Lead	4.00E+02	(1)	8.00E+02	(4)	6.45E+03	(8)	4.00E+02	-	3.7	3.5	2.5	3.3
Manganese	1.86E+03	(1)	4.40E+02	(4)	2.64E+04	(8)	4.40E+02	-	300	570	450	230
Mercury	1.56E+01	(1)	1.36E+01	(4)	1.51E+01	(8)	1.36E+01	-	<0.033	<0.033	<0.033	<0.033
Nickel	1.56E+03	(1)	6.19E+03	(4)	2.20E+04	(8)	1.56E+03	-	7.2	6.8	8	6.4
Selenium	3.91E+02	(1)	1.55E+03	(4)	4.45E+02	(8)	3.91E+02	-	<5	<5	<5	<5
Silver	3.91E+02	(1)	1.55E+03	(4)	7.22E+02	(8)	3.91E+02	-	<0.5	<0.5	<0.5	<0.5
Vanadium	3.91E+02	(1)	1.55E+03	(4)	8.42E+04	(8)	3.91E+02	-	14	15	22	14
Zinc	2.35E+04	(1)	9.29E+04	(4)	3.14E+05	(8)	2.35E+04	-	13	12	25	12
Volatile Organic Compounds - (EPA Method 8260) mg/kg												
1,1,1,2-Tetrachloroethane	2.91E+01	(1)	7.79E+02	(4)	7.59E-01	(8)	7.59E-01	-	<0.5	<0.05	<0.0008	<0.0008
1,1,1-Trichloroethane	1.56E+04	(1)	1.48E+04	(4)	1.34E+03	(8)	1.34E+03	-	<0.5	<0.05	<0.0008	<0.0008
1,1,2,2-Tetrachloroethane	8.02E+00	(1)	2.21E+02	(4)	9.82E-02	(8)	9.82E-02	-	<0.5	<0.05	<0.0008	<0.0008
1,1,2-Trichloroethane	2.81E+00	(1)	4.72E+02	(4)	5.14E-02	(8)	5.14E-02	-	<0.5	<0.05	<0.0008	<0.0008
1,1-Dichloroethane	6.45E+01	(1)	1.70E+03	(4)	2.75E+00	(8)	2.75E+00	-	<1	<0.1	<0.0008	<0.0008
1,1-Dichloroethene	4.49E+02	(1)	4.32E+02	(4)	5.36E+01	(8)	5.36E+01	-	<0.5	<0.05	<0.0008	<0.0008
1,1-Dichloropropene	-	-	-	-	-	-	-	-	<1	<0.1	<0.0008	<0.0008
1,2,3-Trichlorobenzene	4.90E+01	(2)	4.90E+02	(5)	6.92E+00	(8)	6.92E+00	-	<1	<0.1	<0.0008	<0.0008
1,2,3-Trichloropropane	4.97E-02	(1)	7.23E+00	(4)	1.15E-03	(8)	1.15E-03	-	<1	<0.1	<0.0008	<0.0008
1,2,4-Trichlorobenzene	7.30E+01	(1)	6.87E+01	(4)	4.21E+00	(8)	4.21E+00	-	<0.5	<0.05	<0.0008	<0.0008
1,2,4-Trimethylbenzene	6.20E+01	(2)	2.60E+02	(5)	9.68E+00	(8)	9.68E+00	-	<0.5	<0.05	0.000935	<0.0008
1,2-Dibromo-3-chloropropane	1.86E+00	(1)	5.07E+00	(4)	5.07E-04	(8)	5.07E-04	-	<1	<0.1	<0.0008	<0.0008
1,2-Dibromoethane (EDB)	5.88E-01	(1)	1.60E+01	(4)	7.10E-03	(8)	7.10E-03	-	<0.5	<0.05	<0.0008	<0.0008
1,2-Dichlorobenzene	2.31E+03	(1)	2.71E+03	(4)	1.29E+02	(8)	1.29E+02	-	<0.5	<0.05	<0.0008	<0.0008
1,2-Dichloroethane (EDC)	7.89E+00	(1)	5.87E+01	(4)	1.64E-01	(8)	1.64E-01	-	<0.5	<0.05	<0.0008	<0.0008
1,2-Dichloropropane	1.52E+01	(1)	2.50E+01	(4)	4.94E-01	(8)	4.94E-01	-	<0.5	<0.05	<0.0008	<0.0008
1,3,5-Trimethylbenzene	7.80E+02	(2)	1.00E+04	(5)	5.53E+01	(8)	5.53E+01	-	<0.5	<0.05	<0.0008	<0.0008
1,3-Dichlorobenzene	-	-	-	-	-	-	-	-	<0.5	<0.05	<0.0008	<0.0008
1,3-Dichloropropane	1.60E+03	(2)	2.00E+04	(5)	4.56E+01	(8)	4.56E+01	-	<0.5	<0.05	<0.0008	<0.0008
1,4-Dichlorobenzene	3.17E+01	(1)	8.31E+02	(4)	1.47E+00	(8)	1.47E+00	-	<0.5	<0.05	<0.0008	<0.0008
1-Methylnaphthalene	1.60E+02	(3)	5.30E+01	(6)	2.35E+00	(8)	2.35E+00	-	2.3	<0.2	<0.0032	<0.0031
2,2-Dichloropropane	-	-	-	-	-	-	-	-	<1	<0.1	<0.0008	<0.0008
2-Butanone (MEK)	3.71E+04	(1)	8.43E+04	(4)	5.87E+02	(8)	5.87E+02	-	<5	<0.5	0.00846	<0.0078
2-Chlorotoluene	1.56E+03	(1)	6.19E+03	(4)	2.57E+02	(8)	2.57E+02	-	<0.5	<0.05	<0.0008	<0.0008
2-Hexanone	9.38E+02	(1)	9.73E+02	(4)	3.53E+03	(8)	9.38E+02	-	<5	<0.5	<0.008	<0.0078
2-Methylnaphthalene	2.30E+02	(2)	2.20E+03	(5)	6.45E+01	(8)	6.45E+01	-	3.5	<0.2	<0.0032	<0.0031
4-Chlorotoluene	1.60E+03	(2)	2.00E+04	(5)	8.30E+01	(8)	8.30E+01	-	<0.5	<0.05	<0.0008	<0.0008
4-Isopropyltoluene	-	-	-	-	-	-	-	-	<0.5	<0.05	<0.0008	<0.0008
4-Methyl-2-pentanone	5.30E+03	(2)	5.30E+04	(5)	1.06E+02	(8)	1.06E+02	-	<5	<0.5	<0.008	<0.0078
Acetone	6.66E+04	(1)	2.21E+05	(4)	1.78E+03	(8)	1.78E+03	-	<7.5	<0.75	0.048	0.0202
Benzene	1.54E+01	(1)	1.38E+02	(4)	7.96E-01	(8)	7.96E-01	-	1.1	<0.05	0.00213	0.00129
Bromobenzene	3.00E+02	(2)	1.80E+03	(5)	1.66E+01	(8)	1.66E+01	-	<0.5	<0.05	<0.0008	<0.0008
Bromodichloromethane	5.41E+00	(1)	1.43E+02	(4)	1.25E-01	(8)	1.25E-01	-	<0.5	<0.05	<0.0008	<0.0008
Bromoform	6.16E+02	(1)	4.76E+03	(4)	2.78E+02	(8)	2.78E+02	-	<0.5	<0.05	<0.0008	<0.0008

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Old API Separator Soil Analytical Results Summary
Western Refining Southwest, Inc. - Gallup Refinery
Gallup, New Mexico

Analytes	Residential Soil Screening Level	Source	Non- Residential Soil Screening Level	Source	Leachate DAF (461) (mg/kg) SoilGW NMED	Source	Min	Background Concentrations (11)	SWMU 14-23 (12-14')	SWMU 14-23 (14-16')	SWMU 14-24 (0-0.5')	SWMU 14-24 (1.5-2')
									1210656-003 10/10/2012	1210656-004 10/10/2012	1210860-001 10/17/2012	1210860-002 10/17/2012
Bromomethane	1.65E+01	(1)	1.64E+01	(4)	8.86E-01	(8)	8.86E-01	-	<1.5	<0.15	<0.0008	<0.0008
Carbon disulfide	1.53E+03	(1)	1.58E+03	(4)	1.30E+02	(8)	1.30E+02	-	<5	<0.5	<0.008	<0.0078
Carbon tetrachloride	1.08E+01	(1)	2.26E+02	(4)	7.39E-01	(8)	7.39E-01	-	<1	<0.1	<0.0008	<0.0008
Chlorobenzene	3.76E+02	(1)	4.06E+02	(4)	2.27E+01	(8)	2.27E+01	-	<0.5	<0.05	<0.0008	<0.0008
Chloroethane	2.98E+04	(1)	2.61E+04	(4)	2.48E+03	(8)	2.48E+03	-	<1	<0.1	<0.0008	<0.0008
Chloroform	5.86E+00	(1)	1.54E+02	(4)	2.12E-01	(8)	2.12E-01	-	<0.5	<0.05	<0.0008	<0.0008
Chloromethane	2.75E+02	(1)	2.41E+02	(4)	2.03E+01	(8)	2.03E+01	-	<1.5	<0.15	<0.0008	<0.0008
cis-1,2-DCE	1.56E+02	(1)	6.19E+02	(4)	8.47E+00	(8)	8.47E+00	-	<0.5	<0.05	<0.0008	<0.0008
cis-1,3-Dichloropropene	3.37E+01	(1)	2.09E+02	(4)	5.71E-01	(8)	5.71E-01	-	<0.5	<0.05	<0.0008	<0.0008
Dibromochloromethane	1.21E+01	(1)	3.32E+02	(4)	1.52E-01	(8)	1.52E-01	-	<0.5	<0.05	<0.0008	<0.0008
Dibromomethane	5.16E+01	(1)	3.10E+03	(4)	7.89E-01	(8)	7.89E-01	-	<1	<0.1	<0.0008	<0.0008
Dichlorodifluoromethane	1.68E+02	(1)	1.49E+02	(4)	1.71E+02	(8)	1.49E+02	-	<0.5	<0.05	<0.0008	<0.0008
Ethylbenzene	6.84E+01	(1)	1.83E+03	(4)	5.98E+00	(8)	5.98E+00	-	3.8	<0.05	<0.0008	<0.0008
Hexachlorobutadiene	6.11E+01	(1)	2.38E+02	(4)	5.91E+00	(8)	5.91E+00	-	<1	<0.1	<0.0008	<0.0008
Isopropylbenzene	2.43E+03	(1)	2.81E+03	(4)	3.99E+02	(8)	3.99E+02	-	0.74	<0.05	<0.0008	<0.0008
Methyl tert-butyl ether (MTBE)	9.01E+02	(1)	2.49E+04	(4)	1.11E+01	(8)	1.11E+01	-	<0.5	<0.05	<0.0008	<0.0008
Methylene chloride	4.09E+02	(1)	1.12E+03	(4)	1.90E+01	(8)	1.90E+01	-	<1.5	<0.15	<0.0024	<0.0023
Naphthalene	4.30E+01	(1)	1.58E+02	(4)	1.64E+00	(8)	1.64E+00	-	1.3	<0.1	<0.0016	<0.0016
n-Butylbenzene	3.90E+03	(2)	5.10E+04	(5)	1.15E+03	(8)	1.15E+03	-	<1.5	<0.15	<0.0008	<0.0008
n-Propylbenzene	3.40E+03	(2)	2.10E+04	(5)	4.56E+02	(8)	4.56E+02	-	1.3	<0.05	<0.0008	<0.0008
sec-Butylbenzene	-	-	-	-	-	-	-	-	0.51	<0.05	<0.0008	<0.0008
Styrene	7.28E+03	(1)	9.99E+03	(4)	6.40E+02	(8)	6.40E+02	-	<0.5	<0.05	<0.0008	<0.0008
tert-Butylbenzene	-	-	-	-	-	-	-	-	<0.5	<0.05	<0.0008	<0.0008
Tetrachloroethene (PCE)	7.02E+00	(1)	2.12E+02	(4)	1.98E-01	(8)	1.98E-01	-	<0.5	<0.05	<0.0008	<0.0008
Toluene	5.27E+03	(1)	1.34E+04	(4)	5.84E+02	(8)	5.84E+02	-	<0.5	<0.05	0.00222	0.000908
trans-1,2-DCE	2.70E+02	(1)	2.73E+02	(4)	1.24E+01	(8)	1.24E+01	-	<0.5	<0.05	<0.0008	<0.0008
trans-1,3-Dichloropropene	-	-	-	-	-	-	-	-	<0.5	<0.05	<0.0008	<0.0008
Trichloroethene (TCE)	8.77E+00	(1)	7.68E+00	(4)	4.85E-01	(8)	4.85E-01	-	<0.5	<0.05	<0.0008	<0.0008
Trichlorofluoromethane	1.41E+03	(1)	1.30E+03	(4)	4.10E+02	(8)	4.10E+02	-	<0.5	<0.05	<0.0008	<0.0008
Vinyl chloride	7.28E-01	(1)	1.49E+02	(4)	2.50E-02	(8)	2.50E-02	-	<0.5	<0.05	<0.0008	<0.0008
Xylenes, Total	8.14E+02	(1)	7.43E+02	(4)	7.21E+01	(8)	7.21E+01	-	<1	<0.1	0.0038	<0.0016
Semi Volatile Organics - (EPA Method 8270) mg/kg												
1,2,4-Trichlorobenzene	7.30E+01	(1)	6.87E+01	(4)	4.21E+00	(8)	4.21E+00	-	<0.1982	<0.2017	<0.1997	<0.1997
1,2-Dichlorobenzene	2.31E+03	(1)	2.71E+03	(4)	1.29E+02	(8)	1.29E+02	-	<0.1982	<0.2017	<0.1997	<0.1997
1,3-Dichlorobenzene	-	-	-	-	-	-	-	-	<0.1982	<0.2017	<0.1997	<0.1997
1,4-Dichlorobenzene	3.17E+01	(1)	8.31E+02	(4)	1.47E+00	(8)	1.47E+00	-	<0.1982	<0.2017	<0.1997	<0.1997
1-Methylnaphthalene	1.60E+02	(3)	5.30E+01	(6)	2.35E+00	(8)	2.35E+00	-	<0.1982	<0.2017	<0.1997	<0.1997
2,4,5-Trichlorophenol	6.11E+03	(1)	2.38E+04	(4)	4.78E+03	(8)	4.78E+03	-	<0.1982	<0.2017	<0.1997	<0.1997
2,4,6-Trichlorophenol	6.11E+01	(1)	2.38E+02	(4)	4.78E+01	(8)	4.78E+01	-	<0.1982	<0.2017	<0.1997	<0.1997
2,4-Dichlorophenol	1.83E+02	(1)	7.15E+02	(4)	4.60E+01	(8)	4.60E+01	-	<0.3963	<0.4034	<0.3995	<0.3993
2,4-Dimethylphenol	1.22E+03	(1)	4.76E+03	(4)	3.07E+02	(8)	3.07E+02	-	<0.2972	<0.3025	<0.2996	<0.2995
2,4-Dinitrophenol	1.22E+02	(1)	4.76E+02	(4)	2.91E+01	(8)	2.91E+01	-	<0.3963	<0.4034	<0.3995	<0.3993
2,4-Dinitrotoluene	1.57E+01	(1)	4.76E+02	(4)	1.04E+00	(8)	1.04E+00	-	<0.4954	<0.5042	<0.4993	<0.4992
2,6-Dinitrotoluene	6.11E+01	(1)	2.38E+02	(4)	1.77E+01	(8)	1.77E+01	-	<0.4954	<0.5042	<0.4993	<0.4992
2-Chloronaphthalene	6.11E+01	(1)	2.94E+02	(4)	4.01E-01	(8)	4.01E-01	-	<0.2477	<0.2521	<0.2497	<0.2496
2-Chlorophenol	3.91E+02	(1)	1.55E+03	(4)	5.33E+01	(8)	5.33E+01	-	<0.1982	<0.2017	<0.1997	<0.1997
2-Methylnaphthalene	2.30E+02	(2)	2.20E+03	(5)	6.45E+01	(8)	6.45E+01	-	<0.1982	<0.2017	<0.1997	<0.1997
2-Methylphenol	3.10E+03	(2)	3.10E+04	(5)	2.67E+02	(8)	2.67E+02	-	<0.4954	<0.5042	<0.4993	<0.4992
2-Nitroaniline	6.10E+02	(2)	6.00E+03	(5)	2.86E+01	(8)	2.86E+01	-	<0.1982	<0.2017	<0.1997	<0.1997
2-Nitrophenol	-	-	-	-	-	-	-	-	<0.1982	<0.2017	<0.1997	<0.1997
3,3'-Dichlorobenzidine	1.08E+01	(1)	3.64E+02	(4)	3.41E+00	(8)	3.41E+00	-	<0.2477	<0.2521	<0.2497	<0.2496
3+4-Methylphenol	-	-	-	-	-	-	-	-	<0.1982	<0.2017	<0.1997	<0.1997
3-Nitroaniline	-	-	-	-	-	-	-	-	<0.1982	<0.2017	<0.1997	<0.1997
4,6-Dinitro-2-methylphenol	4.90E+00	(2)	4.90E+01	(5)	9.22E-01	(8)	9.22E-01	-	<0.4954	<0.5042	<0.4993	<0.4992

Table 8
Old API Separator Soil Analytical Results Summary
Western Refining Southwest, Inc. - Gallup Refinery
Gallup, New Mexico

Analytes	Residential Soil Screening Level	Source	Non- Residential Soil Screening Level	Source	Leachate DAF (461) (mg/kg) SoilGW NMED	Source	Min	Background Concentrations (11)	SWMU 14-23 (12-14')	SWMU 14-23 (14-16')	SWMU 14-24 (0-0.5')	SWMU 14-24 (1.5-2')
									1210656-003 10/10/2012	1210656-004 10/10/2012	1210860-001 10/17/2012	1210860-002 10/17/2012
4-Bromophenyl phenyl ether	-	-	-	-	-	-	-	-	<0.1982	<0.2017	<0.1997	<0.1997
4-Chloro-3-methylphenol	6.10E+03	(2)	6.20E+04	(5)	5.99E+02	(8)	5.99E+02	-	<0.4954	<0.5042	<0.4993	<0.4992
4-Chloroaniline	2.40E+01	(3)	8.60E+00	(6)	5.99E-02	(8)	5.99E-02	-	<0.4954	<0.5042	<0.4993	<0.4992
4-Chlorophenyl phenyl ether	-	-	-	-	-	-	-	-	<0.1982	<0.2017	<0.1997	<0.1997
4-Nitroaniline	2.40E+02	(3)	8.60E+01	(6)	6.45E-01	(8)	6.45E-01	-	<0.3963	<0.4034	<0.3995	<0.3993
4-Nitrophenol	-	-	-	-	-	-	-	-	<0.2477	<0.2521	<0.2497	<0.2496
Acenaphthene	3.44E+03	(1)	1.86E+04	(4)	7.79E+03	(8)	3.44E+03	-	<0.1982	<0.2017	<0.1997	<0.1997
Acenaphthylene	-	-	-	-	-	-	-	-	<0.1982	<0.2017	<0.1997	<0.1997
Aniline	8.50E+02	(3)	3.00E+02	(6)	1.80E+00	(8)	1.80E+00	-	<0.1982	<0.2017	<0.1997	<0.1997
Anthracene	1.72E+04	(1)	6.68E+04	(4)	1.25E+05	(8)	1.72E+04	-	<0.1982	<0.2017	<0.1997	<0.1997
Azobenzene	5.10E+01	(3)	2.30E+01	(6)	3.69E-01	(8)	3.69E-01	-	<0.1982	<0.2017	<0.1997	<0.1997
Benz(a)anthracene	1.48E+00	(1)	2.13E+02	(4)	3.61E+01	(8)	1.48E+00	-	<0.1982	<0.2017	<0.1997	<0.1997
Benzo(a)pyrene	1.48E-01	(1)	2.13E+01	(4)	1.20E+01	(8)	1.48E-01	-	<0.1982	<0.2017	<0.1997	<0.1997
Benzo(b)fluoranthene	1.48E+00	(1)	2.13E+02	(4)	1.22E+02	(8)	1.48E+00	-	<0.1982	<0.2017	<0.1997	<0.1997
Benzo(g,h,i)perylene	-	-	-	-	-	-	-	-	<0.1982	<0.2017	<0.1997	<0.1997
Benzo(k)fluoranthene	1.48E+01	(1)	2.06E+03	(4)	1.20E+03	(8)	1.48E+01	-	<0.1982	<0.2017	<0.1997	<0.1997
Benzoic acid	2.40E+05	(2)	2.50E+06	(5)	6.45E+03	(8)	6.45E+03	-	<0.4954	<0.5042	<0.4993	<0.4992
Benzyl alcohol	6.10E+03	(2)	6.20E+04	(5)	1.71E+02	(8)	1.71E+02	-	<0.1982	<0.2017	0.32	<0.1997
Bis(2-chloroethoxy)methane	1.80E+02	(2)	1.80E+03	(5)	5.07E+00	(8)	5.07E+00	-	<0.1982	<0.2017	<0.1997	<0.1997
Bis(2-chloroethyl)ether	2.68E+00	(1)	7.78E+01	(4)	1.21E-02	(8)	1.21E-02	-	<0.1982	<0.2017	<0.1997	<0.1997
Bis(2-chloroisopropyl)ether	9.15E+01	(1)	3.10E+03	(4)	1.07E+00	(8)	1.07E+00	-	<0.1982	<0.2017	<0.1997	<0.1997
Bis(2-ethylhexyl)phthalate	3.47E+02	(1)	4.76E+03	(4)	3.97E+03	(8)	3.47E+02	-	<0.4954	<0.5042	<0.4993	<0.4992
Butyl benzyl phthalate	2.60E+03	(3)	9.10E+02	(6)	9.22E+01	(8)	9.22E+01	-	<0.1982	<0.2017	<0.1997	<0.1997
Carbazole	-	-	-	-	-	-	-	-	<0.1982	<0.2017	<0.1997	<0.1997
Chrysene	1.48E+02	(1)	2.06E+04	(4)	3.68E+03	(8)	1.48E+02	-	<0.1982	<0.2017	<0.1997	<0.1997
Dibenz(a,h)anthracene	1.48E-01	(1)	2.13E+01	(4)	3.90E+01	(8)	1.48E-01	-	<0.1982	<0.2017	<0.1997	<0.1997
Dibenzofuran	7.80E+01	(2)	1.00E+03	(5)	5.07E+01	(8)	5.07E+01	-	<0.1982	<0.2017	<0.1997	<0.1997
Diethyl phthalate	4.89E+04	(1)	1.91E+05	(4)	4.45E+03	(8)	4.45E+03	-	<0.1982	<0.2017	<0.1997	<0.1997
Dimethyl phthalate	6.11E+05	(1)	2.38E+06	(4)	3.71E+04	(8)	3.71E+04	-	<0.1982	<0.2017	<0.1997	<0.1997
Di-n-butyl phthalate	6.11E+03	(1)	2.38E+04	(4)	3.21E+03	(8)	3.21E+03	-	<0.4954	<0.5042	<0.4993	<0.4992
Di-n-octyl phthalate	-	-	-	-	-	-	-	-	<0.3963	<0.4034	<0.3995	<0.3993
Fluoranthene	2.29E+03	(1)	8.91E+03	(4)	5.61E+04	(8)	2.29E+03	-	<0.1982	<0.2017	<0.1997	<0.1997
Fluorene	2.29E+03	(1)	8.91E+03	(4)	9.36E+03	(8)	2.29E+03	-	<0.1982	<0.2017	<0.1997	<0.1997
Hexachlorobenzene	3.04E+00	(1)	1.03E+02	(4)	1.83E+00	(8)	1.83E+00	-	<0.1982	<0.2017	<0.1997	<0.1997
Hexachlorobutadiene	6.11E+01	(1)	2.38E+02	(4)	5.91E+00	(8)	5.91E+00	-	<0.1982	<0.2017	<0.1997	<0.1997
Hexachlorocyclopentadiene	3.67E+02	(1)	8.11E+02	(4)	2.43E+02	(8)	2.43E+02	-	<0.1982	<0.2017	<0.1997	<0.1997
Hexachloroethane	4.28E+01	(1)	1.67E+02	(4)	3.77E+00	(8)	3.77E+00	-	<0.1982	<0.2017	<0.1997	<0.1997
Indeno(1,2,3-cd)pyrene	1.48E+00	(1)	2.13E+02	(4)	3.98E+02	(8)	1.48E+00	-	<0.1982	<0.2017	<0.1997	<0.1997
Isophorone	5.12E+03	(1)	4.75E+04	(4)	8.84E+01	(8)	8.84E+01	-	<0.4954	<0.5042	<0.4993	<0.4992
Naphthalene	4.30E+01	(1)	1.58E+02	(4)	1.64E+00	(8)	1.64E+00	-	<0.1982	<0.2017	<0.1997	<0.1997
Nitrobenzene	5.35E+01	(1)	3.32E+02	(4)	2.88E-01	(8)	2.88E-01	-	<0.4954	<0.5042	<0.4993	<0.4992
N-Nitrosodi-n-propylamine	6.90E-01	(3)	2.50E-01	(6)	3.23E-03	(8)	3.23E-03	-	<0.1982	<0.2017	<0.1997	<0.1997
N-Nitrosodiphenylamine	9.93E+02	(1)	3.36E+04	(4)	2.61E+02	(8)	2.61E+02	-	<0.1982	<0.2017	<0.1997	<0.1997
Pentachlorophenol	8.94E+00	(1)	3.10E+02	(4)	5.90E+00	(8)	5.90E+00	-	<0.3963	<0.4034	<0.3995	<0.3993
Phenanthrene	1.83E+03	(1)	7.15E+03	(4)	1.32E+04	(8)	1.83E+03	-	<0.1982	<0.2017	<0.1997	<0.1997
Phenol	1.83E+04	(1)	6.88E+04	(4)	2.29E+03	(8)	2.29E+03	-	<0.1982	<0.2017	<0.1997	<0.1997
Pyrene	1.72E+03	(1)	6.68E+03	(4)	4.12E+04	(8)	1.72E+03	-	<0.1982	<0.2017	<0.1997	<0.1997
Pyridine	7.80E+01	(2)	1.00E+03	(5)	2.44E+00	(8)	2.44E+00	-	<0.4954	<0.5042	<0.4993	<0.4992
Total Petroleum Hydrocarbons - (EPA Method 8015B) mg/kg												
Diesel Range Organics (DRO)	1.00E+03	(10)	1.00E+03	(10)	1.00E+03	(10)	-	-	140	19	<10	<10
Gasoline Range Organics (GRO)	-	-	-	-	-	-	-	-	160	<5	<5	<5
Motor Oil Range Organics (MRO)	1.00E+03	(10)	1.00E+03	(10)	1.00E+03	(10)	-	-	<49	<49	<50	<48

-- No screening level or analytical result available
NMED - Risk Assessment Guidance for Site Investigations and Remediation (June 14, 2012)

Table 8
Old API Separator Soil Analytical Results Summary
Western Refining Southwest, Inc. - Gallup Refinery
Gallup, New Mexico

Analytes	Residential Soil Screening Level	Source	Non- Residential Soil Screening Level	Source	Leachate DAF (461) (mg/kg) SoilGW NMED	Source	Min	Background Concentrations (11)	SWMU 14-23 (12-14')	SWMU 14-23 (14-16')	SWMU 14-24 (0-0.5')	SWMU 14-24 (1.5-2')
									1210656-003 10/10/2012	1210656-004 10/10/2012	1210860-001 10/17/2012	1210860-002 10/17/2012

EPA - Regional Screening Levels (November 2012)

(1) NMED Residential Screening Level

(2) EPA Residential Screening Level

(3) EPA Residential - Screening Levels (November 2012) multiplied by 10 because the constituent is listed as carcinogenic

(4) NMED Construction Worker Screening Level

(5) EPA Industrial - Screening Levels (Nov. 2012)

(6) EPA Industrial - Screening Levels (Nov. 2012) multiplied by 10

(7) SoilGW NMED Dilution Attenuation Factor (DAF) = 461

(8) SoilGW Risk-based EPA DAF = 461

(9) SoilGW MCL-based EPA DAF = 461

(10) NMED Table 6-2 TPH Screening Guidelines for Potable Groundwater "unknown oil" with DAF = 1.0 - see report Section 5 for use of screening levels

(11) Background concentrations to be determined.

Bold represents value above Residential Screening Level

yellow highlight represents value above Leachate (DAF) Screening Level

Bold with yellow - value exceeds Residential Screening Level and DAF

Table 9
Aeration Basin Groundwater Analytical Results Summary
Western Refining Southwest, Inc. - Gallup Refinery
Gallup, New Mexico

Analytes	Screening Levels	Source	SWMU 1-2 GW	SWMU 1-3 GW	SWMU 1-4 GW	SWMU 1-5 GW	SWMU 1-6 GW	SWMU 1-7 GW	SWMU 1-8 GW	SWMU 1-24 GW	SWMU 1-37 GW
			1210279-006	1210332-005	1210372-012 / 026	1210372-013	1210372-027	1210372-028	1210372-014	1210660-001	1210692-026
Sample Date			10/2/2012	10/3/2012	10/4 & 10/5/2011	10/5/2012	10/4/2012	10/4/2012	10/5/2012	10/10/2012	10/11/2012
Metals (mg/l)											
Antimony	6.00E-03 (2)		<0.0125	<0.0025	<0.0025	-	<0.005	<0.005	<0.005	<0.005	<0.0025
Arsenic	1.00E-02 (2)		0.063	0.015	0.016	-	0.054	0.046	0.032	0.052	0.0082
Barium	1.00E+00 (3)		56	0.54	1.2	-	3.4	3.2	4.7	17	0.24
Beryllium	4.00E-03 (2)		0.21	0.0066	<0.002	-	0.041	0.051	0.0065	0.032	<0.002
Cadmium	1.00E-02 (3)		<0.05	<0.002	<0.002	-	<0.02	<0.02	<0.004	<0.004	<0.002
Chromium III	5.00E-02 (3)		0.31	0.015	<0.006	-	0.16	0.17	0.058	0.14	<0.006
Cobalt	5.00E-02 (3)		0.53	0.043	0.011	-	0.27	0.16	0.053	0.11	0.026
Cyanide, Total	2.00E-01 (3)		0.037	0.032	0.021	-	0.028	0.052	0.018	0.059	0.031
Iron, Total	1.00E+00 (3)		140	20	0.32	-	94	130	39	160	2.5
Lead	1.50E-02 (2)		1.7	0.057	<0.0025	-	0.29	0.34	0.078	0.49	0.0041
Manganese	2.00E-01 (3)		95	2.1	0.99	-	39	33	7.9	43	1.1
Mercury	2.00E-03 (3)		0.00027	<0.0002	<0.0002	-	0.00021	0.00034	<0.0002	0.00022	<0.0002
Nickel	2.00E-01 (3)		0.95	0.35	0.13	-	0.55	0.46	0.11	0.21	0.26
Selenium	5.00E-02 (3)		0.059	0.0097	0.0073	-	0.024	0.022	0.0075	0.023	0.0072
Silver	5.00E-02 (3)		<0.125	<0.005	<0.005	-	<0.05	<0.05	<0.01	<0.01	<0.005
Vanadium	1.83E-01 (4)		<1.25	<0.05	<0.05	-	<0.5	<0.5	<0.1	0.2	<0.05
Zinc	1.00E+01 (3)		1.1	0.068	0.047	-	0.88	0.42	0.11	0.27	0.023
Chloride			1600	1600	1900	-	1200	1800	660	1500	1100
Fluoride	1.60E+00 (3)		3	0.89	4.8	-	8.8	1.1	0.78	13	1.4
Sulfate	-		550	810	180	-	1800	2200	52	110	500
Volatile Organic Compounds - (EPA Method 8260B) (mg/l)											
1,1,1,2-Tetrachloroethane	5.24E-03 (4)		<0.002	<0.001	<0.001	<0.002	<0.001	<0.002	<0.001	<0.005	<0.001
1,1,1-Trichloroethane	6.00E-02 (3)		<0.002	<0.001	<0.001	<0.002	<0.001	<0.002	<0.001	<0.005	<0.001
1,1,2,2-Tetrachloroethane	2.00E-02 (3)		<0.004	<0.002	<0.002	<0.004	<0.002	<0.004	<0.002	<0.01	<0.002
1,1,2-Trichloroethane	5.00E-03 (2)		<0.002	<0.001	<0.001	<0.002	<0.001	<0.002	<0.001	<0.005	<0.001
1,1-Dichloroethane	2.50E-02 (3)		<0.002	<0.001	<0.001	<0.002	<0.001	<0.002	<0.001	<0.005	<0.001
1,1-Dichloroethene	5.00E-03 (3)		<0.002	<0.001	<0.001	<0.002	<0.001	<0.002	<0.001	<0.005	<0.001
1,1-Dichloropropene	-		<0.002	<0.001	<0.001	<0.002	<0.001	<0.002	<0.001	<0.005	<0.001
1,2,3-Trichlorobenzene	5.20E-02 (1)		<0.002	<0.001	<0.001	<0.002	<0.001	<0.002	<0.001	<0.005	<0.001
1,2,3-Trichloropropane	7.18E-06 (4)		<0.004	<0.002	<0.002	<0.004	<0.002	<0.004	<0.002	<0.01	<0.002
1,2,4-Trichlorobenzene	7.00E-02 (2)		<0.002	<0.001	<0.001	<0.002	<0.001	<0.002	<0.001	<0.005	<0.001
1,2,4-Trimethylbenzene	1.50E-02 (1)		0.01	<0.001	0.032	<0.002	<0.001	<0.002	0.0069	0.015	<0.001
1,2-Dibromo-3-chloropropane	2.00E-04 (2)		<0.004	<0.002	<0.002	<0.004	<0.002	<0.004	<0.002	<0.01	<0.002
1,2-Dibromoethane (EDB)	5.00E-05 (2)		<0.002	<0.001	<0.001	<0.002	<0.001	<0.002	<0.001	<0.005	<0.001
1,2-Dichlorobenzene	6.00E-01 (2)		<0.002	<0.001	<0.001	<0.002	<0.001	<0.002	<0.001	<0.005	<0.001
1,2-Dichloroethane (EDC)	5.00E-03 (2)		<0.002	<0.001	<0.001	<0.002	<0.001	<0.002	<0.001	<0.005	<0.001
1,2-Dichloropropane	5.00E-03 (2)		<0.002	<0.001	<0.001	<0.002	<0.001	<0.002	<0.001	<0.005	<0.001
1,3,5-Trimethylbenzene	8.70E-02 (1)		<0.002	<0.001	0.008	<0.002	<0.001	<0.002	0.0015	<0.005	<0.001
1,3-Dichlorobenzene	-		<0.002	<0.001	<0.001	<0.002	<0.001	<0.002	<0.001	<0.005	<0.001
1,3-Dichloropropane	2.90E-01 (1)		<0.002	<0.001	<0.001	<0.002	<0.001	<0.002	<0.001	<0.005	<0.001
1,4-Dichlorobenzene	7.50E-02 (2)		<0.002	<0.001	<0.001	<0.002	<0.001	<0.002	<0.001	<0.005	<0.001
1-Methylnaphthalene	9.70E-03 (5)		<0.008	<0.004	0.011	<0.008	<0.004	<0.008	0.0098	<0.02	<0.004
2,2-Dichloropropane	-		<0.004	<0.002	<0.002	<0.004	<0.002	<0.004	<0.002	<0.01	<0.002
2-Butanone	7.06E+00 (4)		<0.02	<0.01	0.047	0.02	0.026	<0.02	<0.01	<0.05	<0.01
2-Chlorotoluene	7.30E-01 (4)		<0.002	<0.001	<0.001	<0.002	<0.001	<0.002	<0.001	<0.005	<0.001
2-Hexanone	8.76E-01 (4)		<0.02	<0.01	0.016	<0.02	<0.01	<0.02	<0.01	<0.05	<0.01
2-Methylnaphthalene	2.70E-02 (1)		<0.008	<0.004	0.019	<0.008	<0.004	<0.008	0.01	<0.02	<0.004
4-Chlorotoluene	1.90E-01 (1)		<0.002	<0.001	<0.001	<0.002	<0.001	<0.002	<0.001	<0.005	<0.001
4-Isopropyltoluene	-		<0.002	<0.001	0.0015	<0.002	0.0012	<0.002	<0.001	<0.005	0.012
4-Methyl-2-pentanone	1.00E+00 (1)		<0.02	<0.01	0.015	<0.02	<0.01	<0.02	<0.01	<0.05	<0.01
Acetone	2.18E+01 (4)		0.027	0.014	0.13	0.049	0.27	<0.02	0.058	0.052	0.039
Benzene	5.00E-03 (2)		0.017	0.0034	0.024	0.0045	<0.001	<0.002	0.0023	0.02	0.0011
Bromobenzene	5.40E-02 (1)		<0.002	<0.001	<0.001	<0.002	<0.001	<0.002	<0.001	<0.005	<0.001
Bromodichloromethane	8.00E-02 (2)		<0.002	<0.001	<0.001	<0.002	<0.001	<0.002	<0.001	<0.005	<0.001
Bromoform	8.00E-02 (2)		<0.002	<0.001	<0.001	0.0027	<0.001	<0.002	<0.001	<0.005	<0.001
Bromomethane	8.66E-03 (4)		<0.006	<0.003	<0.003	<0.006	0.003	<0.006	<0.003	<0.015	<0.003
Carbon disulfide	1.04E+00 (4)		<0.02	<0.01	<0.01	<0.02	0.03	<0.02	<0.01	<0.05	<0.01
Carbon Tetrachloride	5.00E-03 (2)		<0.002	<0.001	<0.001	<0.002	<0.001	<0.002	<0.001	<0.005	<0.001
Chlorobenzene	1.00E-01 (2)		<0.002	<0.001	<0.001	<0.002	<0.001	<0.002	<0.001	<0.005	<0.001
Chloroethane	2.09E+01 (4)		<0.004	<0.002	<0.002	<0.004	<0.002	<0.004	<0.002	<0.01	<0.002

Table 9
Aeration Basin Groundwater Analytical Results Summary
Western Refining Southwest, Inc. - Gallup Refinery
Gallup, New Mexico

Analytes	Screening Levels	Source	SWMU 1-2 GW	SWMU 1-3 GW	SWMU 1-4 GW	SWMU 1-5 GW	SWMU 1-6 GW	SWMU 1-7 GW	SWMU 1-8 GW	SWMU 1-24 GW	SWMU 1-37 GW
			1210279-006	1210332-005	1210372-012 / 026	1210372-013	1210372-027	1210372-028	1210372-014	1210660-001	1210692-026
Sample Date			10/2/2012	10/3/2012	10/4 & 10/5/2011	10/5/2012	10/4/2012	10/4/2012	10/5/2012	10/10/2012	10/11/2012
Chloroform	8.00E-02 (2)		<0.002	<0.001	<0.001	<0.002	<0.001	<0.002	<0.001	<0.005	<0.001
Chloromethane	1.88E-01 (4)		<0.006	<0.003	<0.003	<0.006	0.0035	<0.006	<0.003	<0.015	<0.003
cis-1,2-DCE	7.00E-02 (2)		<0.002	<0.001	<0.001	<0.002	<0.001	<0.002	<0.001	<0.005	<0.001
cis-1,3-Dichloropropene	4.33E-03 (4)		<0.002	<0.001	<0.001	<0.002	<0.001	<0.002	<0.001	<0.005	<0.001
Dibromochloromethane	8.00E-02 (2)		<0.002	<0.001	<0.001	<0.002	<0.001	<0.002	<0.001	<0.005	<0.001
Dibromomethane	8.16E-03 (4)		<0.002	<0.001	<0.001	<0.002	<0.001	<0.002	<0.001	<0.005	<0.001
Dichlorodifluoromethane	2.03E-01 (4)		<0.002	<0.001	<0.001	<0.002	<0.001	<0.002	<0.001	<0.005	<0.001
Ethylbenzene	7.00E-01 (2)		0.0047	<0.001	0.016	<0.002	<0.001	<0.002	0.0028	0.0089	<0.001
Hexachlorobutadiene	8.62E-03 (4)		<0.002	<0.001	<0.001	<0.002	<0.001	<0.002	<0.001	<0.005	<0.001
Isopropylbenzene (Cumene)	6.79E-01 (4)		<0.002	<0.001	0.0015	<0.002	<0.001	<0.002	0.0013	<0.005	<0.001
Methyl tert-butyl ether (MTBE)	1.25E-01 (4)		0.043	0.04	0.059	<0.002	<0.001	0.014	0.31	0.065	0.13
Methylene Chloride	5.00E-03 (2)		<0.006	<0.003	<0.003	<0.006	<0.003	<0.006	<0.003	<0.015	<0.003
Naphthalene	1.43E-03 (4)		<0.004	<0.002	0.032	<0.004	<0.002	<0.004	0.0023	0.022	<0.002
n-Butylbenzene	7.80E-01 (1)		<0.006	<0.003	<0.003	<0.006	<0.003	<0.006	<0.003	<0.015	<0.003
n-Propylbenzene	5.30E-01 (1)		0.0027	<0.001	0.0027	<0.002	<0.001	<0.002	0.0017	<0.005	<0.001
sec-Butylbenzene			<0.002	<0.001	<0.001	<0.002	<0.001	<0.002	0.0014	<0.005	<0.001
Styrene	1.00E-01 (2)		<0.002	<0.001	<0.001	<0.002	<0.001	<0.002	<0.001	<0.005	<0.001
tert-Butylbenzene			<0.002	<0.001	<0.001	<0.002	<0.001	<0.002	<0.001	<0.005	<0.001
Tetrachloroethene (PCE)	5.00E-03 (2)		<0.002	<0.001	<0.001	<0.002	<0.001	<0.002	<0.001	<0.005	<0.001
Toluene	7.50E-01 (3)		0.004	<0.001	0.016	0.0072	<0.001	<0.002	0.0023	0.018	<0.001
trans-1,2-DCE	1.00E-01 (2)		<0.002	<0.001	<0.001	<0.002	<0.001	<0.002	<0.001	<0.005	<0.001
trans-1,3-Dichloropropene	-		<0.002	<0.001	<0.001	<0.002	<0.001	<0.002	<0.001	<0.005	<0.001
Trichloroethene (TCE)	5.00E-03 (2)		<0.002	<0.001	<0.001	<0.002	<0.001	<0.002	<0.001	<0.005	<0.001
Trichlorofluoromethane	1.29E+00 (4)		<0.002	<0.001	<0.001	<0.002	<0.001	<0.002	<0.001	<0.005	<0.001
Vinyl chloride	1.00E-03 (3)		<0.002	<0.001	<0.001	<0.002	<0.001	<0.002	<0.001	<0.005	<0.001
Xylenes, Total	6.20E-01 (3)		0.02	<0.0015	0.1	<0.003	<0.0015	<0.003	0.0059	0.038	<0.0015
Semi Volatile Organics - (EPA Method 8270C) (mg/l)											
1,2,4-Trichlorobenzene	7.00E-02 (2)		<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
1,2-Dichlorobenzene	6.00E-01 (2)		<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
1,3-Dichlorobenzene	-		<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
1,4-Dichlorobenzene	7.50E-02 (2)		<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
1-Methylnaphthalene	9.70E-03 (5)		<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	0.01	<0.01
2,4,5-Trichlorophenol	3.65E+00 (4)		<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
2,4,6-Trichlorophenol	3.65E-02 (4)		<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
2,4-Dichlorophenol	1.10E-01 (4)		<0.02	<0.02	<0.02	<0.02	<0.04	<0.02	<0.02	<0.02	<0.02
2,4-Dimethylphenol	7.30E-01 (4)		0.026	<0.01	0.85	<0.01	<0.02	<0.01	<0.01	0.23	<0.01
2,4-Dinitrophenol	7.30E-02 (4)		<0.02	<0.02	<0.02	<0.02	<0.04	<0.02	<0.02	<0.02	<0.02
2,4-Dinitrotoluene	2.17E-03 (4)		<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
2,6-Dinitrotoluene	3.65E-02 (4)		<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
2-Chloronaphthalene	1.21E-03 (4)		<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
2-Chlorophenol	1.83E-01 (4)		<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
2-Methylnaphthalene	2.70E-02 (1)		<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
2-Methylphenol	7.20E-01 (1)		<0.01	<0.01	0.018	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
2-Nitroaniline	1.50E+00 (1)		<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
2-Nitrophenol	-		<0.01	<0.01	<0.01	<0.01	0.24	<0.01	<0.01	<0.01	<0.01
3,3'-Dichlorobenzidine	1.49E-03 (4)		<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
3+4-Methylphenol	-		<0.01	<0.01	0.018	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
3-Nitroaniline	-		<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
4,6-Dinitro-2-methylphenol	1.20E-03 (1)		<0.02	<0.02	<0.02	<0.02	<0.04	<0.02	<0.02	<0.02	<0.02
4-Bromophenyl phenyl ether	-		<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
4-Chloro-3-methylphenol	1.10E+00 (1)		<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
4-Chloroaniline	3.20E-03 (5)		<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
4-Chlorophenyl phenyl ether	-		<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
4-Nitroaniline	3.30E-02 (5)		<0.01	<0.02	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
4-Nitrophenol	-		<0.01	<0.01	<0.01	<0.01	0.026	<0.01	<0.01	<0.01	<0.01
Acenaphthene	2.19E+00 (4)		<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
Acenaphthylene	-		<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
Aniline	1.20E-01 (5)		<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
Anthracene	1.10E+01 (4)		<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
Azobenzene	1.00E-03 (5)		<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
Benz(a)anthracene	2.95E-04 (4)		<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01

Table 9
Aeration Basin Groundwater Analytical Results Summary
Western Refining Southwest, Inc. - Gallup Refinery
Gallup, New Mexico

Analytes	Screening Levels	Source	SWMU 1-2 GW	SWMU 1-3 GW	SWMU 1-4 GW	SWMU 1-5 GW	SWMU 1-6 GW	SWMU 1-7 GW	SWMU 1-8 GW	SWMU 1-24 GW	SWMU 1-37 GW
			1210279-006	1210332-005	1210372-012 / 026	1210372-013	1210372-027	1210372-028	1210372-014	1210660-001	1210692-026
Sample Date			10/2/2012	10/3/2012	10/4 & 10/5/2011	10/5/2012	10/4/2012	10/4/2012	10/5/2012	10/10/2012	10/11/2012
Benzo(a)pyrene	2.00E-04 (2)		<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
Benzo(b)fluoranthene	2.95E-04 (4)		<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
Benzo(g,h,i)perylene	-		<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
Benzo(k)fluoranthene	2.95E-03 (4)		<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
Benzoic acid	5.80E+01 (1)		<0.02	<0.02	<0.02	<0.02	<0.04	<0.02	<0.02	<0.02	<0.02
Benzyl alcohol	1.50E+00 (1)		<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
Bis(2-chloroethoxy)methane	4.60E-02 (1)		<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
Bis(2-chloroethyl)ether	1.19E-04 (4)		<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
Bis(2-chloroisopropyl)ether	9.60E-03 (4)		<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
Bis(2-ethylhexyl)phthalate	6.00E-03 (2)		<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
Butyl benzyl phthalate	1.40E-01 (5)		<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
Carbazole	-		<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
Chrysene	2.95E-02 (4)		<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
Dibenz(a,h)anthracene	2.95E-05 (4)		<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
Dibenzofuran	5.80E-03 (1)		<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
Diethyl phthalate	2.92E+01 (4)		<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
Dimethyl phthalate	3.65E+02 (4)		<0.01	<0.01	0.01	0.013	<0.02	<0.01	<0.01	<0.01	<0.01
Di-n-butyl phthalate	3.65E+00 (4)		<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
Di-n-octyl phthalate			<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.02
Fluoranthene	1.46E+00 (4)		<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
Fluorene	1.46E+00 (4)		<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
Hexachlorobenzene	1.00E-03 (2)		<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
Hexachlorobutadiene	8.62E-03 (4)		<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
Hexachlorocyclopentadiene	5.00E-02 (2)		<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
Hexachloroethane	1.68E-02 (4)		<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
Indeno(1,2,3-cd)pyrene	2.95E-04 (4)		<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
Isophorone	7.07E-01 (4)		<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
Naphthalene	1.43E-03 (4)		<0.01	<0.01	0.016	<0.01	<0.02	<0.01	<0.01	0.011	<0.01
Nitrobenzene	1.22E-03 (4)		<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
N-Nitrosodi-n-propylamine	9.30E-05 (5)		<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
N-Nitrosodiphenylamine	1.37E-01 (4)		<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
Pentachlorophenol	1.00E-03 (2)		<0.02	<0.02	<0.02	<0.02	<0.04	<0.02	<0.02	<0.02	<0.02
Phenanthrene	1.10E+00 (3)		<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
Phenol	1.10E+01 (4)		<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
Pyrene	1.10E+00 (4)		<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
Pyridine	1.50E-02 (1)		<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
Total Petroleum Hydrocarbons (method 8015) (mg/l)											
Diesel Range Organics (DRO)	-		<2	<1	4.4	<1	1.3	<1	<1	1.9	1
Gasoline Range Organics (GRO)	-		0.71	0.65	0.73	0.26	0.13	0.22	1	1.9	0.56
Motor Oil Range Organics (MRO)	-		<10	<5	<5	<5	<5	<5	<5	<5	<5

- No screening level or analytical result available

450 - bolded value exceeds screening level

(1) EPA - Regional Screening Levels (November 2012) - Tap Water

(2) EPA - Regional Screening Levels (November 2012) - MCL

(3) NMED WQCC standards - Title 20 Chapter 6, Part 2, - 20.6.2.3103 Standards for Ground Water of 10,000 mg/l TDS Concentration or less

(4) NMED Tap Water Screening Levels (June 2012)

(5) EPA - Regional Screening Levels (November 2012) - Tap Water; carcinogenic screening levels multiplied by 10

Table 10
Old API Separator Groundwater Analytical Results Summary
Western Refining Southwest, Inc. - Gallup Refinery
Gallup, New Mexico

Analytes	NMED WQCC Standards (mg/L)	NMED Tap Water (mg/L)	Tap Water key	EPA Screening Levels Tap Water (mg/L)	Tap Water key	MCL (mg/L)	Screening Levels	Source	SWMU 14-2 GW	SWMU 14-3 GW	SWMU 14-OAPIS-1GW
				1.00E+01					1207940-029	1207900-007	1210860-004
Sample Date	(3)	(4)		(1)		(2)			7/19/2012	7/18/2012	10/16/2012
Total Metals (mg/l)											
Antimony	-	1.46E-02	n	6.00E-03	n	6.00E-03	6.00E-03	(2)	0.00085	<0.0025	<0.0025
Arsenic	1.00E-01	4.48E-04	c	4.50E-05	c	1.00E-02	1.00E-02	(2)	0.012	0.024	0.0085
Barium	1.00E+00	7.30E+00	n	2.90E+00	n	2.00E+00	1.00E+00	(3)	0.54	2.8	0.68
Beryllium	-	7.30E-02	n	1.60E-02	n	4.00E-03	4.00E-03	(2)	0.0021	0.042	<0.002
Cadmium	1.00E-02	1.83E-02	n	-	-	-	1.00E-02	(3)	<0.002	<0.02	<0.002
Chromium	5.00E-02	4.31E-04	n	1.60E+00	n	-	5.00E-02	(3)	0.075	0.38	0.012
Cobalt	5.00E-02	-	-	4.70E-03	n	-	5.00E-02	(3)	0.038	0.12	0.044
Cyanide, Total	2.00E-01	2.19E-02	n	1.40E-03	n	2.00E-01	2.00E-01	(3)	0.216	-	0.09
Iron, Total	1.00E+00	2.56E+01	n	1.10E+01	n	-	1.00E+00	(3)	31	120	5.6
Lead	5.00E-02	-	-	-	L	1.50E-02	1.50E-02	(2)	0.044	0.19	0.01
Manganese	2.00E-01	8.76E-01	n	-	-	-	2.00E-01	(3)	1.3	45	2
Mercury	2.00E-03	6.26E-04	n	6.30E-04	n	2.00E-03	2.00E-03	(3)	0.000033	0.00011	<0.0002
Nickel	2.00E-01	7.30E-01	n	3.00E+00	n	-	2.00E-01	(3)	0.2	0.18	0.13
Selenium	5.00E-02	1.83E-01	n	7.80E-02	n	5.00E-02	5.00E-02	(3)	0.023	0.0096	0.016
Silver	5.00E-02	1.83E-01	n	7.10E-02	n	-	5.00E-02	(3)	<0.005	<0.05	<0.005
Vanadium	-	1.83E-01	n	7.80E-02	n	-	1.83E-01	(4)	0.029	0.52	<0.05
Zinc	1.00E+01	1.10E+01	n	4.70E+00	n	-	1.00E+01	(3)	0.32	1.1	0.099
Chloride	-	-	-	-	-	-	-	-	-	-	<0.5
Fluoride	1.60E+00	1.46E+00	n	9.30E-01	n	-	1.60E+00	(3)	-	-	<0.1
Sulfate	-	-	-	-	-	-	-	-	-	-	<0.5
Dissolved Metals (mg/l)											
Antimony (Dissolved)	-	1.46E-02	n	6.00E-03	n	6.00E-03	6.00E-03	(2)	<0.005	-	-
Arsenic (Dissolved)	1.00E-01	4.48E-04	c	4.50E-05	c	1.00E-02	1.00E-02	(2)	0.011	-	-
Barium (Dissolved)	1.00E+00	7.30E+00	n	2.90E+00	n	2.00E+00	1.00E+00	(3)	0.18	-	-
Beryllium (Dissolved)	-	7.30E-02	n	1.60E-02	n	4.00E-03	4.00E-03	(2)	<0.002	-	-
Cadmium (Dissolved)	1.00E-02	1.83E-02	n	-	-	-	1.00E-02	(3)	<0.002	-	-
Chromium (Dissolved)	5.00E-02	5.48E+01	n	1.60E+00	n	-	5.00E-02	(3)	0.0077	-	-
Cobalt (Dissolved)	5.00E-02	-	-	4.70E-03	n	-	5.00E-02	(3)	0.029	-	-
Iron, Total (Dissolved)	1.00E+00	2.56E+01	n	1.40E-03	n	-	1.00E+00	(3)	0.14	-	-
Lead (Dissolved)	5.00E-02	-	-	1.10E+01	L	1.50E-02	1.50E-02	(2)	<0.005	-	-
Manganese (Dissolved)	2.00E-01	8.76E-01	n	-	-	-	2.00E-01	(3)	0.54	-	-
Nickel (Dissolved)	2.00E-01	7.30E-01	n	3.00E+00	n	-	2.00E-01	(3)	0.18	-	-
Selenium (Dissolved)	5.00E-02	1.83E-01	n	7.80E-02	n	5.00E-02	5.00E-02	(3)	0.023	-	-
Silver (Dissolved)	5.00E-02	1.83E-01	n	7.10E-02	n	-	5.00E-02	(3)	<0.005	-	-
Vanadium (Dissolved)	-	1.83E-01	n	7.80E-02	n	-	1.83E-01	(4)	<0.05	-	-
Zinc (Dissolved)	1.00E+01	1.10E+01	n	4.70E+00	n	-	1.00E+01	(3)	0.13	-	-
Volatile Organic Compounds - (EPA Method 8260B) (mg/l)											
1,1,1,2-Tetrachloroethane	-	5.24E-03	c	5.00E-04	c	-	5.24E-03	(4)	<0.01	<0.005	<0.01
1,1,1-Trichloroethane	6.00E-02	9.13E+00	n	7.50E+01	n	2.00E-01	6.00E-02	(3)	<0.01	<0.005	<0.01
1,1,2,2-Tetrachloroethane	2.00E-02	6.71E-04	c	6.60E-04	c	-	2.00E-02	(3)	<0.02	<0.01	<0.02
1,1,2-Trichloroethane	1.00E-01	4.16E-04	n	2.40E-03	c**	5.00E-03	5.00E-03	(2)	<0.01	<0.005	<0.01
1,1-Dichloroethane	2.50E-02	2.42E-02	c	2.40E-02	c	-	2.50E-02	(3)	<0.01	0.0044	<0.01
1,1-Dichloroethene	5.00E-03	3.40E-01	n	2.60E-01	n	7.00E-03	5.00E-03	(3)	<0.01	0.0019	<0.01
1,1-Dichloropropene	-	-	-	-	-	-	-	-	<0.01	<0.005	<0.01
1,2,3-Trichlorobenzene	-	-	-	5.20E-02	n	-	5.20E-02	(1)	<0.01	<0.005	<0.01
1,2,3-Trichloropropane	-	7.18E-06	c	6.50E-06	c	-	7.18E-06	(4)	<0.02	<0.01	<0.02
1,2,4-Trichlorobenzene	-	4.12E-03	n	9.90E-03	c**	7.00E-02	7.00E-02	(2)	<0.01	<0.005	<0.01
1,2,4-Trimethylbenzene	-	-	-	1.50E-02	n	-	1.50E-02	(1)	0.085	0.082	<0.01
1,2-Dibromo-3-chloropropane	-	3.16E-06	c	3.20E-06	c	2.00E-04	2.00E-04	(2)	<0.02	<0.01	<0.02
1,2-Dibromoethane (EDB)	1.00E-04	6.53E-05	c	6.50E-05	c	5.00E-05	5.00E-05	(2)	<0.01	<0.005	<0.01
1,2-Dichlorobenzene	-	3.70E-01	n	2.80E-01	n	6.00E-01	6.00E-01	(2)	<0.01	<0.005	<0.01
1,2-Dichloroethane (EDC)	1.00E-02	1.49E-03	c	1.50E-03	c*	5.00E-03	5.00E-03	(2)	<0.01	<0.005	<0.01
1,2-Dichloropropane	-	3.86E-03	c	3.80E-03	c*	5.00E-03	5.00E-03	(2)	<0.01	<0.005	<0.01
1,3,5-Trimethylbenzene	-	-	-	8.70E-02	n	-	8.70E-02	(1)	0.0079	0.0057	<0.01
1,3-Dichlorobenzene	-	-	-	-	-	-	-	-	<0.01	<0.005	<0.01
1,3-Dichloropropane	-	-	-	2.90E-01	n	-	2.90E-01	(1)	<0.01	<0.005	<0.01
1,4-Dichlorobenzene	-	4.27E-03	c	4.20E-03	c	7.50E-02	7.50E-02	(2)	<0.01	<0.005	<0.01
1-Methylnaphthalene	-	-	-	9.70E-03	c	-	9.70E-03	(5)	0.061	0.17	<0.04
2,2-Dichloropropane	-	-	-	-	-	-	-	-	<0.02	<0.01	<0.02
2-Butanone	-	7.06E+00	n	4.90E+00	n	-	7.06E+00	(4)	0.066	<0.05	<0.1
2-Chlorotoluene	-	7.30E-01	n	1.80E-01	n	-	7.30E-01	(4)	<0.01	<0.005	<0.01
2-Hexanone	-	8.76E-01	n	3.40E-02	n	-	8.76E-01	(4)	<0.1	<0.05	<0.1

Table 10
Old API Separator Groundwater Analytical Results Summary
Western Refining Southwest, Inc. - Gallup Refinery
Gallup, New Mexico

Analytes	NMED WQCC Standards (mg/L)	NMED Tap Water (mg/L)	Tap Water key	EPA Screening Levels Tap Water (mg/L)	Tap Water key	MCL (mg/L)	Screening Levels	Source	SWMU 14-2 GW	SWMU 14-3 GW	SWMU 14-OAPIS-1GW
				1.00E+01					1207940-029	1207900-007	1210860-004
Sample Date	(3)	(4)		(1)		(2)			7/19/2012	7/18/2012	10/16/2012
2-Methylnaphthalene	-	-	-	2.70E-02	n	-	2.70E-02	(1)	0.039	0.11	<0.04
4-Chlorotoluene	-	-	-	1.90E-01	n	-	1.90E-01	(1)	<0.01	<0.005	<0.01
4-Isopropyltoluene	-	-	-	-	-	-	-		<0.01	0.0033	<0.01
4-Methyl-2-pentanone	-	-	-	1.00E+00	n	-	1.00E+00	(1)	<0.1	<0.05	<0.1
Acetone	-	2.18E+01	n	1.20E+01	n	-	2.18E+01	(4)	0.42	0.0083	<0.1
Benzene	1.00E-02	4.13E-03	c	3.90E-03	c*	5.00E-03	5.00E-03	(2)	0.067	0.097	0.013
Bromobenzene	-	-	-	5.40E-02	n	-	5.40E-02	(1)	<0.01	<0.005	<0.01
Bromodichloromethane	-	1.17E-03	c	1.20E-02	c	8.00E-02	8.00E-02	(2)	<0.01	<0.005	<0.01
Bromoform	-	8.51E-02	c	7.90E-02	c*	8.00E-02	8.00E-02	(2)	<0.01	<0.005	<0.01
Bromomethane	-	8.66E-03	n	7.00E-03	n	-	8.66E-03	(4)	<0.03	<0.015	<0.03
Carbon disulfide	-	1.04E+00	n	7.20E-01	n	-	1.04E+00	(4)	<0.1	<0.05	<0.1
Carbon Tetrachloride	1.00E-02	4.40E-03	c	3.90E-03	c	5.00E-03	5.00E-03	(2)	<0.01	<0.005	<0.01
Chlorobenzene	-	9.13E-02	n	7.20E-02	n	1.00E-01	1.00E-01	(2)	<0.01	<0.005	<0.01
Chloroethane	-	2.09E+01	n	2.10E+01	n	-	2.09E+01	(4)	<0.02	<0.01	<0.02
Chloroform	1.00E-01	1.93E-03	c	1.90E-03	c	8.00E-02	8.00E-02	(2)	<0.01	<0.005	<0.01
Chloromethane	-	1.88E-01	n	1.90E-01	n	-	1.88E-01	(4)	<0.03	<0.015	<0.03
cis-1,2-DCE	-	7.30E-02	n	2.80E-01	n	7.00E-02	7.00E-02	(2)	<0.01	<0.005	<0.01
cis-1,3-Dichloropropene	-	4.33E-03	c	-	-	-	4.33E-03	(4)	<0.01	<0.005	<0.01
Dibromochloromethane	-	1.47E-03	c	1.50E-03	c	8.00E-02	8.00E-02	(2)	<0.01	<0.005	<0.01
Dibromomethane	-	8.16E-03	n	7.90E-03	n	-	8.16E-03	(4)	<0.01	<0.005	<0.01
Dichlorodifluoromethane	-	2.03E-01	n	1.90E-01	n	-	2.03E-01	(4)	<0.01	<0.005	<0.01
Ethylbenzene	7.50E-01	1.48E-02	c	1.30E-02	c	7.00E-01	7.00E-01	(2)	0.049	0.054	<0.01
Hexachlorobutadiene	-	8.62E-03	c	2.60E-03	c*	-	8.62E-03	(4)	<0.01	<0.005	<0.01
Isopropylbenzene (Cumene)	-	6.79E-01	n	3.90E-01	n	-	6.79E-01	(4)	0.0063	0.0081	<0.01
Methyl tert-butyl ether (MTBE)	-	1.25E-01	c	1.20E-01	c	-	1.25E-01	(4)	0.31	0.25	0.44
Methylene Chloride	1.00E-01	1.86E-01	n	9.90E-02	c**	5.00E-03	5.00E-03	(2)	<0.03	0.0075	<0.03
Naphthalene	-	1.43E-03	c	1.40E-03	c*	-	1.43E-03	(4)	0.042	0.045	<0.02
n-Butylbenzene	-	-	-	7.80E-01	n	-	7.80E-01	(1)	<0.01	0.0043	<0.03
n-Propylbenzene	-	-	-	5.30E-01	n	-	5.30E-01	(1)	0.01	0.012	<0.01
sec-Butylbenzene	-	-	-	-	-	-	-		<0.01	0.0035	<0.01
Styrene	-	1.62E+00	n	1.10E+00	n	1.00E-01	1.00E-01	(2)	<0.01	<0.005	<0.01
tert-Butylbenzene	-	-	-	-	-	-	-		<0.01	<0.005	<0.01
Tetrachloroethene (PCE)	2.00E-02	1.08E-03	c	9.70E-02	c**	5.00E-03	5.00E-03	(2)	<0.01	<0.005	<0.01
Toluene	7.50E-01	2.28E+00	n	8.60E-01	n	1.00E+00	7.50E-01	(3)	<0.01	0.013	<0.01
trans-1,2-DCE	-	1.07E-01	n	8.60E-02	n	1.00E-01	1.00E-01	(2)	<0.01	<0.005	<0.01
trans-1,3-Dichloropropene	-	-	-	-	-	-	-		<0.01	<0.005	<0.01
Trichloroethene (TCE)	1.00E-01	3.40E-03	n	4.40E-03	c**	5.00E-03	5.00E-03	(2)	<0.01	<0.005	<0.01
Trichlorofluoromethane	-	1.29E+00	n	1.10E+00	n	-	1.29E+00	(4)	<0.01	<0.005	<0.01
Vinyl chloride	1.00E-03	1.62E-04	c	1.50E-04	c	2.00E-03	1.00E-03	(3)	<0.01	<0.005	<0.01
Xylenes, Total	6.20E-01	2.03E-01	n	1.90E-01	n	1.00E+01	6.20E-01	(3)	0.045	0.044	<0.015
Semi Volatile Organics - (EPA Method 8270C) (mg/l)											
1,2,4-Trichlorobenzene	-	4.12E-03	n	9.90E-03	c**	7.00E-02	7.00E-02	(2)	<0.01	<0.01	<0.01
1,2-Dichlorobenzene	-	3.70E-01	n	2.80E-01	n	6.00E-01	6.00E-01	(2)	<0.01	<0.01	<0.01
1,3-Dichlorobenzene	-	-	-	-	-	-	-		<0.01	<0.01	<0.01
1,4-Dichlorobenzene	-	4.27E-03	c	4.20E-03	c	7.50E-02	7.50E-02	(2)	<0.01	<0.01	<0.01
1-Methylnaphthalene	-	-	-	9.70E-03	c	-	9.70E-03	(5)	<0.01	0.14	<0.01
2,4,5-Trichlorophenol	-	3.65E+00	n	8.90E-01	n	-	3.65E+00	(4)	<0.01	<0.01	<0.01
2,4,6-Trichlorophenol	-	3.65E-02	n	3.50E-02	c**	-	3.65E-02	(4)	<0.01	<0.01	<0.01
2,4-Dichlorophenol	-	1.10E-01	n	3.50E-02	n	-	1.10E-01	(4)	<0.02	<0.02	<0.02
2,4-Dimethylphenol	-	7.30E-01	n	2.70E-01	n	-	7.30E-01	(4)	0.027	0.034	<0.01
2,4-Dinitrophenol	-	7.30E-02	n	3.00E-02	n	-	7.30E-02	(4)	<0.02	<0.02	<0.02
2,4-Dinitrotoluene	-	2.17E-03	c	2.00E-03	c	-	2.17E-03	(4)	<0.01	<0.01	<0.01
2,6-Dinitrotoluene	-	3.65E-02	n	1.50E-02	n	-	3.65E-02	(4)	<0.01	<0.01	<0.01
2-Chloronaphthalene	-	1.21E-03	n	5.50E-01	n	-	1.21E-03	(4)	<0.01	<0.01	<0.01
2-Chlorophenol	-	1.83E-01	n	7.10E-02	n	-	1.83E-01	(4)	<0.01	<0.01	<0.01
2-Methylnaphthalene	-	-	-	2.70E-02	n	-	2.70E-02	(1)	<0.01	0.077	<0.01
2-Methylphenol	-	-	-	7.20E-01	n	-	7.20E-01	(1)	<0.01	0.0073	<0.01
2-Nitroaniline	-	-	-	1.50E+00	n	-	1.50E+00	(1)	<0.01	<0.01	<0.01
2-Nitrophenol	-	-	-	-	-	-	-		<0.01	<0.01	<0.01
3,3'-Dichlorobenzidine	-	1.49E-03	c	1.10E-03	c	-	1.49E-03	(4)	<0.01	<0.01	<0.01
3+4-Methylphenol	-	-	-	-	-	-	-		<0.01	<0.01	<0.01
3-Nitroaniline	-	-	-	-	-	-	-		<0.01	<0.01	<0.01
4,6-Dinitro-2-methylphenol	-	-	-	1.20E-03	n	-	1.20E-03	(1)	<0.02	<0.02	<0.02
4-Bromophenyl phenyl ether	-	-	-	-	-	-	-		<0.01	<0.01	<0.01

Table 10
Old API Separator Groundwater Analytical Results Summary
Western Refining Southwest, Inc. - Gallup Refinery
Gallup, New Mexico

Analytes	NMED WQCC Standards (mg/L)	NMED Tap Water (mg/L)	Tap Water key	EPA Screening Levels Tap Water (mg/L)	Tap Water key	MCL (mg/L)	Screening Levels	Source	SWMU 14-2 GW	SWMU 14-3 GW	SWMU 14-OAPIS-1GW
				1.00E+01					1207940-029	1207900-007	1210860-004
Sample Date	(3)	(4)		(1)		(2)			7/19/2012	7/18/2012	10/16/2012
4-Chloro-3-methylphenol	-	-	-	1.10E+00	n	-	1.10E+00	(1)	<0.01	<0.01	<0.01
4-Chloroaniline	-	-	-	3.20E-03	c	-	3.20E-03	(5)	<0.01	<0.01	<0.01
4-Chlorophenyl phenyl ether	-	-	-	-	-	-	-		<0.01	<0.01	<0.01
4-Nitroaniline	-	-	-	3.30E-02	c*	-	3.30E-02	(5)	<0.02	<0.02	<0.01
4-Nitrophenol	-	-	-	-	-	-	-		<0.01	<0.01	<0.01
Acenaphthene	-	2.19E+00	n	4.00E-01	n	-	2.19E+00	(4)	<0.01	<0.01	<0.01
Acenaphthylene	-	-	-	-	-	-	-		<0.01	<0.01	<0.01
Aniline	-	-	-	1.20E-01	c**	-	1.20E-01	(5)	<0.01	<0.01	<0.01
Anthracene	-	1.10E+01	n	1.30E+00	n	-	1.10E+01	(4)	<0.01	<0.01	<0.01
Azobenzene	-	-	-	1.00E-03	c	-	1.00E-03	(5)	<0.01	<0.01	<0.01
Benz(a)anthracene	-	2.95E-04	c	2.90E-04	c	-	2.95E-04	(4)	<0.01	<0.01	<0.01
Benzo(a)pyrene	7.00E-04	2.95E-05	c	2.90E-05	c	2.00E-04	2.00E-04	(2)	<0.01	<0.01	<0.01
Benzo(b)fluoranthene	-	2.95E-04	c	2.90E-04	c	-	2.95E-04	(4)	<0.01	<0.01	<0.01
Benzo(g,h,i)perylene	-	-	-	-	-	-	-		<0.01	<0.01	<0.01
Benzo(k)fluoranthene	-	2.95E-03	c	2.90E-03	c	-	2.95E-03	(4)	<0.01	<0.01	<0.01
Benzoic acid	-	-	-	5.80E+01	n	-	5.80E+01	(1)	<0.02	<0.02	<0.02
Benzyl alcohol	-	-	-	1.50E+00	n	-	1.50E+00	(1)	<0.01	<0.01	<0.01
Bis(2-chloroethoxy)methane	-	-	-	4.60E-02	n	-	4.60E-02	(1)	<0.01	<0.01	<0.01
Bis(2-chloroethyl)ether	-	1.19E-04	c	1.20E-04	c	-	1.19E-04	(4)	<0.01	<0.01	<0.01
Bis(2-chloroisopropyl)ether	-	9.60E-03	c	3.10E-03	c	-	9.60E-03	(4)	<0.01	<0.01	<0.01
Bis(2-ethylhexyl)phthalate	-	4.80E-02	c	4.80E-02	c*	6.00E-03	6.00E-03	(2)	<0.01	<0.01	<0.01
Butyl benzyl phthalate	-	-	-	1.40E-01	c*	-	1.40E-01	(5)	<0.01	<0.01	<0.01
Carbazole	-	-	-	-	-	-	-		<0.01	<0.01	<0.01
Chrysene	-	2.95E-02	c	2.90E-02	c	-	2.95E-02	(4)	<0.01	<0.01	<0.01
Dibenz(a,h)anthracene	-	2.95E-05	c	2.90E-05	c	-	2.95E-05	(4)	<0.01	<0.01	<0.01
Dibenzofuran	-	-	-	5.80E-03	n	-	2.20E-01	(1)	<0.01	<0.01	<0.01
Diethyl phthalate	-	2.92E+01	n	1.10E+01	n	-	2.92E+01	(4)	<0.01	<0.01	<0.01
Dimethyl phthalate	-	3.65E+02	n	-	-	-	3.65E+02	(4)	<0.01	<0.01	<0.01
Di-n-butyl phthalate	-	3.65E+00	n	6.70E-01	n	-	3.65E+00	(4)	0.02	<0.01	<0.01
Di-n-octyl phthalate	-	-	-	-	-	-	-		<0.01	<0.01	<0.02
Fluoranthene	-	1.46E+00	n	6.30E-01	n	-	1.46E+00	(4)	<0.01	<0.01	<0.01
Fluorene	-	1.46E+00	n	2.20E-01	n	-	1.46E+00	(4)	<0.01	<0.01	<0.01
Hexachlorobenzene	-	4.20E-04	c	4.20E-04	c	1.00E-03	1.00E-03	(2)	<0.01	<0.01	<0.01
Hexachlorobutadiene	-	8.62E-03	c	2.60E-03	c*	-	8.62E-03	(4)	<0.01	<0.01	<0.01
Hexachlorocyclopentadiene	-	2.19E-01	n	2.20E-02	n	5.00E-02	5.00E-02	(2)	<0.01	<0.01	<0.01
Hexachloroethane	-	1.68E-02	c	7.90E-03	c**	-	1.68E-02	(4)	<0.01	<0.01	<0.01
Indeno(1,2,3-cd)pyrene	-	2.95E-04	c	2.90E-04	c	-	2.95E-04	(4)	<0.01	<0.01	<0.01
Isophorone	-	7.07E-01	c	6.70E-01	c*	-	7.07E-01	(4)	<0.01	<0.01	<0.01
Naphthalene	-	1.43E-03	c	1.40E-03	c*	-	1.43E-03	(4)	<0.01	0.024	<0.01
Nitrobenzene	-	1.22E-03	c	1.20E-03	c*	-	1.22E-03	(4)	<0.01	<0.01	<0.01
N-Nitrosodimethylamine	-	-	-	9.30E-05	-	-	-		<0.01	<0.01	<0.01
N-Nitrosodi-n-propylamine	-	-	-	1.00E-01	c	-	9.30E-05	(5)	<0.01	<0.01	<0.01
N-Nitrosodiphenylamine	-	1.37E-01	c	3.50E-04	c	-	1.37E-01	(4)	<0.01	<0.01	<0.01
Pentachlorophenol	-	1.68E-03	c	-	c	1.00E-03	1.00E-03	(2)	<0.02	<0.02	<0.02
Phenanthrene	-	1.10E+00	n	-	-	-	1.10E+00	(4)	<0.01	0.02	<0.01
Phenol	-	1.10E+01	n	8.70E-02	n	-	1.10E+01	(4)	<0.01	<0.01	<0.01
Pyrene	-	1.10E+00	n	1.50E-02	n	-	1.10E+00	(4)	<0.01	<0.01	<0.01
Pyridine	-	-	-	1.50E-01	n	-	1.50E-01	(1)	<0.01	<0.01	<0.01
Total Petroleum Hydrocarbons (method 8015) (mg/l)											
Diesel Range Organics (DRO)	-	2.00E-01	-	-	-	-	-		6.5	83	<1
Gasoline Range Organics (GRO)	-	-	-	-	-	-	-		1.2	1.5	<0.5
Motor Oil Range Organics (MRO)	-	-	-	-	-	-	-		<5	<50	<5

-- No screening level or analytical result available

450 - bolded value exceeds screening level

(1) EPA - Regional Screening Levels (November 2012) - Tap Water

(2) EPA - Regional Screening Levels (November 2012) - MCL

(3) NMED WQCC standards - Title 20 Chapter 6, Part 2, - 20.6.2.3103 Standards for Ground Water of 10,000 mg/l TDS Concentration or less

(4) NMED Tap Water Screening Levels (June 2012)

(5) EPA - Regional Screening Levels (November 2012) - Tap Water; carcinogenic screening levels multiplied by 10

TABLE 11
Groundwater Field Measurements
Western Refining Southwest, Inc. - Gallup Refinery
Gallup, New Mexico

		Ground Water Data						
Well	Date	Well Volume	Temp (degrees C)	Specific Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	pH	ORP	Purge Volume (calculated / actual - gallons)
OAPIS-1	10/15/2012	0	19.24	5.618	3.73	7.78	-47.1	9.15/9.25
		1	18.19	5.596	4.53	7.24	-95.2	
		2	16.97	5.450	4.71	6.98	-79.1	
		3	15.99	5.331	4.94	6.86	-81.8	

Table 12
SWMU No. 1 Soil Cumulative Risk and Hazard Index Evaluation
Western Refining Southwest, Inc. - Gallup Refinery
Gallup, New Mexico

Analytes	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)							
Chromium VI	2.97E+00	(1)	6.56E+01	(4)	400	134.7449	6.0950
Volatile Organic Compounds - (EPA Method 8260) mg/kg							
1-Methylnaphthalene	1.60E+02	(3)	5.30E+02	(6)	35	0.21875	0.06604
Benzene	1.54E+01	(1)	1.38E+02	(4)	3.2	0.20804	0.02314
Ethylbenzene	6.84E+01	(1)	1.83E+03	(4)	5.8	0.08474	0.00317
Methyl tert-butyl ether (MTBE)	9.01E+02	(1)	2.49E+04	(4)	0.0444	0.00005	0.00000
Naphthalene	4.30E+01	(1)	1.58E+02	(4)	13	0.30255	0.08235
Semi Volatile Organics - (EPA Method 8270) mg/kg							
Bis(2-ethylhexyl)phthalate	3.47E+02	(1)	4.76E+03	(4)	1.5	0.0043	0.0003
Carcinogenic Constituents Cumulative Risk x 10⁻⁵						135.563	6.270
NON-CARCINOGENIC CONSTITUENTS							
Metals (mg/kg)							
Barium	1.56E+04	(1)	4.35E+03	(4)	1300	0.0836	0.2986
Beryllium	1.56E+02	(1)	1.44E+02	(4)	1.2	0.0077	0.0083
Chromium III	1.17E+05	(1)	4.65E+05	(4)	400	0.0034	0.0009
Cobalt	2.30E+01	(2)	3.00E+02	(4)	11	0.4783	0.0367
Cyanide	4.69E+01	(1)	1.86E+02	(4)	6	0.1279	0.0323
Iron	5.48E+04	(1)	2.17E+05	(4)	24000	0.4384	0.1107
Lead	4.00E+02	(1)	8.00E+02	(4)	80	0.2000	0.1000
Manganese	1.86E+03	(1)	4.40E+02	(4)	2800	1.5014	6.3568
Mercury	1.56E+01	(1)	1.36E+01	(4)	1.4	0.0896	0.1028
Nickel	1.56E+03	(1)	6.19E+03	(4)	16	0.0103	0.0026
Vanadium	3.91E+02	(1)	1.55E+03	(4)	53	0.1355	0.0342
Zinc	2.35E+04	(1)	9.29E+04	(4)	720	0.0307	0.0077
Volatile Organic Compounds - (EPA Method 8260) mg/kg							
1,2,4-Trimethylbenzene	6.20E+01	(2)	2.60E+02	(5)	17	0.2742	0.0654
1,3,5-Trimethylbenzene	7.80E+02	(2)	1.00E+04	(5)	5.8	0.0074	0.0006
2-Butanone (MEK)	3.71E+04	(1)	8.43E+04	(4)	0.0722		
4-Methyl-2-pentanone	5.30E+03	(2)	5.30E+04	(5)	0.0116	0.0000	0.0000
Acetone	6.66E+04	(1)	2.21E+05	(4)	54.1	0.0008	0.0002

Table 12
SWMU No. 1 Soil Cumulative Risk and Hazard Index Evaluation
Western Refining Southwest, Inc. - Gallup Refinery
Gallup, New Mexico

Analytes	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
Carbon disulfide	1.53E+03	(1)	1.58E+03	(4)	0.0156	0.0000	0.0000
Isopropylbenzene	2.43E+03	(1)	2.81E+03	(4)	0.0031	0.0000	0.0000
n-Propylbenzene	3.40E+03	(2)	2.10E+04	(5)	2.8	0.0008	0.0001
sec-Butylbenzene	-	-	-	-	0.00128	-	-
Toluene	5.27E+03	(1)	1.34E+04	(4)	3.54	0.0007	0.0003
Xylenes, Total	8.14E+02	(1)	7.43E+02	(4)	24	0.0295	0.0323
Semi Volatile Organics - (EPA Method 8270) mg/kg							
2,4-Dimethylphenol	1.22E+03	(1)	4.76E+03	(4)	0.64	0.0005	0.0001
2-Methylnaphthalene	2.30E+02	(2)	2.20E+03	(5)	55	0.2391	0.0250
Fluorene	2.29E+03	(1)	8.91E+03	(4)	3.7	0.0016	0.0004
Phenanthrene	1.83E+03	(1)	7.15E+03	(4)	11	0.0060	0.0015
Pyrene	1.72E+03	(1)	6.68E+03	(4)	1.5	0.0009	0.0002
Non-Carcinogenic Constituents Hazard Index						0.562	0.126

-- No screening level or analytical result available

NMED - Risk Assessment Guidance for Site
Investigations and Remediation (June 14, 2012)

EPA - Regional Screening Levels (May 2012)

- (1) NMED Residential Screening Level
- (2) EPA Residential Screening Level
- (3) EPA Residential - Screening Levels x 10
- (4) NMED Construction Worker Screening Level
- (5) EPA Industrial - Screening Levels
- (6) EPA Industrial - Screening Levels x 10

Table 13
SWMU No. 14 Soil Cumulative Risk and Hazard Index Evaluation
Western Refining Southwest, Inc. - Gallup Refinery
Gallup, New Mexico

Analytes	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	3.90E+00	(1)	5.30E+01	(4)	1.6	0.4105	0.0302
Chromium VI	2.97E+00	(1)	6.56E+01	(4)	400	134.7449	6.0950
Volatile Organic Compounds - (EPA Method 8260) mg/kg							
1,1,2-Trichloroethane	2.81E+00	(1)	4.72E+02	(4)	1	0.3557	0.0021
1,1-Dichloroethane	6.45E+01	(1)	1.70E+03	(4)	0.000918	0.0000	0.0000
1,2-Dibromo-3-chloropropane	1.86E+00	(1)	5.07E+00	(4)	2.2	1.1804	0.4343
1,2-Dibromoethane (EDB)	5.88E-01	(1)	1.60E+01	(4)	1.2	2.0400	0.0751
1,2-Dichloropropane	1.52E+01	(1)	2.50E+01	(4)	0.82	0.05381	0.03280
1,4-Dichlorobenzene	3.17E+01	(1)	8.31E+02	(4)	0.000252	0.00001	0.00000
1-Methylnaphthalene	1.60E+02	(3)	5.30E+02	(6)	45	0.28125	0.08491
Benzene	1.54E+01	(1)	1.38E+02	(4)	5.9	0.38357	0.04266
Chloroform	5.86E+00	(1)	1.54E+02	(4)	0.0069	0.00118	0.00004
Ethylbenzene	6.84E+01	(1)	1.83E+03	(4)	23	0.33602	0.01256
Methyl tert-butyl ether (MTBE)	9.01E+02	(1)	2.49E+04	(4)	1.5	0.00166	0.00006
Methylene chloride	4.09E+02	(1)	1.12E+03	(4)	2	0.00489	0.00179
Naphthalene	4.30E+01	(1)	1.58E+02	(4)	17	0.39565	0.10769
Semi Volatile Organics - (EPA Method 8270) mg/kg							
Benz(a)anthracene	1.48E+00	(1)	2.13E+02	(4)	0.61	0.4132	0.0029
Bis(2-chloroethyl)ether	2.68E+00	(1)	7.78E+01	(4)	0.43	0.1605	0.0055
Bis(2-ethylhexyl)phthalate	3.47E+02	(1)	4.76E+03	(4)	2.6	0.0075	0.0005
Chrysene	1.48E+02	(1)	2.06E+04	(4)	0.65	0.0044	0.0000
Carcinogenic Constituents Cumulative Risk x 10⁻⁵						140.775	6.928
NON-CARCINOGENIC CONSTITUENTS							
Metals (mg/kg)							
Antimony	3.13E+01	(1)	1.24E+02	(4)	5.3	0.1694	0.0428
Barium	1.56E+04	(1)	4.35E+03	(4)	2400	0.1543	0.5513
Beryllium	1.56E+02	(1)	1.44E+02	(4)	1.4	0.0090	0.0097
Chromium III	1.17E+05	(1)	4.65E+05	(4)	110	0.0009	0.0002
Cobalt	2.30E+01	(2)	3.00E+02	(4)	10	0.4348	0.0333
Cyanide	4.69E+01	(1)	1.86E+02	(4)	5.5	0.1172	0.0296

Table 13
SWMU No. 14 Soil Cumulative Risk and Hazard Index Evaluation
Western Refining Southwest, Inc. - Gallup Refinery
Gallup, New Mexico

Analytes	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
Iron	5.48E+04	(1)	2.17E+05	(4)	26000	0.4749	0.1199
Lead	4.00E+02	(1)	8.00E+02	(4)	80	0.2000	0.1000
Manganese	1.86E+03	(1)	4.40E+02	(4)	1800	0.9652	4.0865
Mercury	1.56E+01	(1)	1.36E+01	(4)	1.4	0.0896	0.1028
Nickel	1.56E+03	(1)	6.19E+03	(4)	17	0.0109	0.0027
Vanadium	3.91E+02	(1)	1.55E+03	(4)	52	0.1330	0.0336
Zinc	2.35E+04	(1)	9.29E+04	(4)	720	0.0307	0.0077
Volatile Organic Compounds - (EPA Method 8260) mg/kg							
1,1,2,2-Tetrachloroethane	8.02E+00	(1)	2.21E+02	(4)	0.00104	0.0001	0.0000
1,2,4-Trimethylbenzene	6.20E+01	(2)	2.60E+02	(5)	44	0.7097	0.1692
1,3,5-Trimethylbenzene	7.80E+02	(2)	1.00E+04	(5)	16	0.0205	0.0016
2-Butanone (MEK)	3.71E+04	(1)	8.43E+04	(4)	0.055	0.0000	0.0000
2-Chlorotoluene	1.56E+03	(1)	6.19E+03	(4)	0.46	0.0003	0.0001
2-Hexanone	9.38E+02	(1)	9.73E+02	(4)	0.37	0.0004	0.0004
2-Methylnaphthalene	2.30E+02	(2)	2.20E+03	(5)	90	0.3913	0.0409
4-Isopropyltoluene	-	-	-	-	3.4	-	-
4-Methyl-2-pentanone	5.30E+03	(2)	5.30E+04	(5)	0.0142	0.0000	0.0000
Acetone	6.66E+04	(1)	2.21E+05	(4)	47	0.0007	0.0002
Carbon disulfide	1.53E+03	(1)	1.58E+03	(4)	0.025	0.0000	0.0000
Chlorobenzene	3.76E+02	(1)	4.06E+02	(4)	0.11	0.0003	0.0003
Chloromethane	2.75E+02	(1)	2.41E+02	(4)	0.013	0.0000	0.0001
Isopropylbenzene	2.43E+03	(1)	2.81E+03	(4)	6.6	0.0027	0.0024
n-Butylbenzene	3.90E+03	(2)	5.10E+04	(5)	4.6	0.0012	0.0001
n-Propylbenzene	3.40E+03	(2)	2.10E+04	(5)	8.1	0.0024	0.0004
sec-Butylbenzene	-	-	-	-	3.8	-	-
Styrene	7.28E+03	(1)	9.99E+03	(4)	0.077	0.0000	0.0000
Toluene	5.27E+03	(1)	1.34E+04	(4)	45	0.0085	0.0033
Trichlorofluoromethane	1.41E+03	(1)	1.30E+03	(4)	0.000685	0.0000	0.0000
Xylenes, Total	8.14E+02	(1)	7.43E+02	(4)	120	0.1474	0.1615
Semi Volatile Organics - (EPA Method 8270) mg/kg							
2,4-Dimethylphenol	1.22E+03	(1)	4.76E+03	(4)	0.52	0.0004	0.0001
2,4-Dinitrophenol	1.22E+02	(1)	4.76E+02	(4)	0.66	0.0054	0.0014
2-Methylphenol	3.10E+03	(2)	3.10E+04	(5)	1.1	0.0004	0.0000

Table 13
SWMU No. 14 Soil Cumulative Risk and Hazard Index Evaluation
Western Refining Southwest, Inc. - Gallup Refinery
Gallup, New Mexico

Analytes	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
3+4-Methylphenol	-	-	-	-	2.2	-	-
4-Nitrophenol	-	-	-	-	0.22	-	-
Acenaphthene	3.44E+03	(1)	1.86E+04	(4)	2	0.0006	0.0001
Benzoic acid	2.40E+05	(2)	2.50E+06	(5)	2.3	0.0000	0.0000
Benzyl alcohol	6.10E+03	(2)	6.20E+04	(5)	0.32	0.0001	0.0000
Fluorene	2.29E+03	(1)	8.91E+03	(4)	3.7	0.0016	0.0004
Phenanthrene	1.83E+03	(1)	7.15E+03	(4)	11	0.0060	0.0015
Phenol	1.83E+04	(1)	6.88E+04	(4)	2.8	0.0002	0.0000
Pyrene	1.72E+03	(1)	6.68E+03	(4)	2.6	0.0015	0.0004
Non-Carcinogenic Constituents Hazard Index						1.302	0.384

-- No screening level or analytical result available

NMED - Risk Assessment Guidance for Site
Investigations and Remediation (June 14, 2012)

EPA - Regional Screening Levels (May 2012)

- (1) NMED Residential Screening Level
- (2) EPA Residential Screening Level
- (3) EPA Residential - Screening Levels x 10
- (4) NMED Construction Worker Screening Level
- (5) EPA Industrial - Screening Levels
- (6) EPA Industrial - Screening Levels x 10

Table 14
SWMU No. 1 Groundwater Cumulative Risk Evaluation
Western Refining Southwest, Inc. - Gallup Refinery
Gallup, New Mexico

Analytes	Screening Levels	Source	Maximum Concentration	Maximum Concentration divided by Residential Groundwater Screening Level
CARCINOGENIC CONSTITUENTS				
Metals (mg/l)				
Arsenic	4.48E-04	(4)	0.063	140.625
Volatile Organic Compounds - (EPA Method 8260) ug/l				
1-Methylnaphthalene	9.70E-03	(5)	0.011	1.13
Benzene	4.13E-03	(4)	0.024	5.81
Bromoform	8.51E-02	(4)	0.0027	0.03
Ethylbenzene	1.48E-02	(4)	0.016	1.08
Methyl tert-butyl ether (MTBE)	1.25E-01	(4)	0.31	2.49
Naphthalene	1.43E-03	(4)	0.032	22.36
Carcinogenic Constituents Cumulative Risk x 10⁻⁵				173.53
NON-CARCINOGENIC CONSTITUENTS				
Metals (mg/l)				
Barium	7.30E+00	(4)	56	7.67
Beryllium	7.30E-02	(4)	0.21	2.88
Chromium	5.48E+01	(4)	0.31	0.01
Cobalt	4.70E-02	(5)	0.53	11.28
Cyanide, Total	2.19E-02	(4)	0.059	2.69
Iron, Total	2.56E+01	(4)	160	6.26
Lead	-		1.7	-
Manganese, Total	8.76E-01	(4)	95	108.45
Mercury	6.26E-04	(4)	0.00034	0.54
Nickel	7.30E-01	(4)	0.95	1.30
Selenium	1.83E-01	(4)	0.059	0.32
Vanadium	1.83E-01	(4)	0.2	1.10
Zinc	1.10E+01	(4)	1.1	0.10
Volatile Organic Compounds - (EPA Method 8260) mg/l				
1,2,4-Trimethylbenzene	1.50E-02	(1)	0.032	2.13
1,3,5-Trimethylbenzene	8.70E-02	(1)	0.008	0.09
2-Butanone (MEK)	7.06E+00	(4)	0.047	0.01
2-Hexanone	8.76E-01	(4)	0.016	0.02
2-Methylnaphthalene	2.70E-01	(1)	0.019	0.07
4-Isopropyltoluene	-		0.012	-
4-Methyl-2-pentanone	1.00E+00	(1)	0.015	0.02
Acetone	2.18E+01	(4)	0.27	0.01
Bromomethane	8.66E-03	(4)	0.003	0.35
Carbon disulfide	1.04E+00	(4)	0.03	0.03
Chloromethane	1.88E-01	(4)	0.0035	0.02
Isopropylbenzene (Cumene)	6.79E-01	(4)	0.0015	0.00
n-Propylbenzene	5.30E-01	(1)	0.0027	0.01
sec-Butylbenzene	-		0.0014	-
Toluene	2.28E+00	(4)	0.018	0.01
Xylenes, Total	2.03E-01	(4)	0.1	0.49
Semi Volatile Organics - (EPA Method 8270) mg/l				
2,4-Dimethylphenol	7.30E-01	(4)	0.85	1.16
2-Methylphenol	7.20E-01	(1)	0.018	0.03
2-Nitrophenol	-		0.24	-

Table 14
SWMU No. 1 Groundwater Cumulative Risk Evaluation
Western Refining Southwest, Inc. - Gallup Refinery
Gallup, New Mexico

Analytes	Screening Levels	Source	Maximum Concentration	Maximum Concentration divided by Residential Groundwater Screening Level
3+4-Methylphenol	-		0.018	-
4-Nitrophenol	-		0.026	-
Dimethyl phthalate	3.65E+02	(4)	0.013	0.00
Non-Carcinogenic Constituents Hazard Index				147.04

- No screening level or analytical result available

(1) EPA - Regional Screening Levels (November 2012) - Tap Water

(2) EPA - Regional Screening Levels (November 2012) - MCL

(3) NMED WQCC standards - Title 20 Chapter 6, Part 2, - 20.6.2.3103 Standards for Ground Water of 10,000 mg/l TDS

(4) NMED Tap Water Screening Levels (June 2012)

(5) EPA - Regional Screening Levels (November 2012) - Tap Water; carcinogenic screening levels multiplied by 10

Table 15
SWMU No. 14 Groundwater Cumulative Risk Evaluation
Western Refining Southwest, Inc. - Gallup Refinery
Gallup, New Mexico

Analytes	Screening Levels	Source	Maximum Concentration	Maximum Concentration divided by Residential Groundwater Screening Level
CARCINOGENIC CONSTITUENTS				
Metals (mg/l)				
Arsenic	4.48E-04	(4)	0.024	53.57
Volatile Organic Compounds - (EPA Method 8260) ug/l				
1,1-Dichloroethane	2.42E-02	(4)	0.0044	0.18
1-Methylnaphthalene	9.70E-03	(5)	0.17	17.53
Benzene	4.13E-03	(4)	0.097	23.49
Ethylbenzene	1.48E-02	(4)	0.054	3.66
Methyl tert-butyl ether (MTBE)	1.25E-01	(4)	0.44	3.53
Naphthalene	1.43E-03	(4)	0.045	31.44
Semi Volatile Organics - (EPA Method 8270) ug/l				
1-Methylnaphthalene	9.70E-03	(5)	0.14	14.43
Carcinogenic Constituents Cumulative Risk x 10⁻⁵				147.83
NON-CARCINOGENIC CONSTITUENTS				
Metals (mg/l)				
Barium	7.30E+00	(4)	2.8	0.38
Beryllium	7.30E-02	(4)	0.042	0.58
Chromium	5.48E+01	(4)	0.38	0.01
Cobalt	4.70E-02	(5)	0.12	2.55
Cyanide, Total	2.19E-02	(4)	0.216	9.86
Iron, Total	2.56E+01	(4)	120	4.70
Lead	-		0.19	-
Manganese, Total	8.76E-01	(4)	45	51.37
Mercury	6.26E-04	(4)	0.00011	0.18
Nickel	7.30E-01	(4)	0.2	0.27
Selenium	1.83E-01	(4)	0.023	0.13
Vanadium	1.83E-01	(4)	0.52	2.85
Zinc	1.10E+01	(4)	1.1	0.10
Volatile Organic Compounds - (EPA Method 8260) mg/l				
1,1-Dichloroethene	0.339534884	(4)	0.0019	
1,2,4-Trimethylbenzene	1.50E-02	(1)	0.085	5.67
1,3,5-Trimethylbenzene	8.70E-02	(1)	0.0079	0.09
2-Butanone (MEK)	7.06E+00	(4)	0.066	0.01
2-Methylnaphthalene	2.70E-01	(1)	0.11	0.41
4-Isopropyltoluene	-		0.0033	-
Acetone	2.18E+01	(4)	0.42	0.02
Isopropylbenzene (Cumene)	6.79E-01	(4)	0.0081	0.01
Methylene Chloride	1.86E-01	(4)	0.0075	0.04
n-Butylbenzene	7.80E+00	(1)	0.0043	0.00
n-Propylbenzene	5.30E-01	(1)	0.012	0.02
sec-Butylbenzene	-		0.0035	-
Toluene	2.28E+00	(4)	0.013	0.01
Xylenes, Total	2.03E-01	(4)	0.045	0.22
Semi Volatile Organics - (EPA Method 8270) mg/l				
2,4-Dimethylphenol	7.30E-01	(4)	0.034	0.05
2-Methylphenol	7.20E-01	(1)	0.0073	0.01
Di-n-butyl phthalate	3.65E+00	(4)	0.02	0.01
Phenanthrene	1.10E+00	(4)	0.02	0.02
Non-Carcinogenic Constituents Hazard Index				79.55

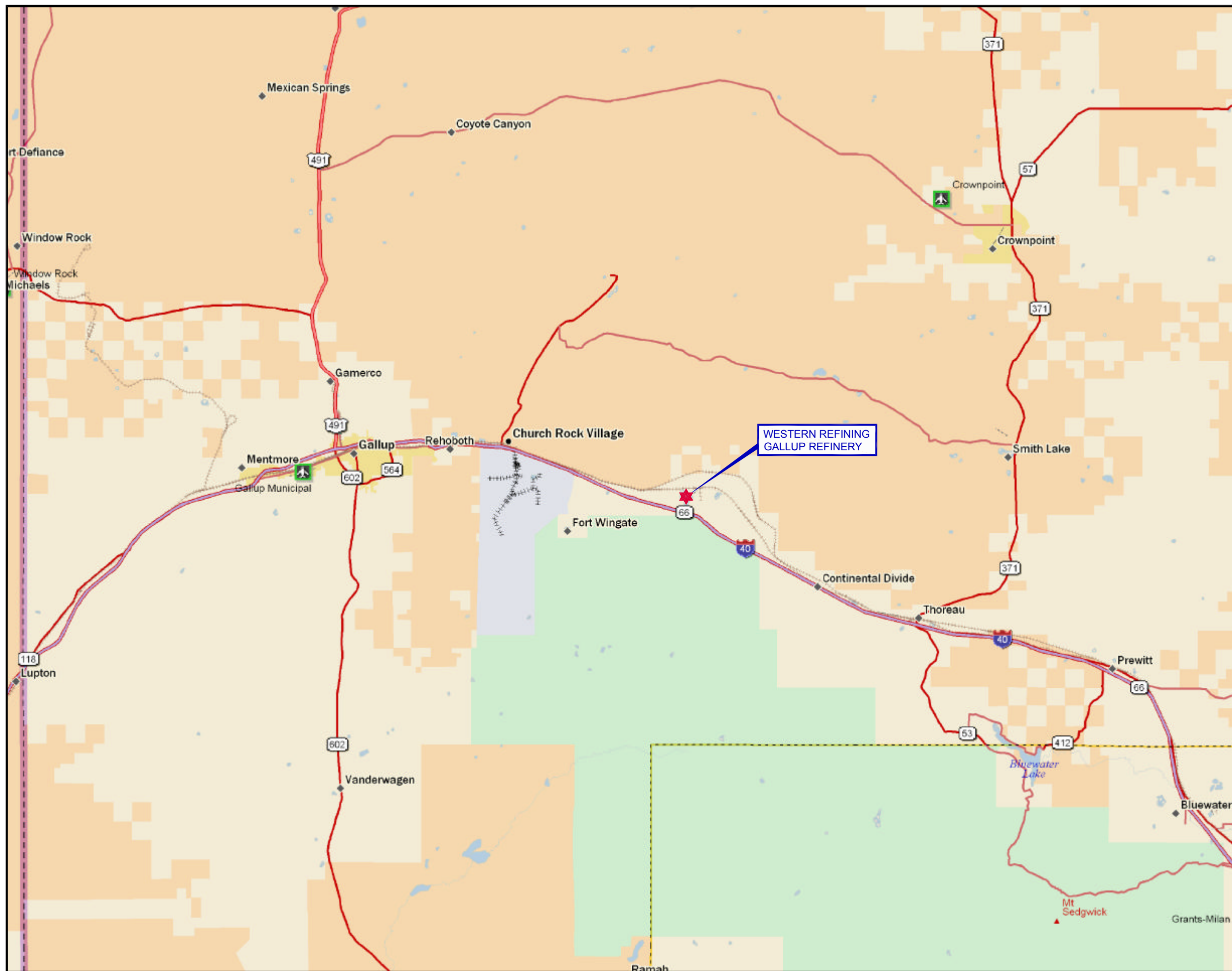
- No screening level or analytical result available

Table 15
SWMU No. 14 Groundwater Cumulative Risk Evaluation
Western Refining Southwest, Inc. - Gallup Refinery
Gallup, New Mexico

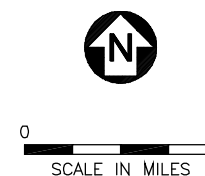
Analytes	Screening Levels	Source	Maximum Concentration	Maximum Concentration divided by Residential Groundwater Screening Level

- (1) EPA - Regional Screening Levels (November 2012) - Tap Water
(2) EPA - Regional Screening Levels (November 2012) - MCL
(3) NMED WQCC standards - Title 20 Chapter 6, Part 2, - 20.6.2.3103 Standards for Ground Water of 10,000 mg/l TDS
(4) NMED Tap Water Screening Levels (June 2012)
(5) EPA - Regional Screening Levels (November 2012) - Tap Water; carcinogenic screening levels multiplied by 10

Figures



Map Source: DeLorme Street Atlas USA 2007 Plus.

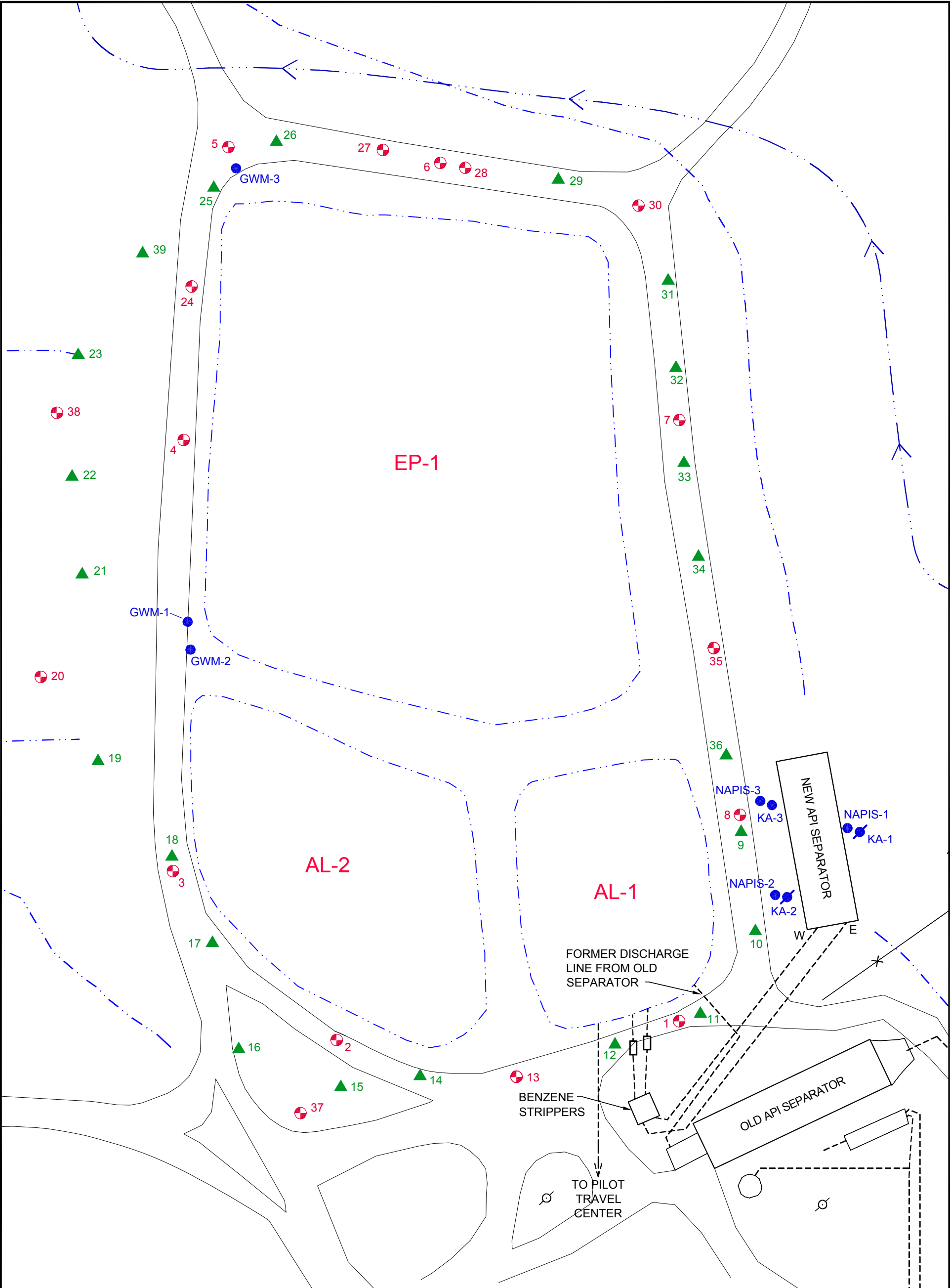


PROJ. NO.: Western Refining | DATE: 01/31/13 | FILE: WestRef-B165

FIGURE 1
SITE LOCATION MAP
GALLUP REFINERY



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




SCALE IN FEET
0 50

LEGEND

-  PERIMETER SOIL BORING LOCATION
-  HAND AUGER SAMPLE LOCATION
-  GWM-1 GROUNDWATER WELL LOCATION
-  KA-1 PLUGGED & ABANDONED MONITOR WELL LOCATION
-  PIPELINE

**Western Refining**
GALLUP REFINERY

PROJ. NO.:Western Refining|DATE:08/16/15|FILE:WestRef-dB54

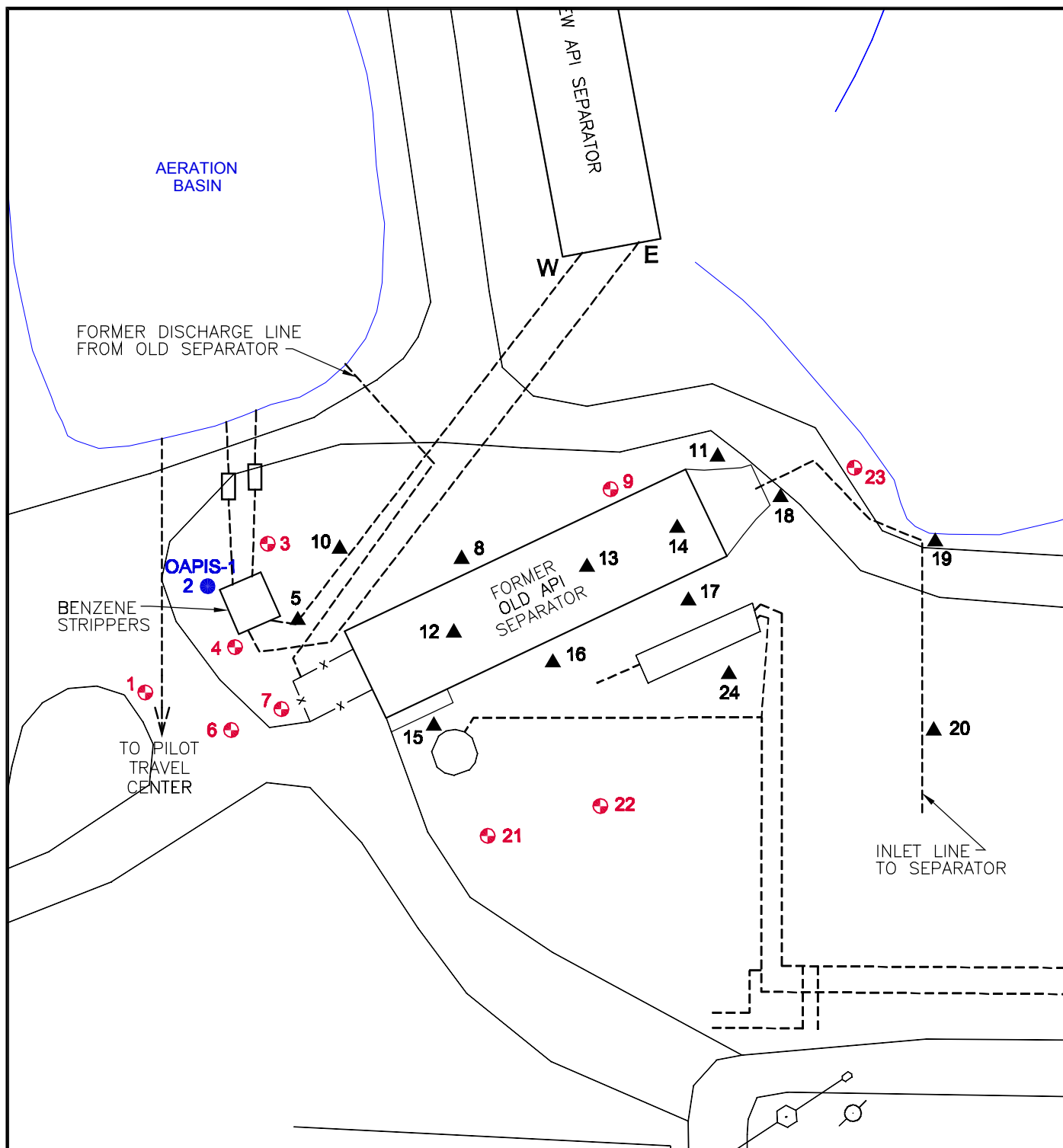
FIGURE 2

SWMU No. 1 SAMPLE LOCATIONS

GALLUP REFINERY

**DiSorbo**
Environmental Consulting Firm

8501 N. MoPac Expy.
Suite 300
Austin, Texas 78759



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

LEGEND

- MONITORING WELL LOCATION
- ⊕ SOIL BORING LOCATION
- ▲ HAND AUGER LOCATION
- PIPELINE



0 40
SCALE IN FEET



QUADRANGLE LOCATION

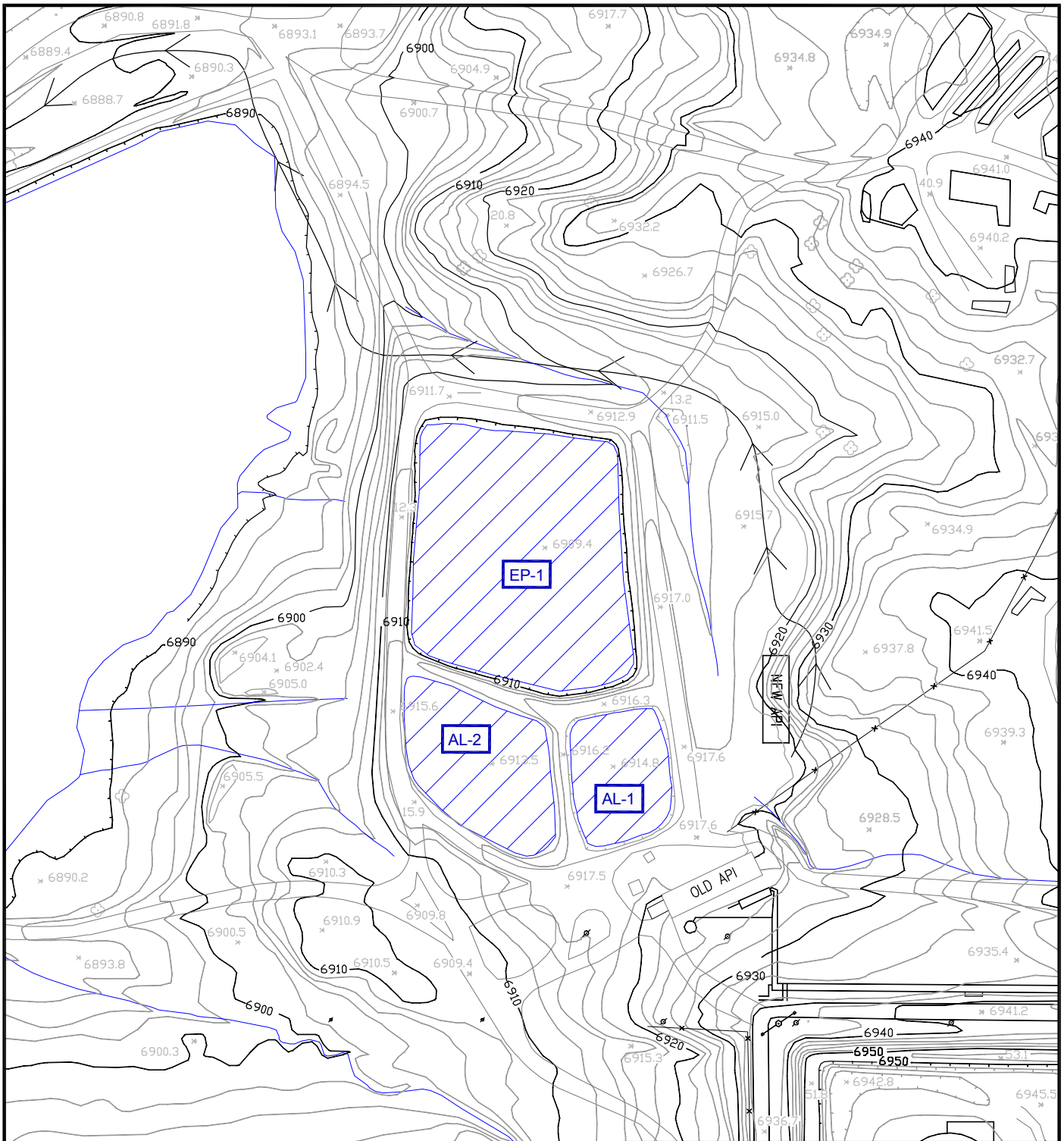


PROJ. NO.: Western Refining | DATE: 08/16/15 | FILE: WestRef-dA32

FIGURE 3 SWMU No. 14 SAMPLE LOCATIONS GALLUP REFINERY

DiSorbo
Environmental Consulting Firm

8501 N. MoPac Expy.
Suite 300
Austin, Texas 78759

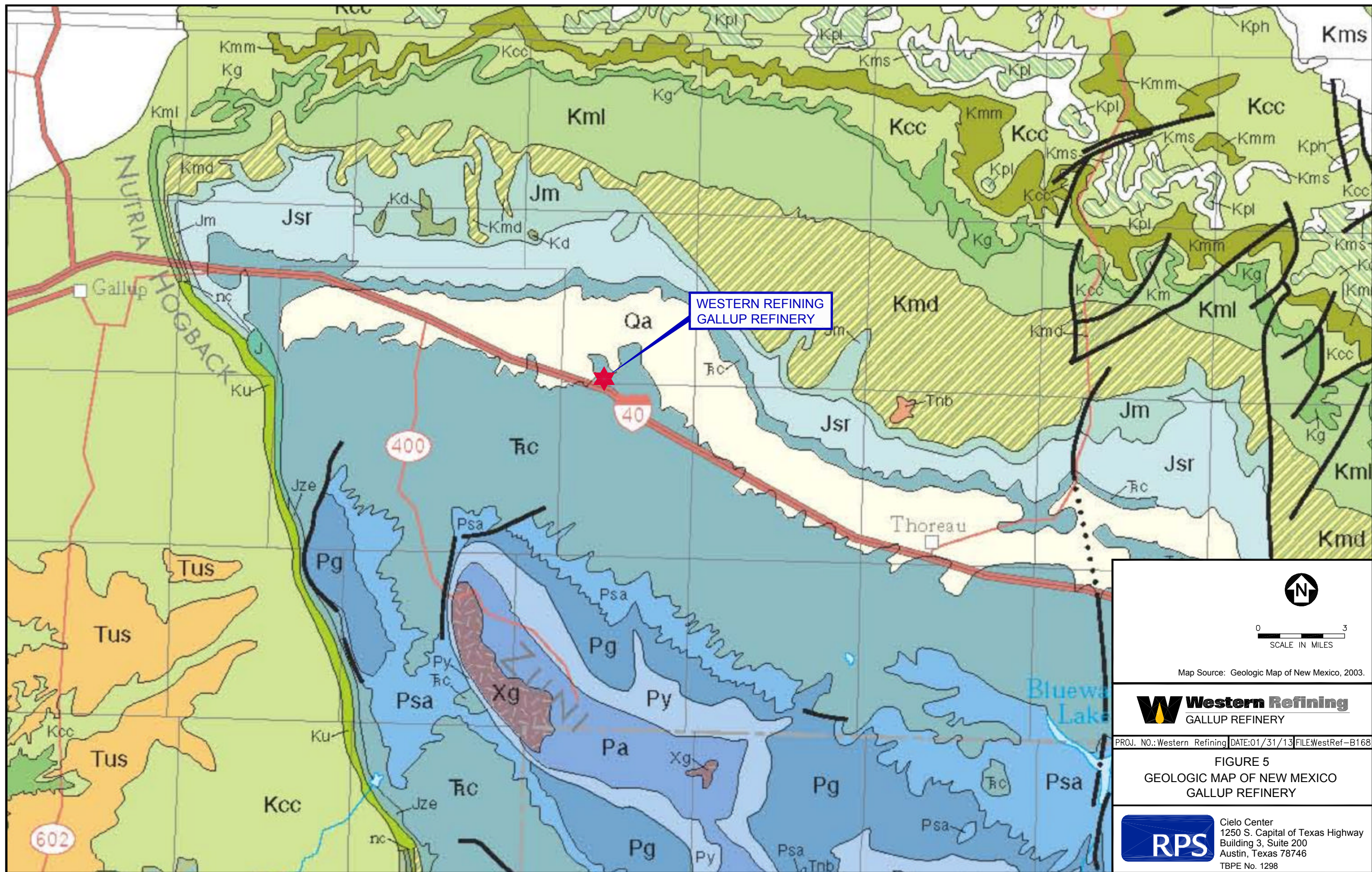


PROJ. NO.: Western Refining | DATE: 01/31/13 | FILE: WestRef-A168

FIGURE 4 TOPOGRAPHIC MAP GALLUP REFINERY



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WESTERN REFINING
GALLUP REFINERY



0 3
SCALE IN MILES

Map Source: Geologic Map of New Mexico, 2003.

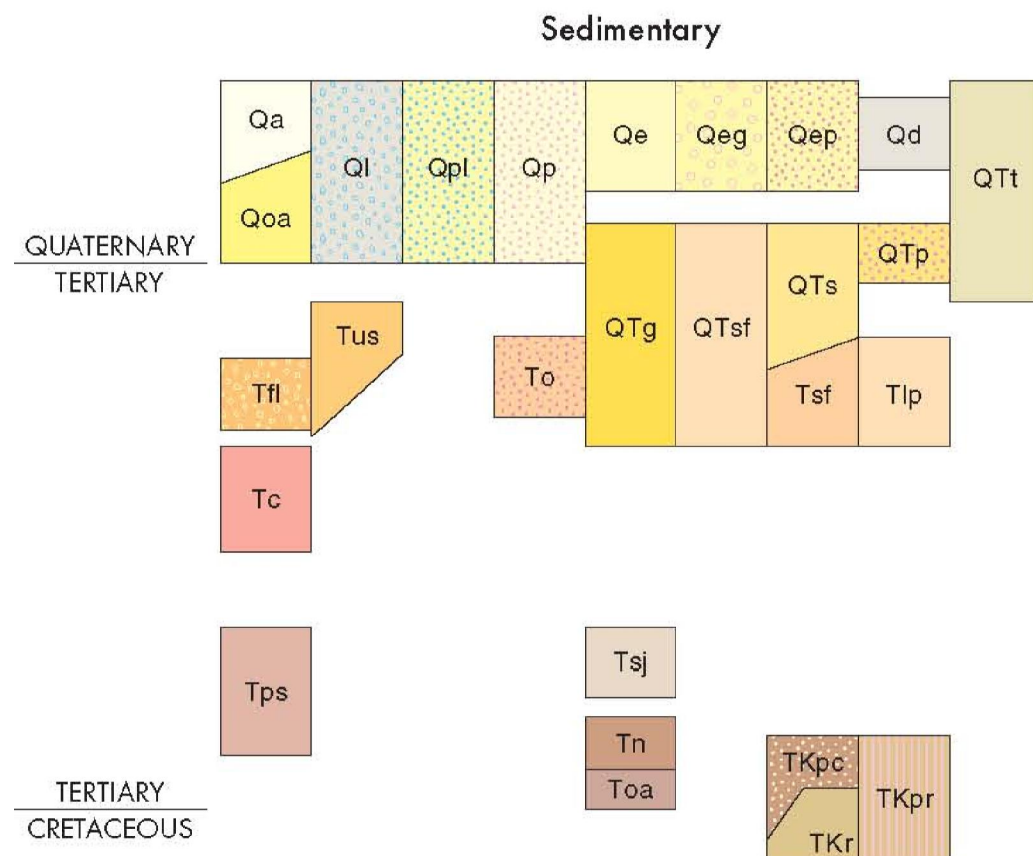
Western Refining
GALLUP REFINERY

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

FIGURE 5
GEOLOGIC MAP OF NEW MEXICO
GALLUP REFINERY



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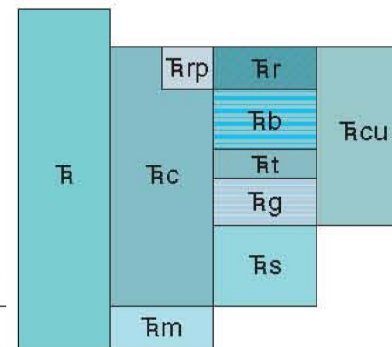


DESCRIPTION OF MAP UNITS

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

UPPER TRIASSIC MIDDLE TRIASSIC

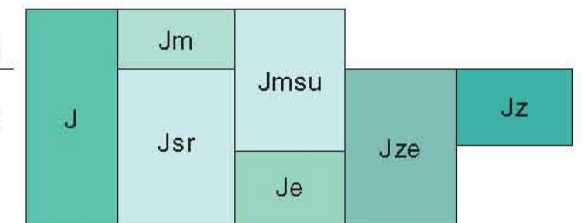


TRIASSIC

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

- Tr** Triassic rocks, undivided—Continental red beds
- Trp** Rock Point Formation of Chinle Group (Upper Triassic)—May locally include Wingate Sandstone (Triassic)
- Trc** 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:
- Tr** Redonda Formation (Upper Triassic)
- Trb** Bull Canyon Formation (Norian)
- Trt** Trujillo Formation (Norian)
- Trg** Garita Creek Formation (Carnian)
- Trs** Santa Rosa Formation (Carnian)—Includes Moenkopi Formation (Middle Triassic) at base in most areas
- Trcu** Upper Chinle Group, Garita Creek through Redonda Formations, undivided
- Trm** Moenkopi Formation (Middle Triassic)

UPPER JURASSIC MIDDLE JURASSIC



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 (Callowian)—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.

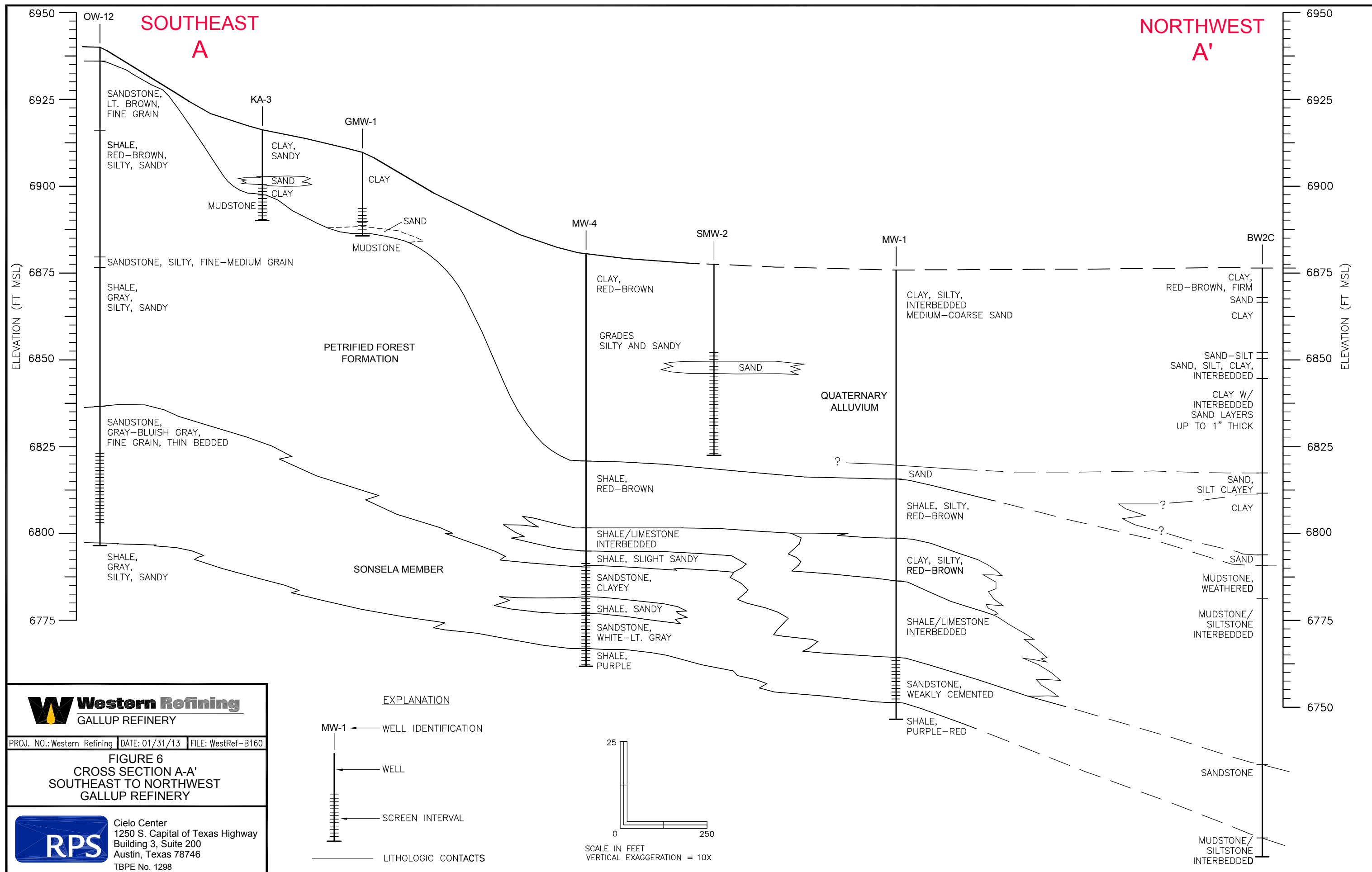


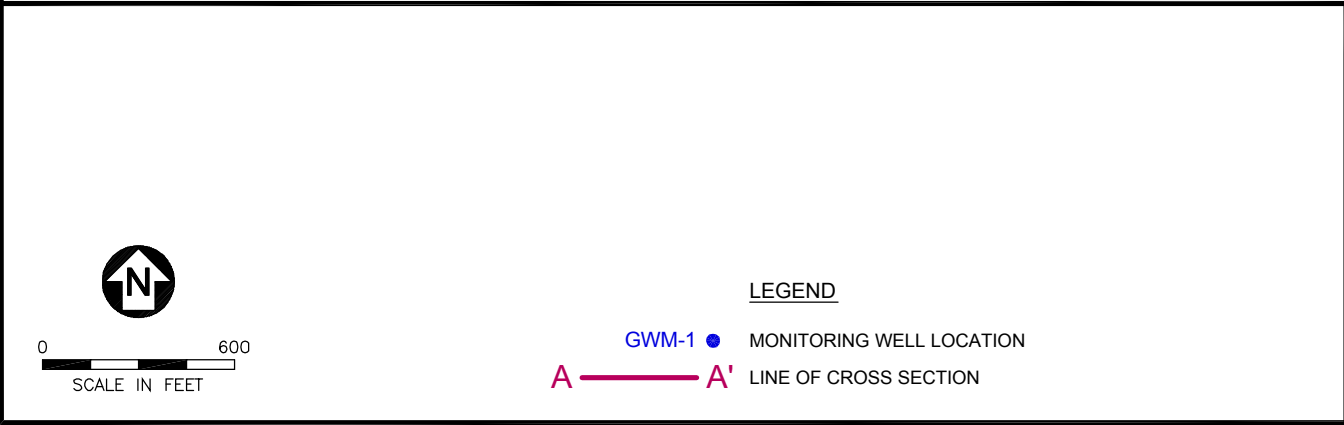
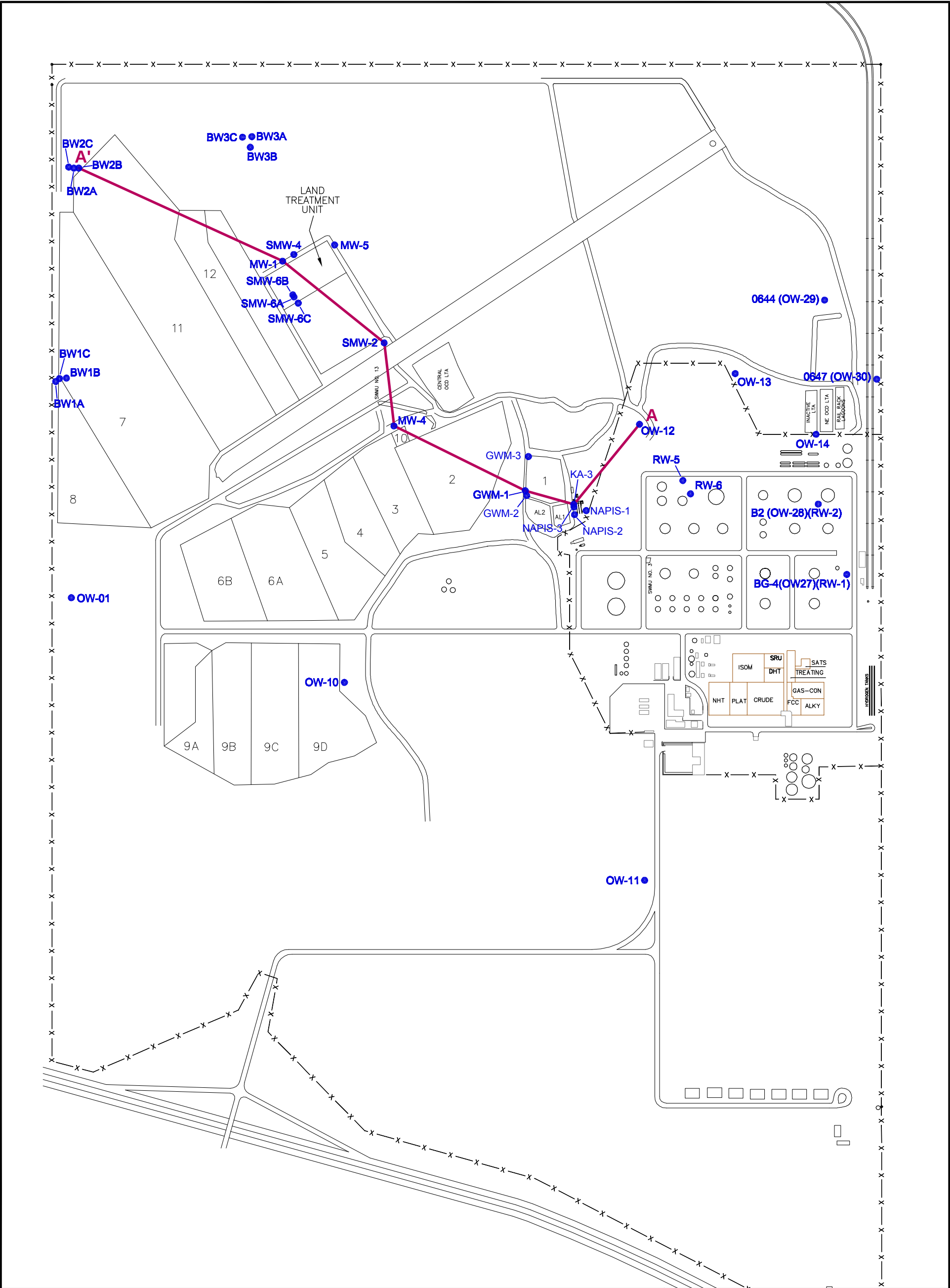
PROJ. NO.: Western Refining DATE: 01/31/13 FILE: WestRef-B168

FIGURE 5
GEOLOGIC MAP OF NEW MEXICO
GALLUP REFINERY



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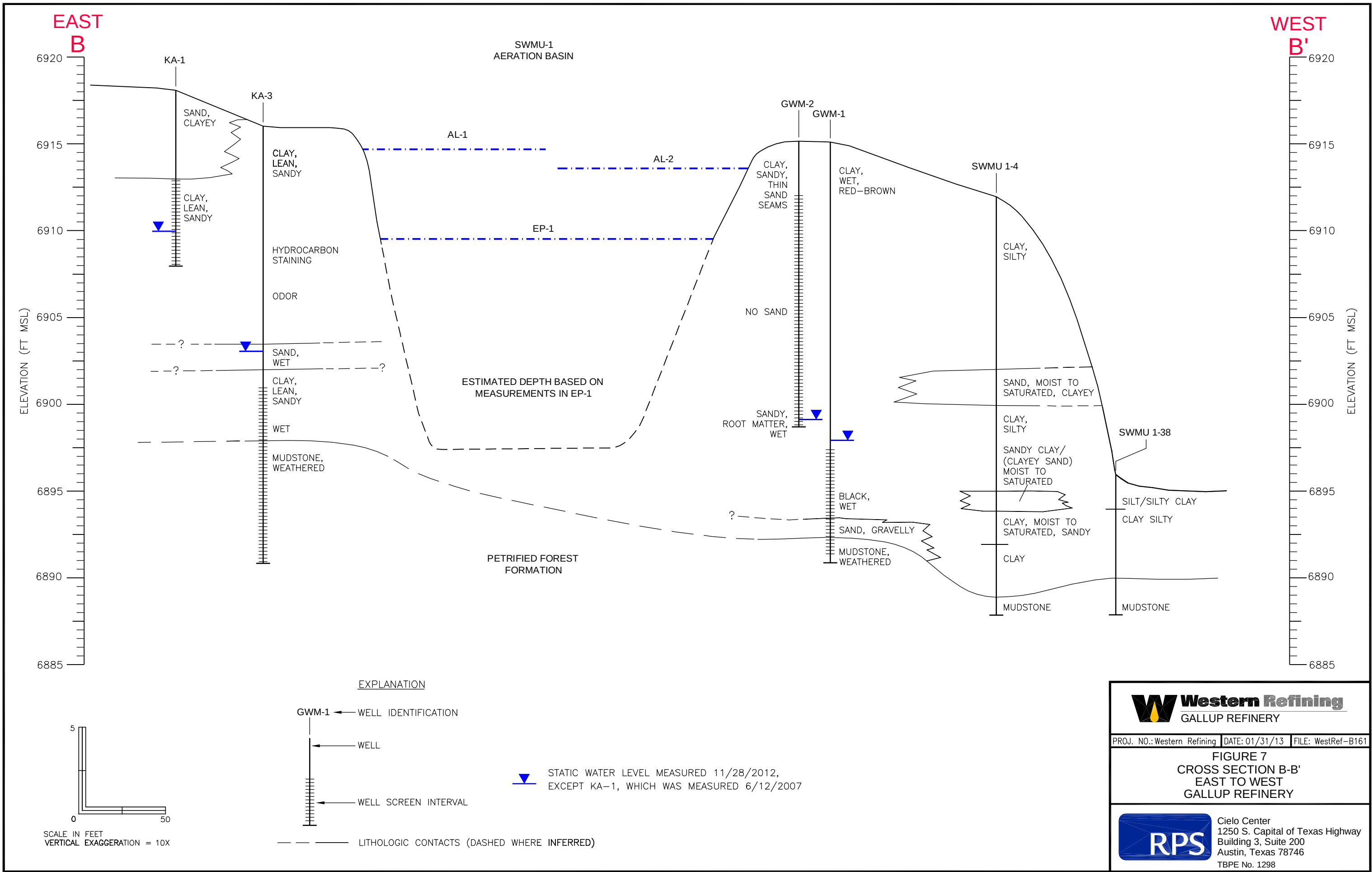
**Western Refining**
GALLUP REFINERY

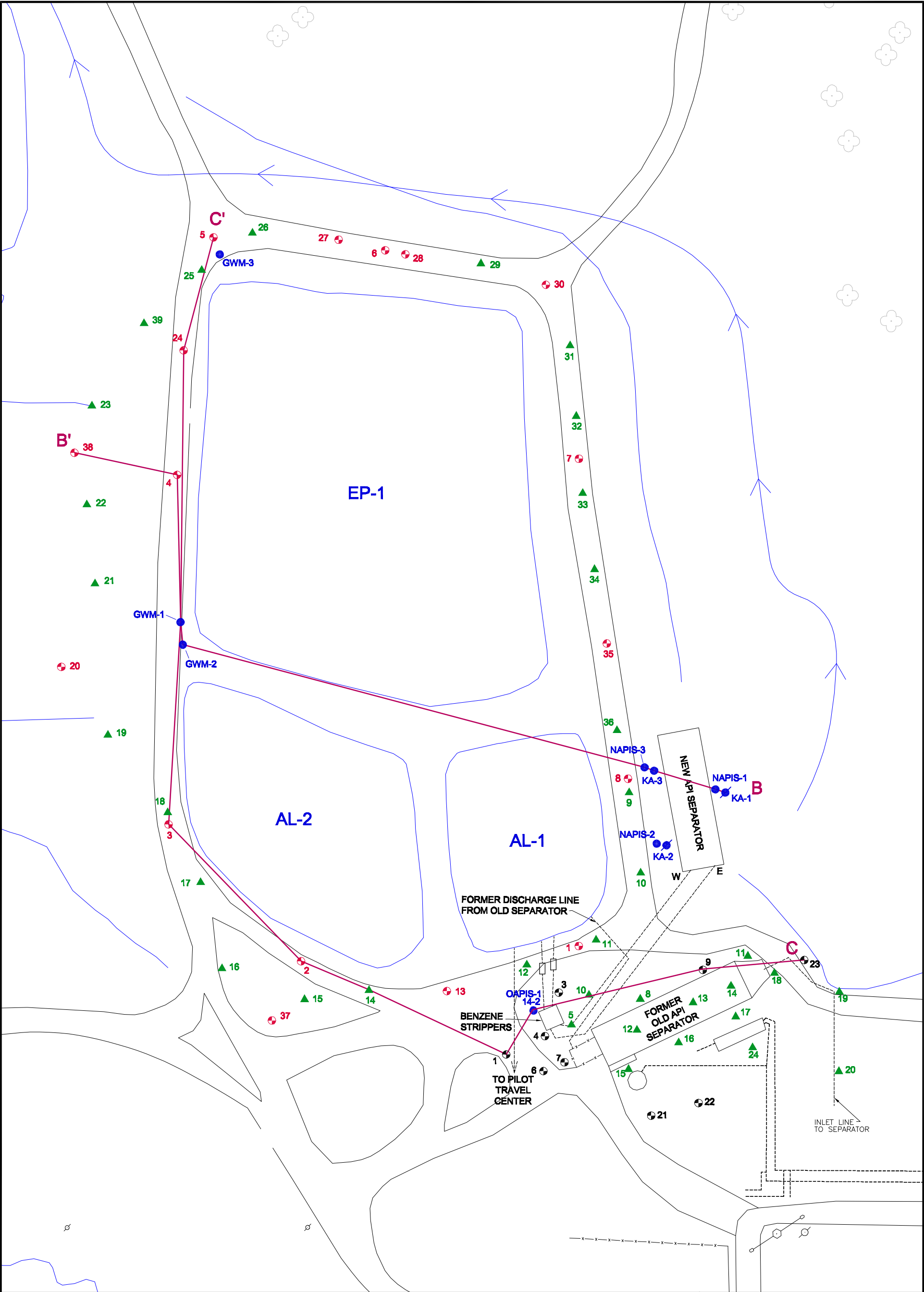
PROJ. NO.:Western Refining|DATE:01/31/13|FILE:WestRef-B166

FIGURE 6A
CROSS SECTION LOCATION MAP
GALLUP REFINERY



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

LEGEND

- SOIL BORING LOCATION
- PERIMETER SOIL BORING LOCATION
- HAND AUGER SAMPLE LOCATION
- GWM-1 GROUNDWATER WELL LOCATION
- KA-1 PLUGGED & ABANDONED MONITOR WELL LOCATION
- PIPELINE
- B — B' LINE OF CROSS SECTION

0 30 60

SCALE IN FEET

NEW MEXICO

QUADRANGLE LOCATION

Western Refining

GALLUP REFINERY

PROJ. NO.: Western Refining | DATE: 08/16/15 | FILE: WestRef-dD01

FIGURE 7A

CROSS SECTION LOCATION MAP

GALLUP REFINERY

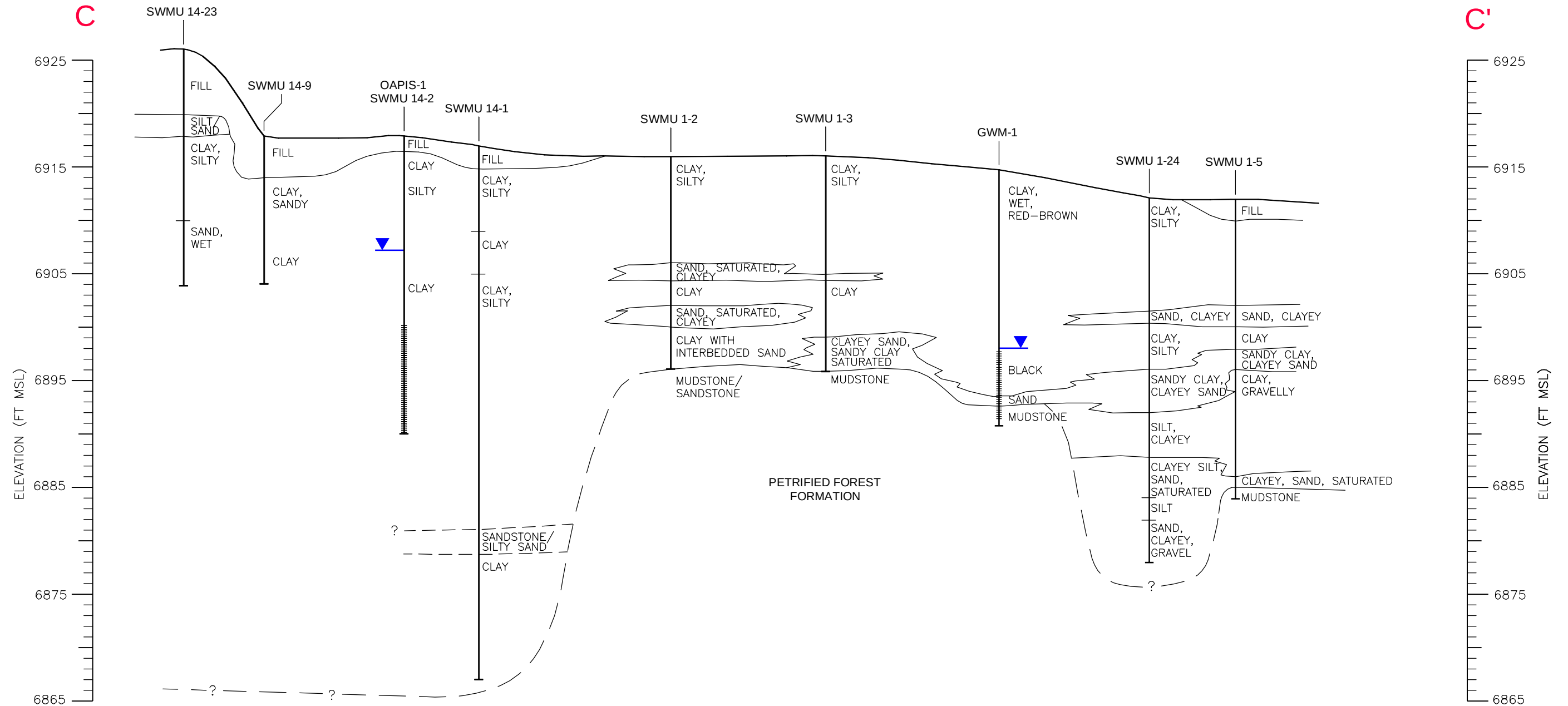
DiSorbo

Environmental Consulting Firm

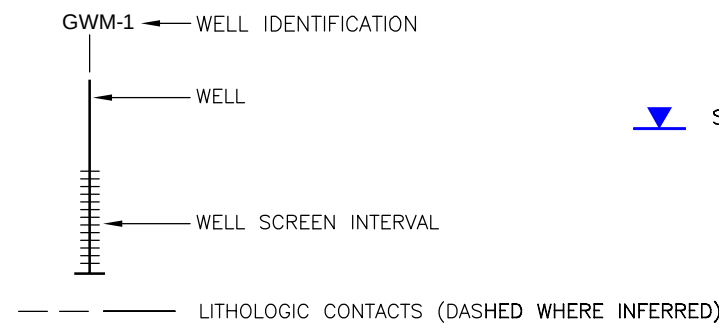
8501 N. MoPac Expy.
Suite 300
Austin, Texas 78759

SOUTH
C

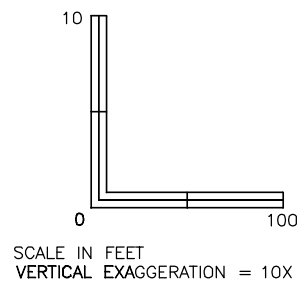
NORTH
C'



EXPLANATION



▲ STATIC WATER LEVEL MEASURED FALL 2012

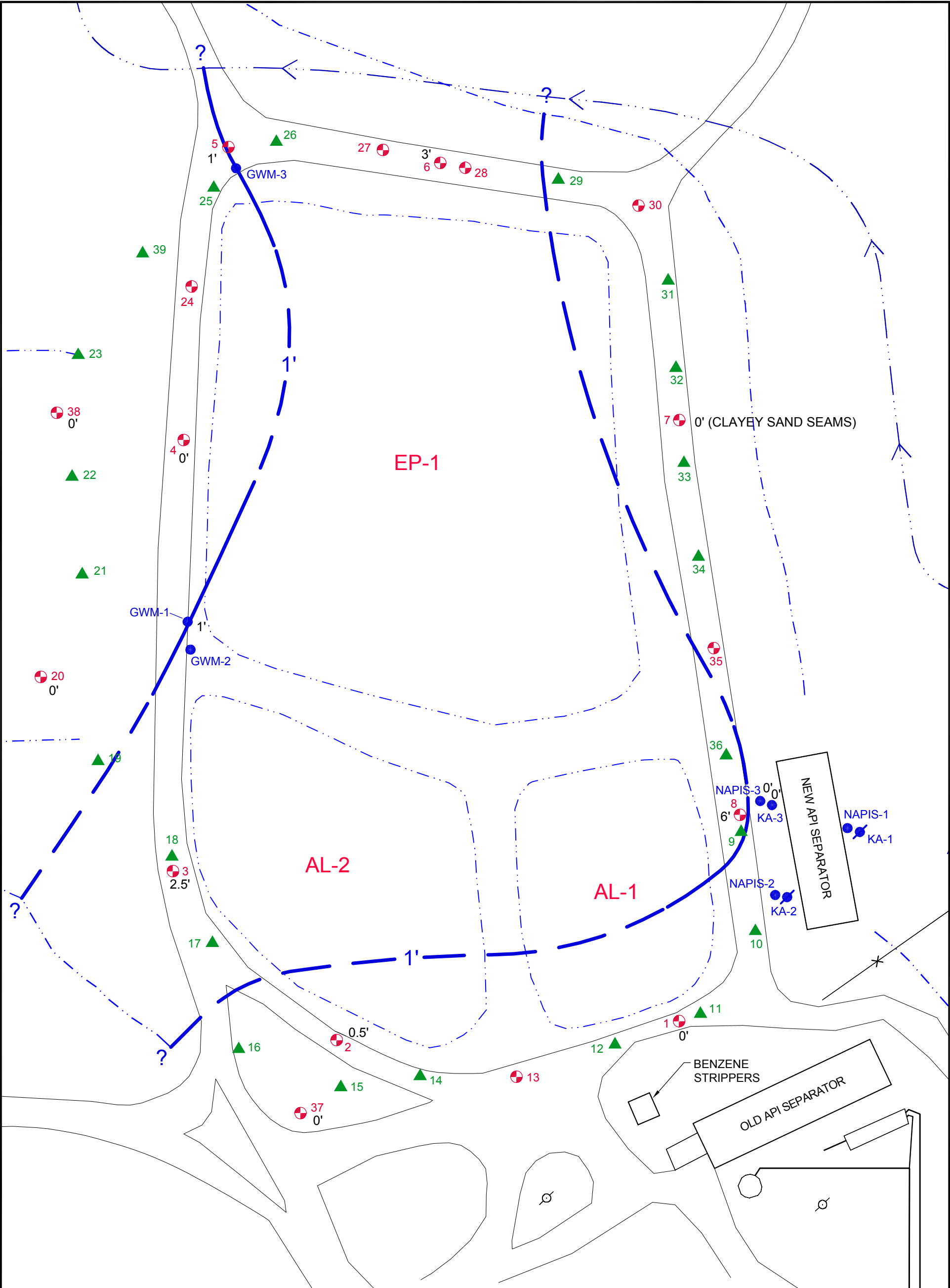


PROJ. NO.: Western Refining | DATE: 01/31/13 | FILE: WestRef-B162

FIGURE 8
CROSS SECTION C-C'
SOUTH TO NORTH
GALLUP REFINERY



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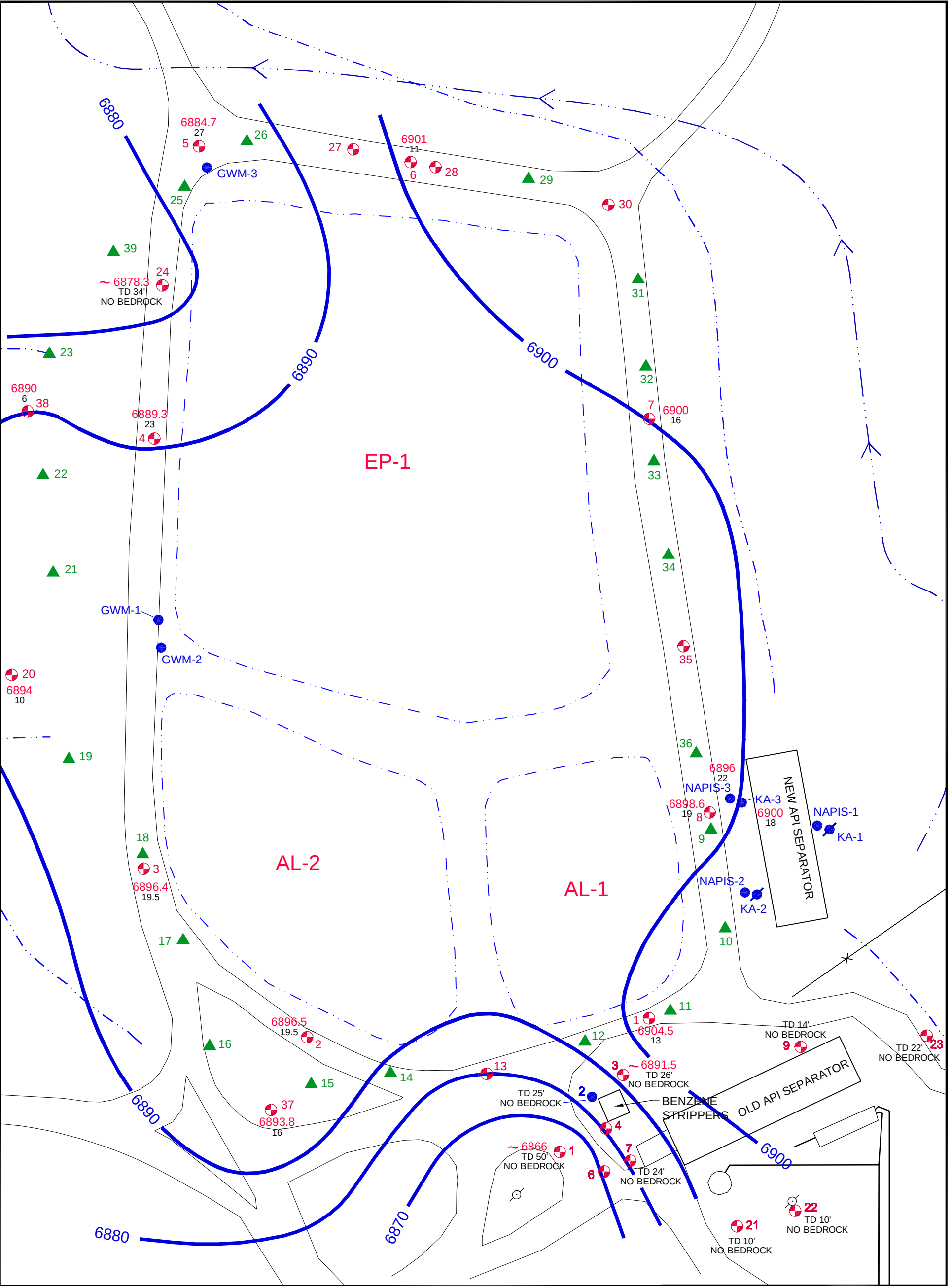


PROJ. NO.:Western Refining|DATE:01/31/13|FILE:WestRef-B163

FIGURE 9
SAND ISOPACH MAP
SWMU No. 1
GALLUP REFINERY



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LEGEND

- 6896.4 ELEVATION ON TOP OF PETRIFIED FOREST FORMATION (MSL)
19.5 DEPTH TO TOP OF PETRIFIED FOREST FORMATION
~ ELEVATION ESTIMATED AS PETRIFIED FOREST FORMATION NOT REACHED IN BORING
TD TOTAL DEPTH OF BORING
PERIMETER SOIL BORING LOCATION
HAND AUGER SAMPLE LOCATION
GWM-1 GROUNDWATER WELL LOCATION
KA-1 PLUGGED & ABANDONED MONITOR WELL LOCATION

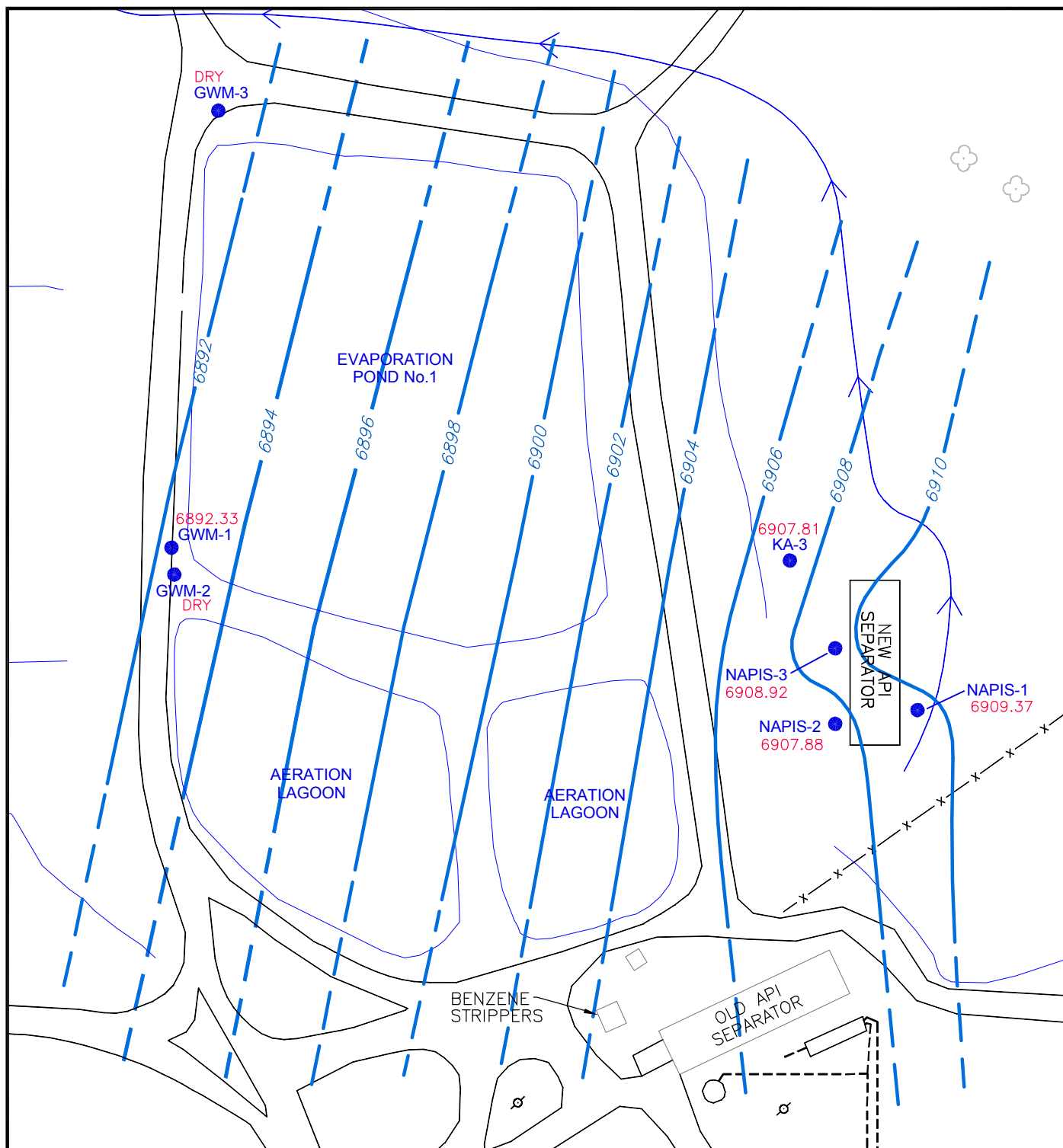


PROJ. NO.:Western Refining|DATE:01/31/13|FILE:WestRef-B164

FIGURE 10
PALEOTOPOGRAPHIC MAP
GALLUP REFINERY



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

LEGEND

- GWM-1 MONITORING WELL LOCATION
- 6894 POTENTIOMETRIC SURFACE CONTOUR (ABOVE MSL)
- 6907.81 POTENTIOMETRIC SURFACE (MEASURED AUGUST 2009, ABOVE MSL)
- PIPELINE



0 80
SCALE IN FEET

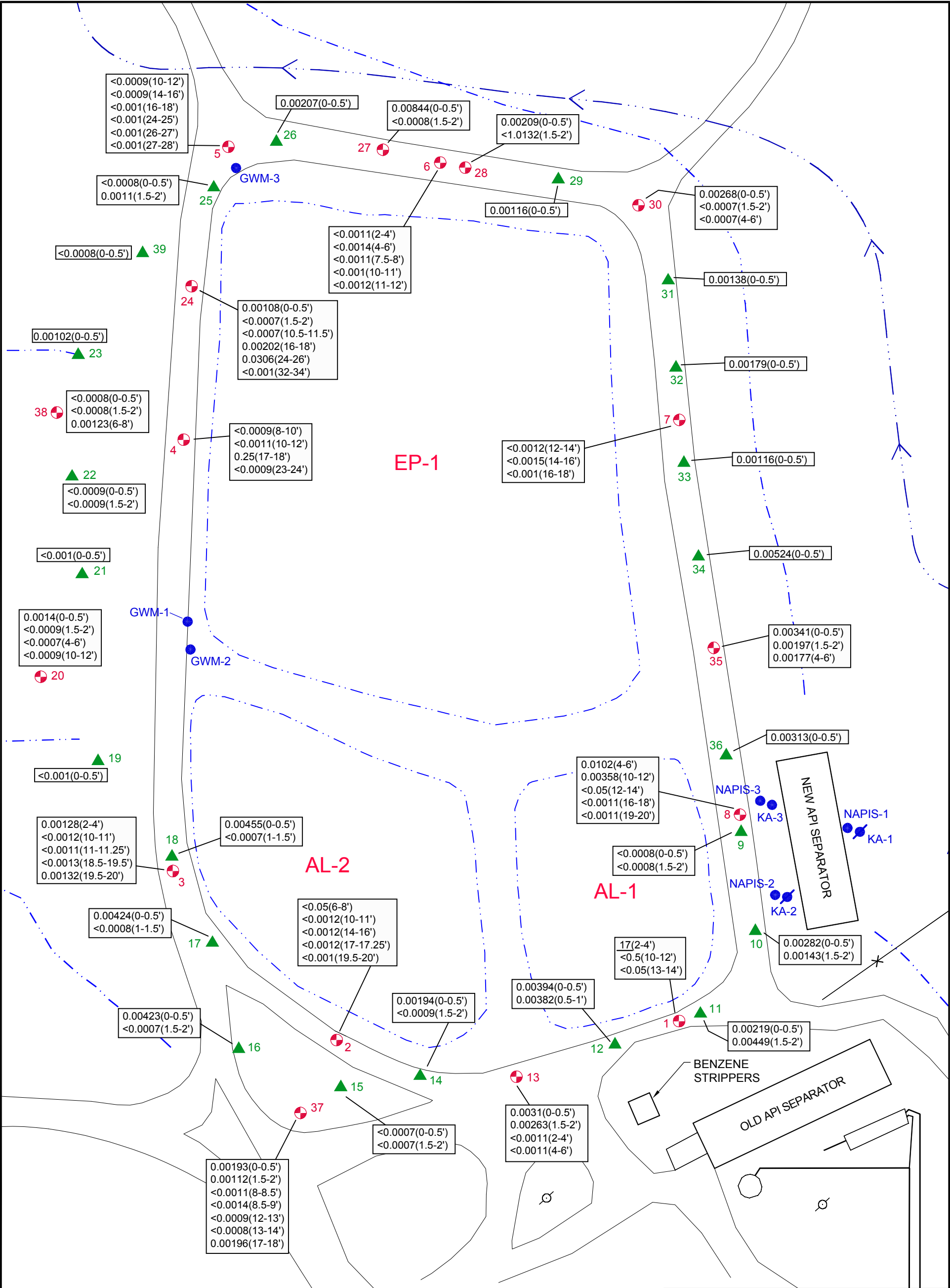


PROJ. NO.: Western Refining | DATE: 09/23/10 | FILE: WestRef-A40

FIGURE 11
POTENTIOMETRIC SURFACE MAP
GALLUP REFINERY

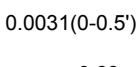


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Austin, Texas 78746




0 50
SCALE IN FEET

LEGEND

-  PERIMETER SOIL BORING LOCATION
-  HAND AUGER SAMPLE LOCATION
-  GWM-1 GROUNDWATER WELL LOCATION
-  KA-1 PLUGGED & ABANDONED MONITOR WELL LOCATION
-  1,2,4- TRIMETHYLBENZENE CONCENTRATION, mg/kg (SAMPLE DEPTH-FT)
9.68 UNDERLINED CONCENTRATION VALUE EXCEEDS SCREENING LEVEL



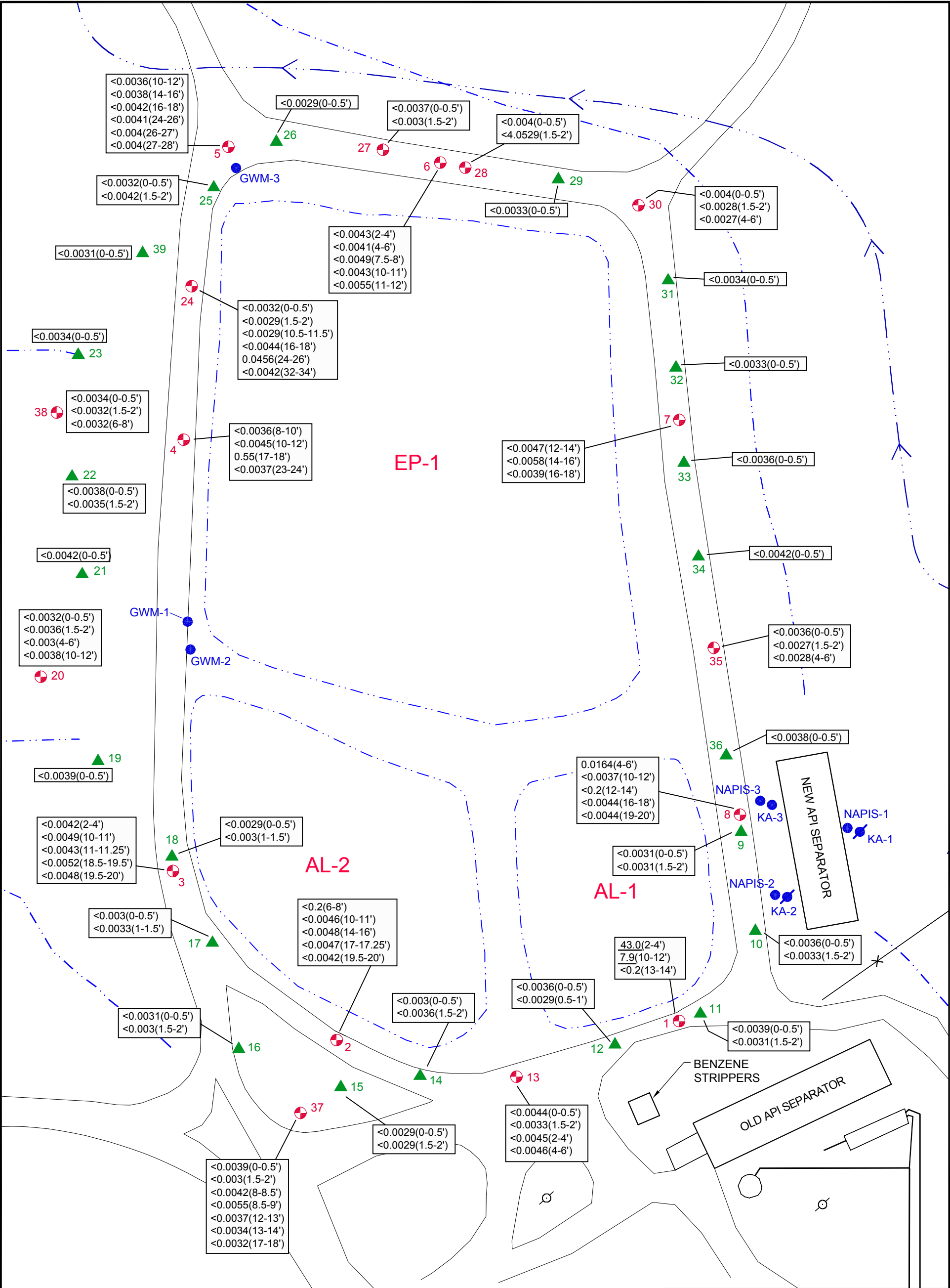
GALLUP REFINERY

PROJ. NO.:Western Refining|DATE:01/24/13|FILE:WestRef-B155

FIGURE 12
1,2,4- TRIMETHYLBENZENE
SOIL CONCENTRATIONS - SWMU No. 1
GALLUP REFINERY



Cielo Center
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Building 3, Suite 200
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0 50
SCALE IN FEET

LEGEND

- PERIMETER SOIL BORING LOCATION
- HAND AUGER SAMPLE LOCATION
- GROUNDWATER WELL LOCATION
- PLUGGED & ABANDONED MONITOR WELL LOCATION
- 1-METHYLNAPHTHALENE CONCENTRATION, mg/kg (SAMPLE DEPTH-FT)
- UNDERLINED CONCENTRATION VALUE EXCEEDS SCREENING LEVEL

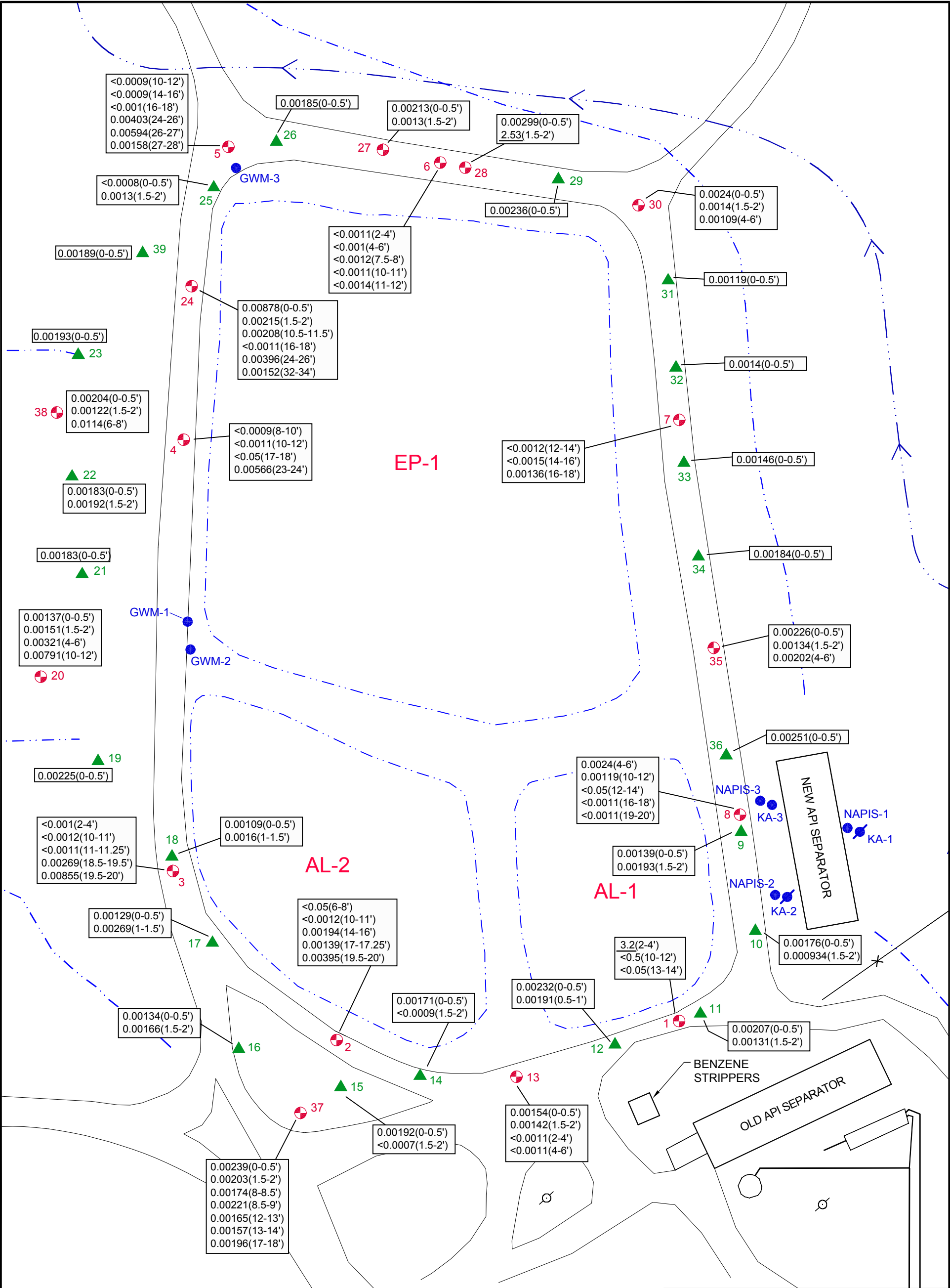
**Western Refining**
GALLUP REFINERY

PROJ. NO.:Western Refining|DATE:01/24/13|FILE:WestRef-B157

FIGURE 13
1-METHYLNAPHTHALENE
SOIL CONCENTRATIONS - SWMU No. 1
GALLUP REFINERY



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Building 3, Suite 200
Austin, Texas 78746
TBPE No. 1298




0 50
SCALE IN FEET

LEGEND

-  PERIMETER SOIL BORING LOCATION
-  HAND AUGER SAMPLE LOCATION
-  GWM-1 GROUNDWATER WELL LOCATION
-  KA-1 PLUGGED & ABANDONED MONITOR WELL LOCATION
- 0.00154(0-0.5')
- 0.796
- BENZENE CONCENTRATION, mg/kg (SAMPLE DEPTH-FT)
- UNDERLINED CONCENTRATION VALUE EXCEEDS SCREENING LEVEL

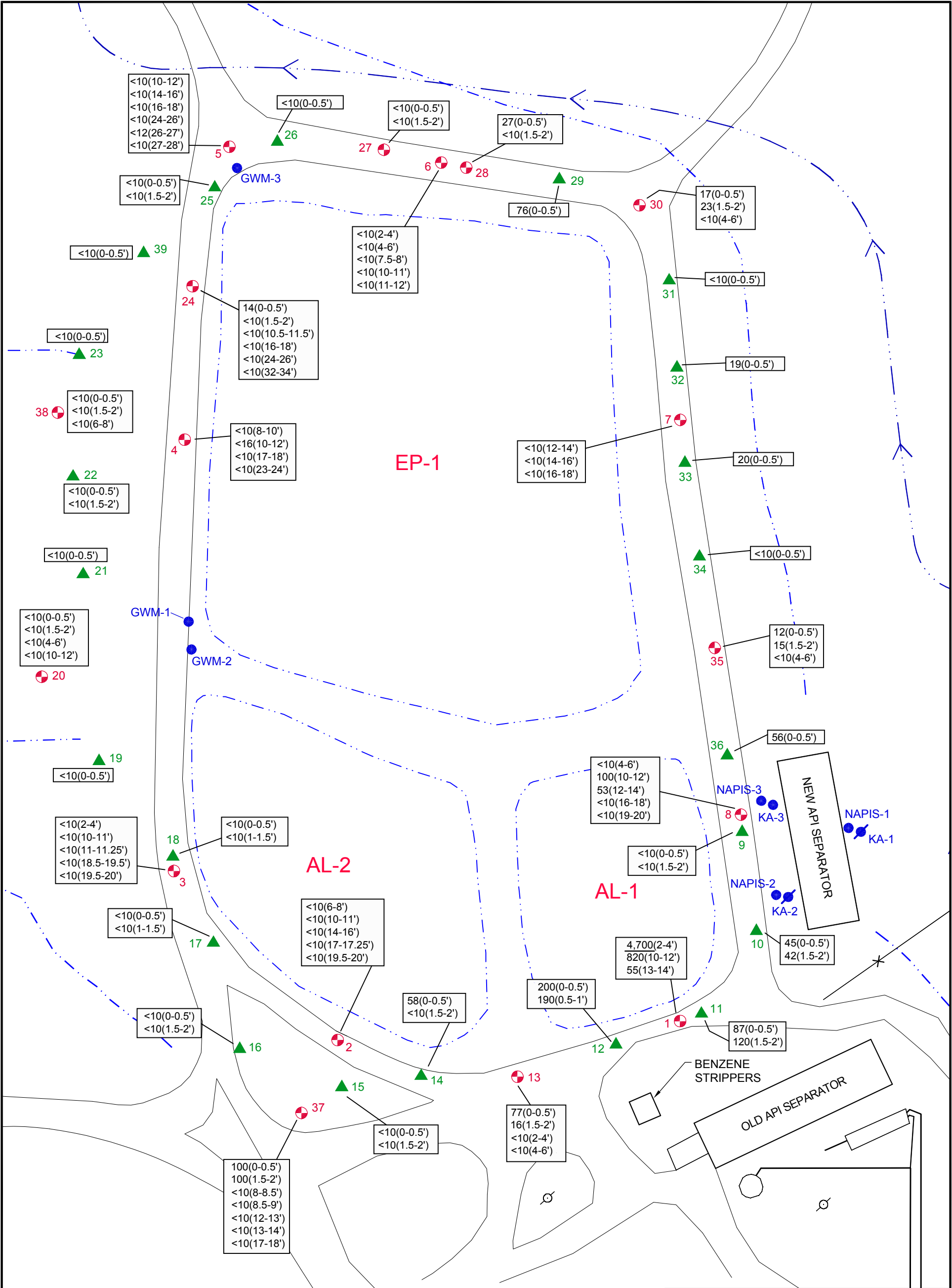
**Western Refining**
GALLUP REFINERY

PROJ. NO.:Western Refining|DATE:01/24/13|FILE:WestRef-B156

FIGURE 14
BENZENE
SOIL CONCENTRATIONS - SWMU No. 1
GALLUP REFINERY



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Building 3, Suite 200
Austin, Texas 78746
TBPE No. 1298




0 50
SCALE IN FEET

LEGEND

-  PERIMETER SOIL BORING LOCATION
-  HAND AUGER SAMPLE LOCATION
-  GWM-1 GROUNDWATER WELL LOCATION
-  KA-1 PLUGGED & ABANDONED MONITOR WELL LOCATION
- DIESEL RANGE ORGANICS CONCENTRATION, mg/kg (SAMPLE DEPTH-FT)
- UNDERLINED CONCENTRATION VALUE EXCEEDS SCREENING LEVEL

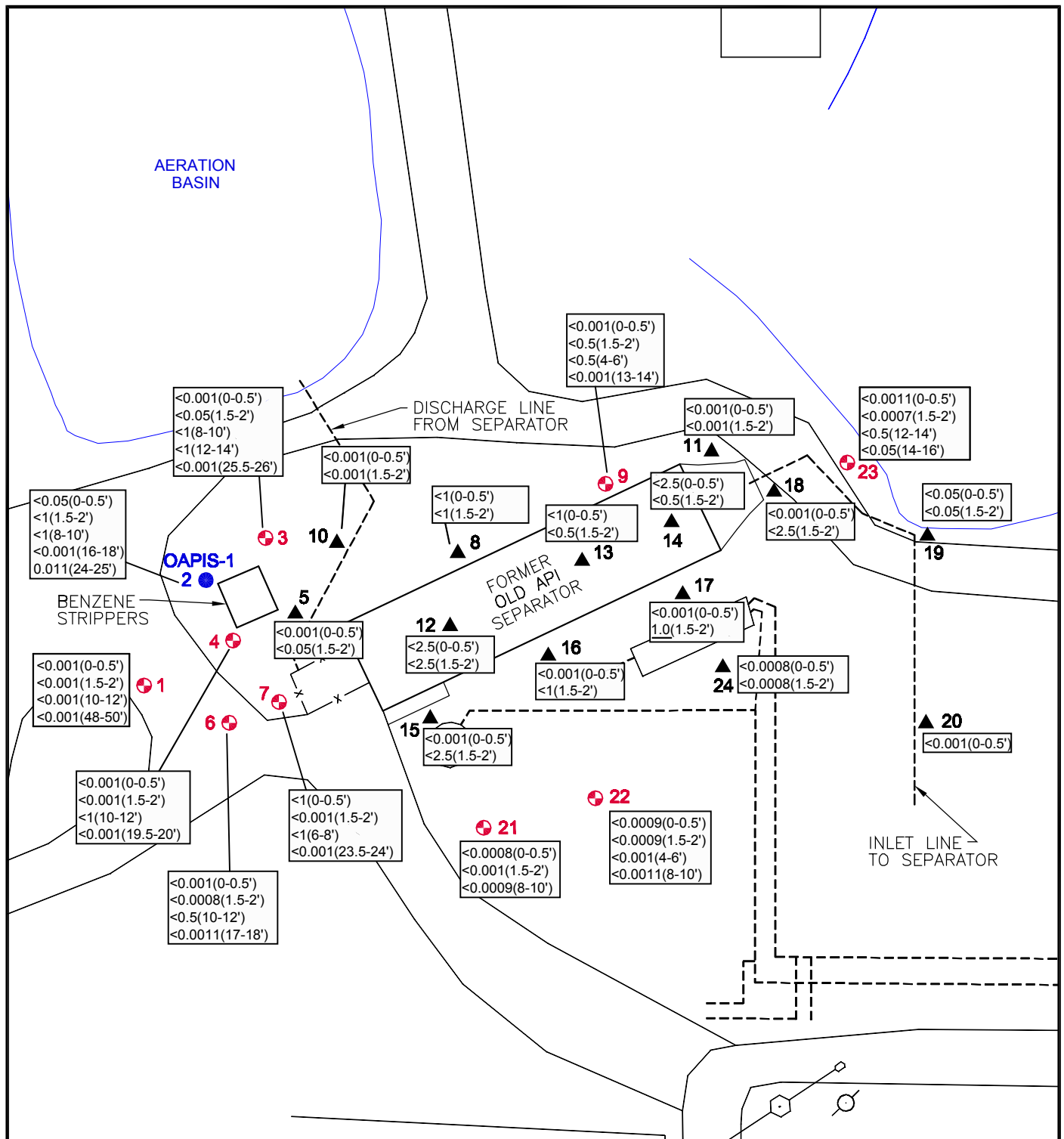
**Western Refining**
GALLUP REFINERY

PROJ. NO.:Western Refining|DATE:01/24/13|FILE:WestRef-B159

FIGURE 16
DIESEL RANGE ORGANICS
SOIL CONCENTRATIONS - SWMU No. 1
GALLUP REFINERY



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TBPE No. 1298



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

LEGEND

- MONITORING WELL LOCATION
- ⊕ SOIL BORING LOCATION
- ▲ HAND AUGER LOCATION
- PIPELINE
- <0.001(0-0.5')
1,1,2-TRICHLOROETHANE CONCENTRATION, mg/kg
(SAMPLE DEPTH-FT)
- 0.0514 UNDERLINED CONCENTRATION VALUE
EXCEEDS SCREENING LEVEL



0 40
SCALE IN FEET

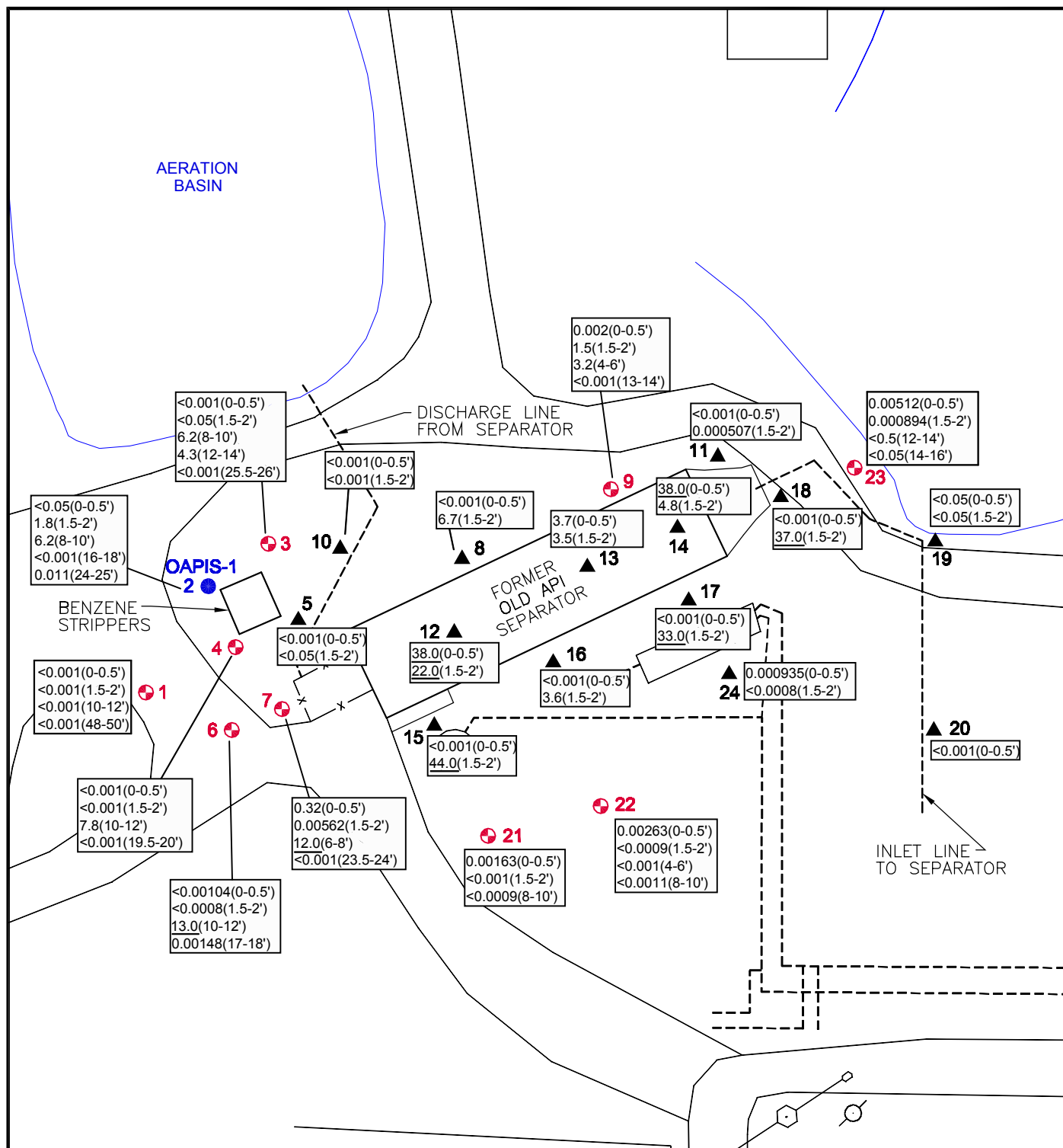


PROJ. NO.: Western Refining | DATE: 01/31/13 | FILE: WestRef-A164

FIGURE 17 1,1,2-TRICHLOROETHANE SOIL CONCENTRATIONS - SWMU No. 14 GALLUP REFINERY



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

LEGEND

- MONITORING WELL LOCATION
- ⊕ SOIL BORING LOCATION
- ▲ HAND AUGER LOCATION

----- PIPELINE

0.00163(0-0.5')
1,2,4-TRIMETHYLBENZENE CONCENTRATION, mg/kg
(SAMPLE DEPTH-FT)

9.68 UNDERLINED CONCENTRATION VALUE
EXCEEDS SCREENING LEVEL



0 40
SCALE IN FEET



PROJ. NO.: Western Refining | DATE: 01/29/13 | FILE: WestRef-A154

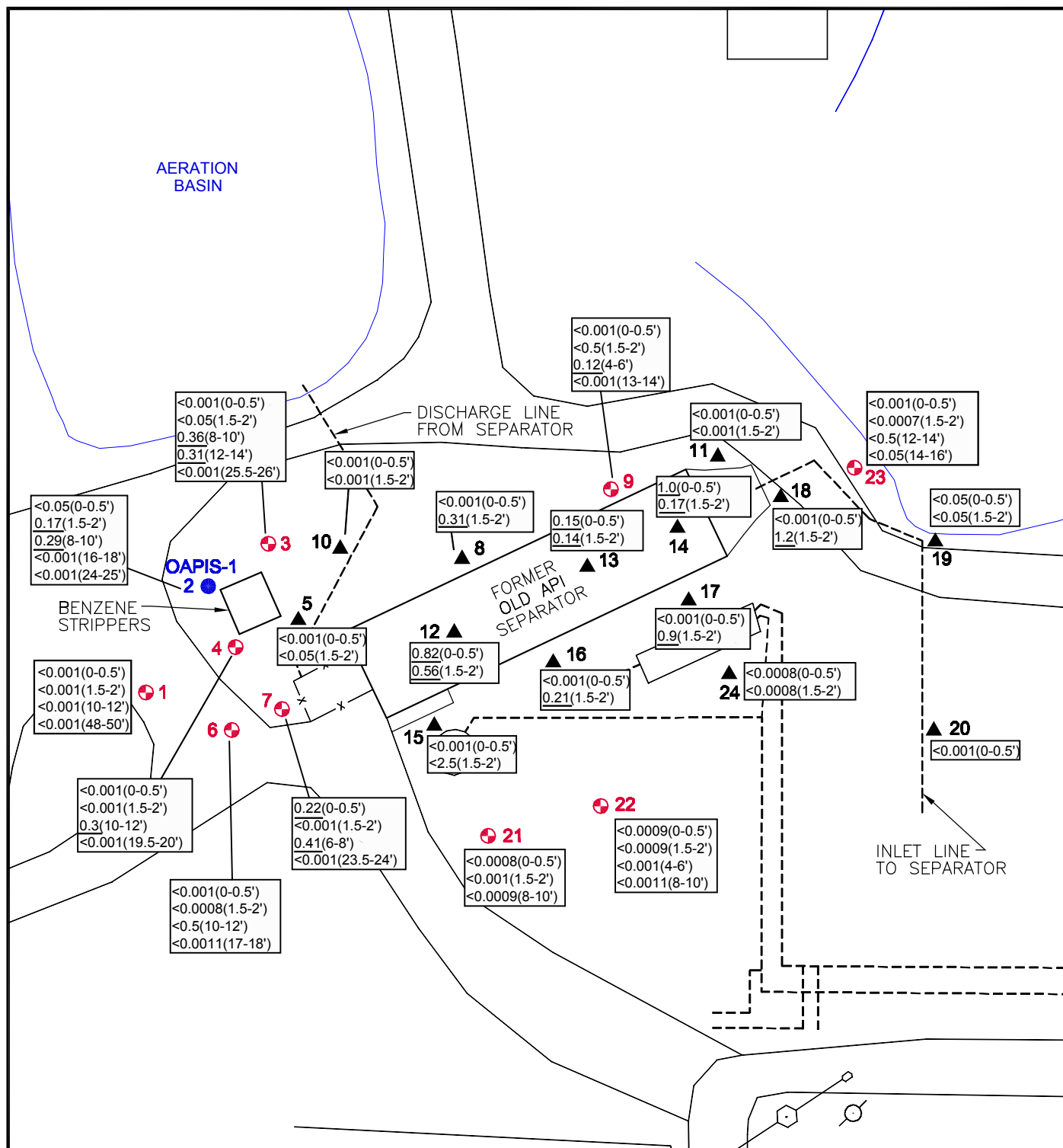
FIGURE 18 1,2,4-TRIMETHYLBENZENE SOIL CONCENTRATIONS - SWMU No. 14 GALLUP REFINERY



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

LEGEND

- MONITORING WELL LOCATION
- ⊕ SOIL BORING LOCATION
- ▲ HAND AUGER LOCATION

----- PIPELINE

<0.0008(0-0.5')
1,2-DIBROMOETHANE CONCENTRATION, mg/kg
(SAMPLE DEPTH-FT)

0.0071 UNDERLINED CONCENTRATION VALUE
EXCEEDS SCREENING LEVEL



0 40
SCALE IN FEET



PROJ. NO.: Western Refining | DATE: 01/29/13 | FILE: WestRef-A155

FIGURE 20 1,2-DIBROMOETHANE SOIL CONCENTRATIONS - SWMU No. 14 GALLUP REFINERY



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



LEGEND

- MONITORING WELL LOCATION
- SOIL BORING LOCATION
- HAND AUGER LOCATION
- PIPELINE
- <0.0008(0-0.5') 1,2-DICHLOROPROPANE CONCENTRATION, mg/kg
(SAMPLE DEPTH-FT)
- 0.494 UNDERLINED CONCENTRATION VALUE
EXCEEDS SCREENING LEVEL

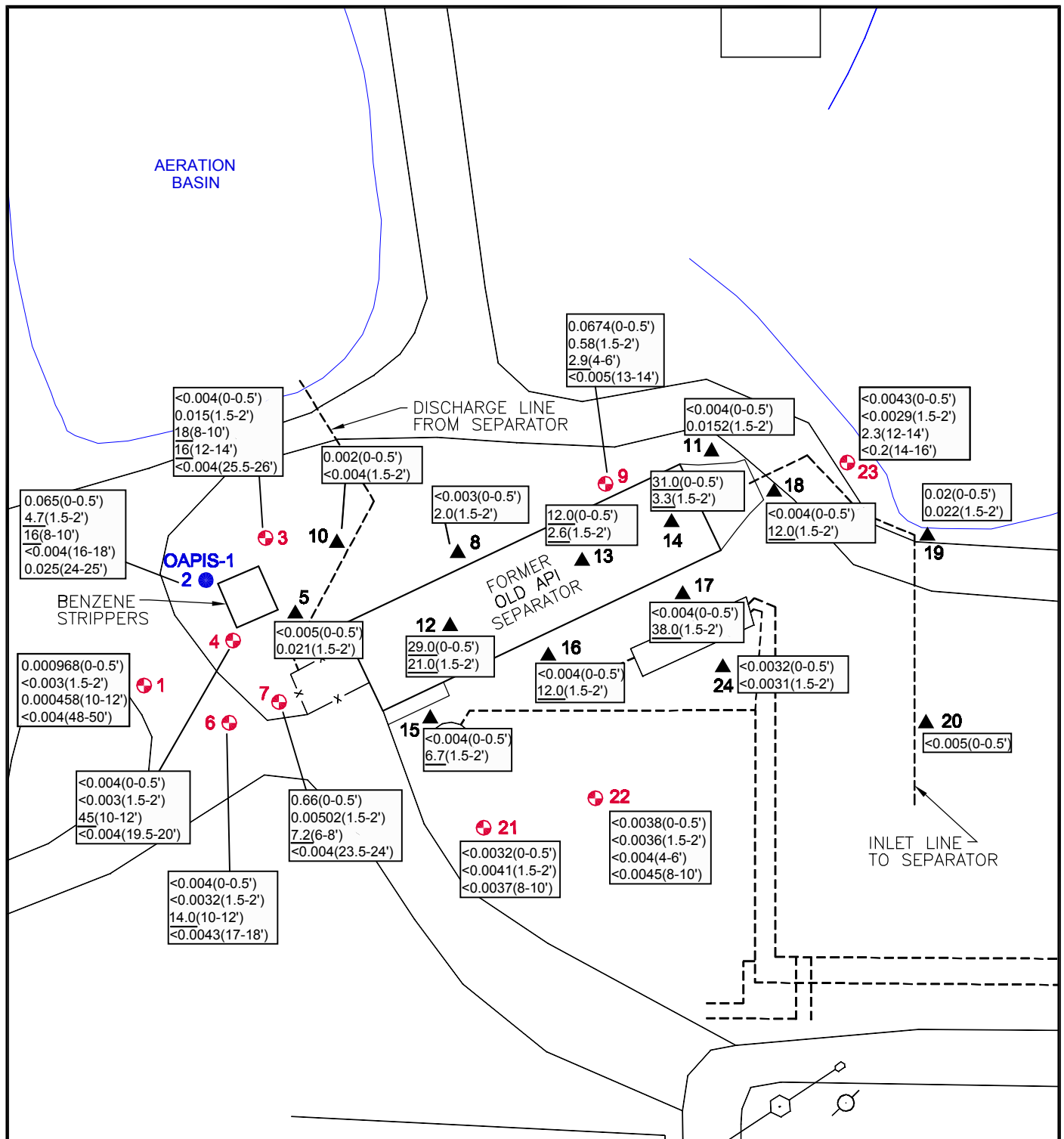


PROJ. NO.:Western Refining	DATE:01/29/13	FILE:WestRef-A156

FIGURE 21
1,2-DICHLOROPROPANE
SOIL CONCENTRATIONS - SWMU No. 14
GALLUP REFINERY



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

LEGEND

- MONITORING WELL LOCATION
- ⊕ SOIL BORING LOCATION
- ▲ HAND AUGER LOCATION

----- PIPELINE

<0.0038(0-0.5')
1-METHYLNAPHTHALENE CONCENTRATION, mg/kg
(SAMPLE DEPTH-FT)

2.35 UNDERLINED CONCENTRATION VALUE
EXCEEDS SCREENING LEVEL



PROJ. NO.: Western Refining | DATE: 01/29/13 | FILE: WestRef-A160

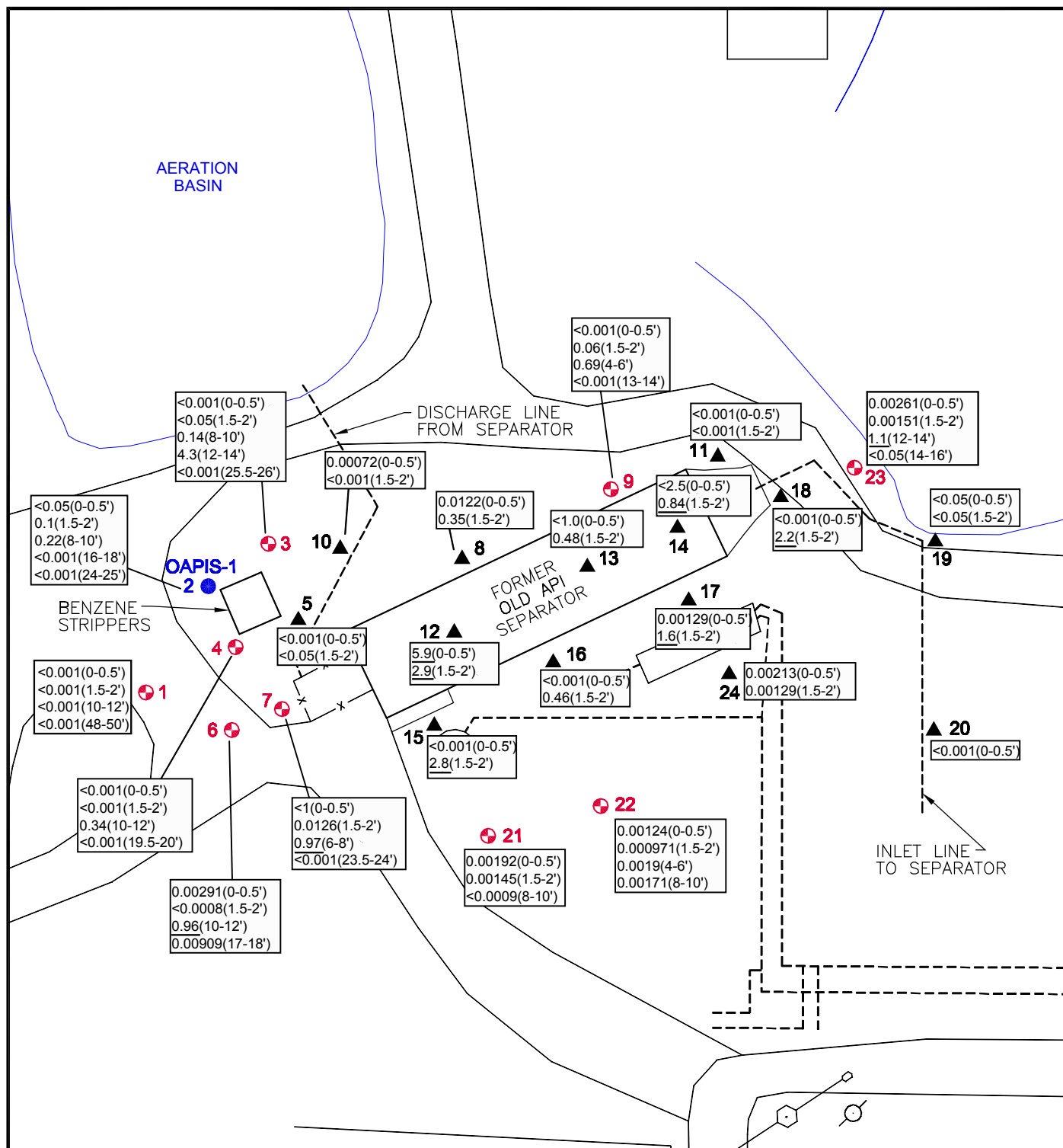
FIGURE 22 1-METHYLNAPHTHALENE SOIL CONCENTRATIONS - SWMU No. 14 GALLUP REFINERY



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

LEGEND

- MONITORING WELL LOCATION
- ⊕ SOIL BORING LOCATION
- ▲ HAND AUGER LOCATION
- PIPELINE
- 0.00124(0-0.5') BENZENE CONCENTRATION, mg/kg (SAMPLE DEPTH-FT)
- 0.796 UNDERLINED CONCENTRATION VALUE EXCEEDS SCREENING LEVEL

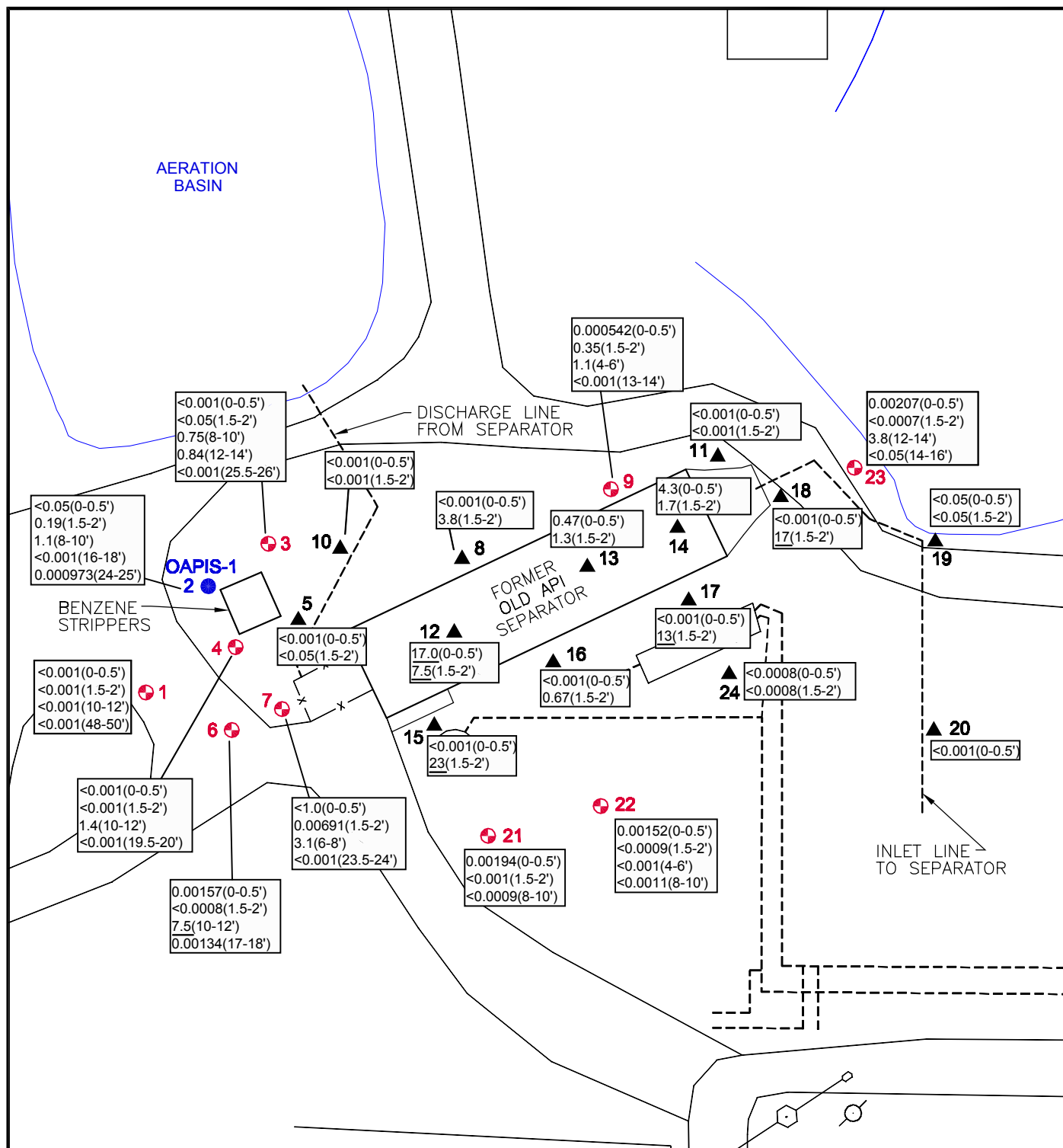


PROJ. NO.: Western Refining | DATE: 01/29/13 | FILE: WestRef-A157

FIGURE 24 BENZENE SOIL CONCENTRATIONS - SWMU No. 14 GALLUP REFINERY



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

LEGEND

- MONITORING WELL LOCATION
- ⊕ SOIL BORING LOCATION
- ▲ HAND AUGER LOCATION
- PIPELINE
- 0.00152(0-0.5') UNDERLINED CONCENTRATION VALUE EXCEEDS SCREENING LEVEL
- 5.98

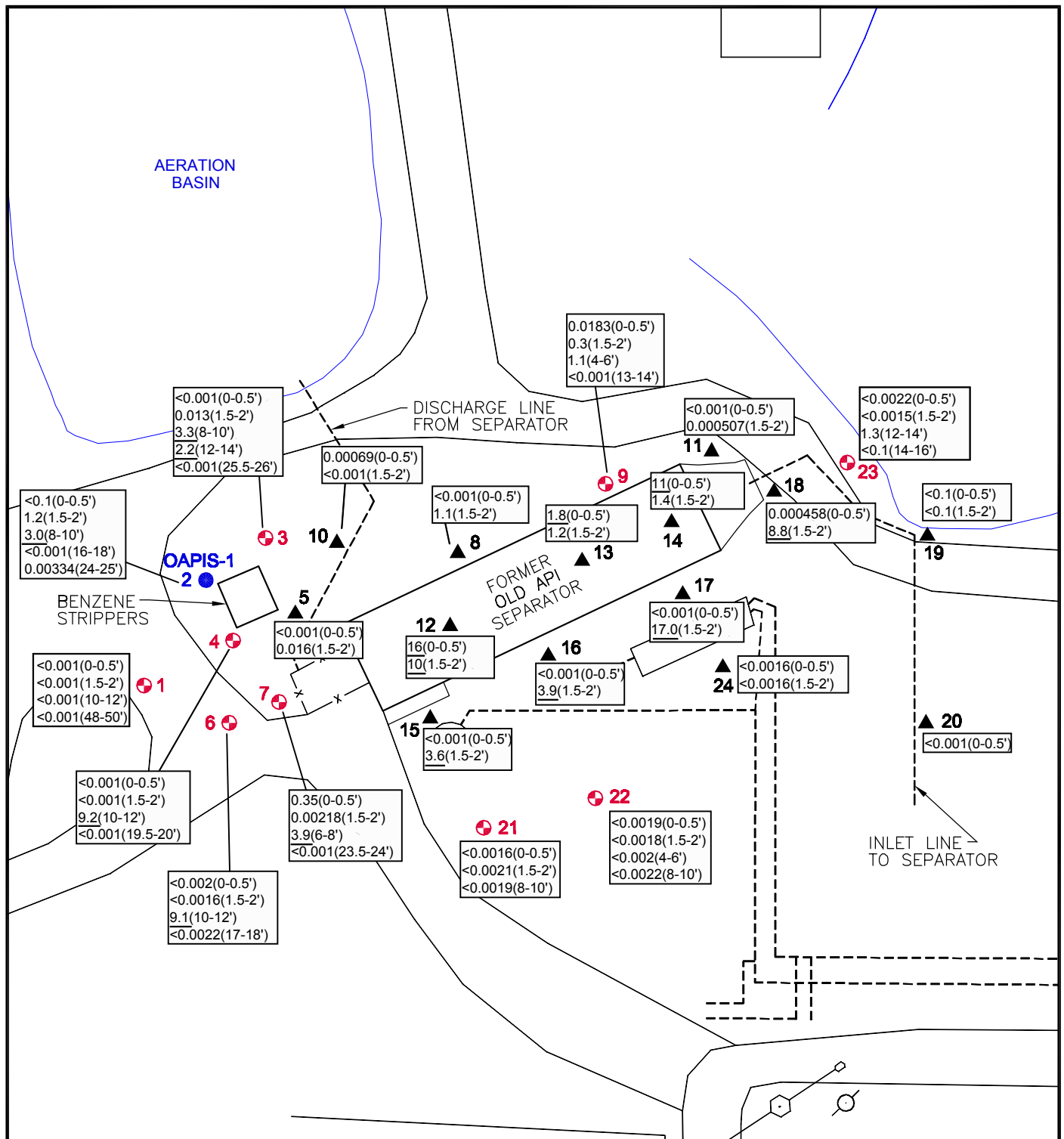


PROJ. NO.: Western Refining | DATE: 01/29/13 | FILE: WestRef-A158

FIGURE 25
ETHYLBENZENE
SOIL CONCENTRATIONS - SWMU No. 14
GALLUP REFINERY



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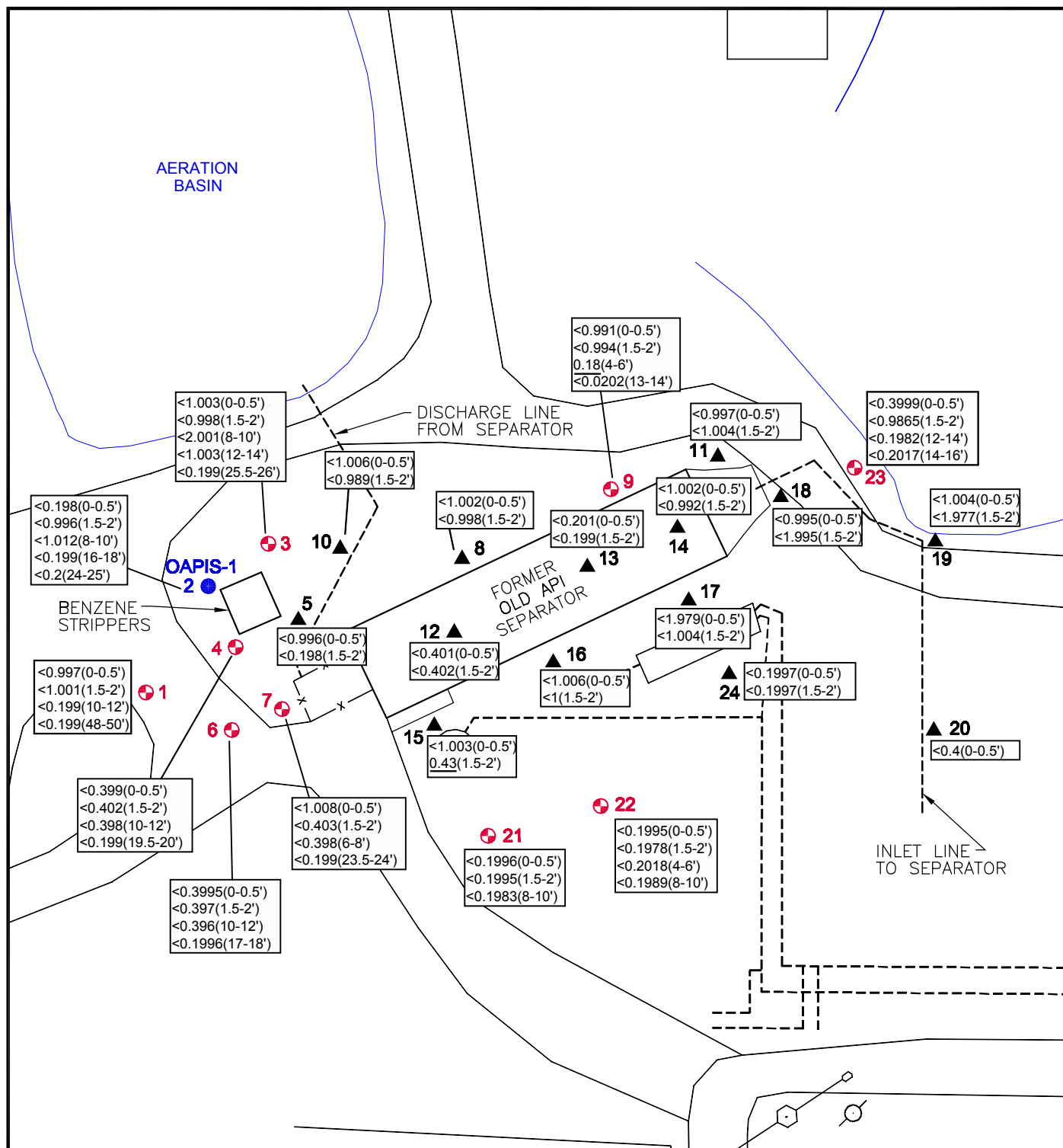
PROJ. NO.: Western Refining | DATE: 01/29/13 | FILE: WestRef-A159

FIGURE 26
NAPHTHALENE
SOIL CONCENTRATIONS - SWMU No. 14
GALLUP REFINERY



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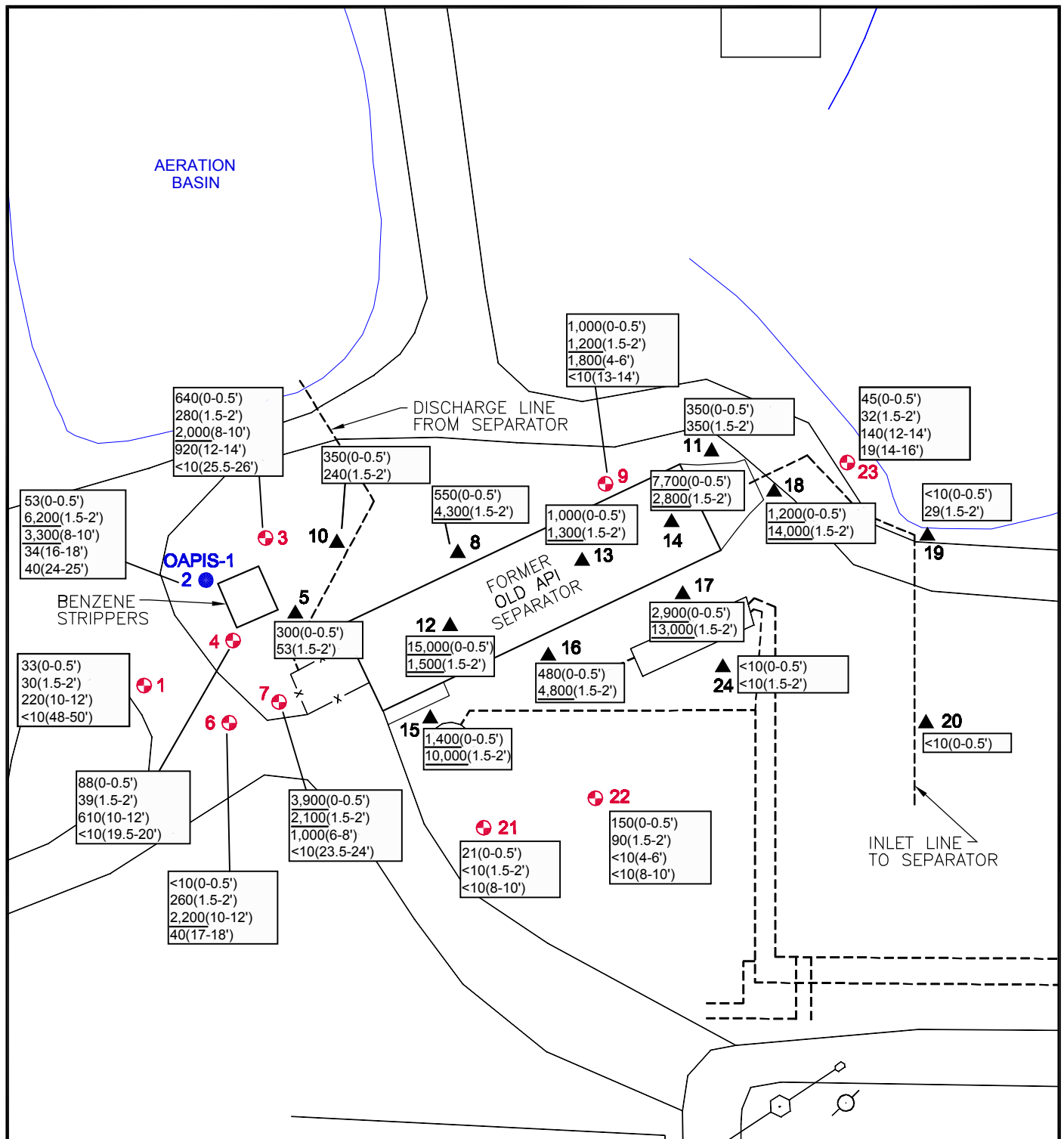


PROJ. NO.: Western Refining | DATE: 01/31/13 | FILE: WestRef-A166

FIGURE 28
BIS(2-CHLOROETHYL)ETHER
SOIL CONCENTRATIONS - SWMU No. 14
GALLUP REFINERY



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

LEGEND

- MONITORING WELL LOCATION
- ⊕ SOIL BORING LOCATION
- ▲ HAND AUGER LOCATION

----- PIPELINE

21(0-0.5')

DIESEL RANGE ORGANICS CONCENTRATION, mg/kg (SAMPLE DEPTH-FT)

1,000

UNDERLINED CONCENTRATION VALUE EXCEEDS SCREENING LEVEL

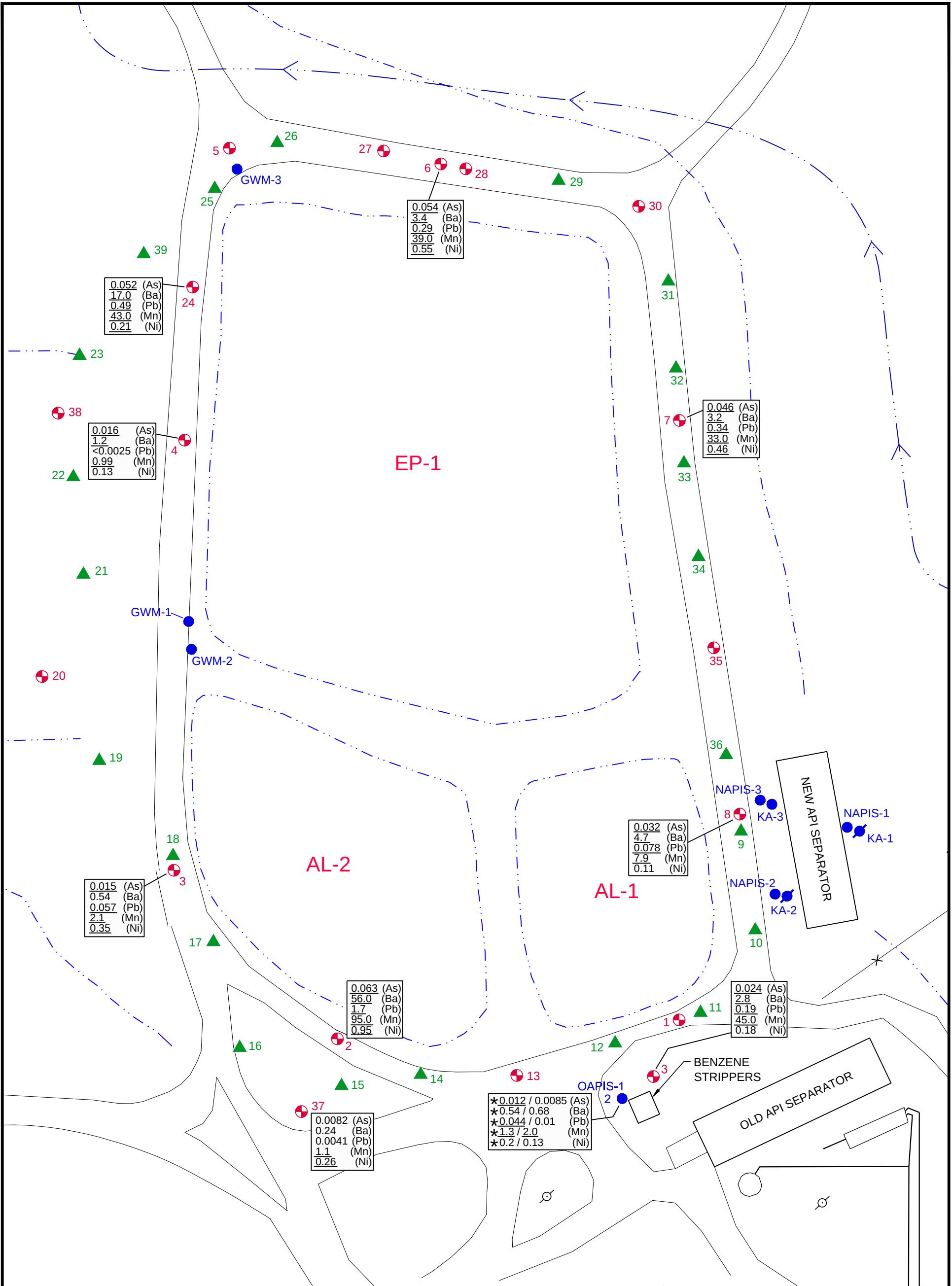


PROJ. NO.: Western Refining | DATE: 01/29/13 | FILE: WestRef-A163

FIGURE 29 DIESEL RANGE ORGANICS SOIL CONCENTRATIONS - SWMU No. 14 GALLUP REFINERY



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NOTE: CONSTITUENT SCREENING LEVEL UNITS - mg/l

SCALE IN FEET

LEGEND

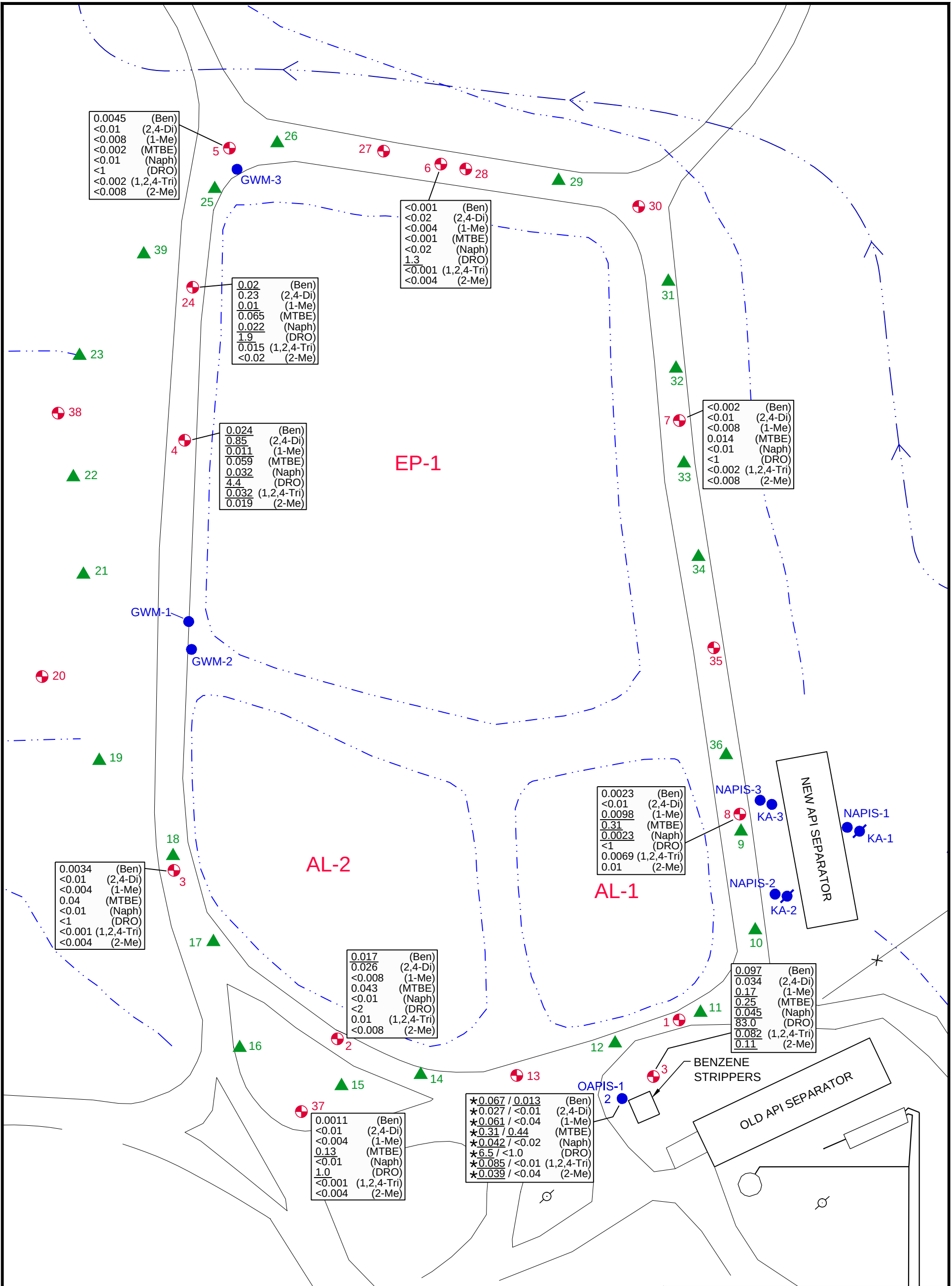
- PERIMETER SOIL BORING LOCATION / TEMPORARY MONITORING WELL
- HAND AUGER SAMPLE LOCATION
- GROUNDWATER WELL LOCATION
- PLUGGED & ABANDONED MONITOR WELL LOCATION
- 0.01 ARSENIC SCREENING LEVEL, mg/l (As)
- 1.0 BARIUM SCREENING LEVEL, mg/l (Ba)
- 0.015 LEAD SCREENING LEVEL, mg/l (Pb)
- 0.2 MANGANESE SCREENING LEVEL, mg/l (Mn)
- 0.2 NICKEL SCREENING LEVEL, mg/l (Ni)
- 0.21 UNDERLINED CONCENTRATION VALUE EXCEEDS SCREENING LEVEL
- ★ JULY 2012 SAMPLE RESULTS

GALLUP REFINERY

PROJ. NO.:Western Refining|DATE:05/06/14|FILE:WestRef-B154

FIGURE 30
SWMU No. 1 & No. 14 - METALS
OCTOBER 2012 GROUNDWATER RESULTS
GALLUP REFINERY

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NOTE: CONSTITUENT SCREENING LEVEL UNITS - mg/l

0 50
SCALE IN FEET

LEGEND

- PERIMETER SOIL BORING LOCATION / TEMPORARY MONITORING WELL
- HAND AUGER SAMPLE LOCATION
- GROUNDWATER WELL LOCATION
- PLUGGED & ABANDONED MONITOR WELL LOCATION
- 0.005 BENZENE SCREENING LEVEL, mg/l (Ben)
- 0.73 2,4-DIMETHYLPHENOL SCREENING LEVEL, mg/l (2,4-Di)
- 0.0097 1-METHYLNAPHTHALENE SCREENING LEVEL, mg/l (1-Me)
- 0.125 MTBE SCREENING LEVEL, mg/l (MTBE)
- 0.0014 NAPHTHALENE SCREENING LEVEL, mg/l (Naph)
- 0.2 DRO SCREENING LEVEL, mg/l (DRO)
- 0.015 1,2,4-TRIMETHYLBENZENE SCREENING LEVEL, mg/l (1,2,4-Tri)
- 0.027 2-METHYLNAPHTHALENE SCREENING LEVEL, mg/l (2-Me)
- 1.56 UNDERLINED CONCENTRATION VALUE EXCEEDS SCREENING LEVEL
- *** JULY 2012 SAMPLE RESULTS

Western Refining
GALLUP REFINERY

PROJ. NO.:Western Refining|DATE:05/06/14|FILE:WestRef-B153

FIGURE 31
SWMU No. 1 & No. 14 - ORGANICS
OCTOBER 2012 GROUNDWATER RESULTS
GALLUP REFINERY

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SWMU 1 SOILS
METALS J-FLAGGED RESULTS

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Company
Project: SWMU NO.1
Lab ID: 1210279-001C

Client Sample ID: SWMU 1-2 (6-8')
Collection Date: 10/2/2012 10:00:00 AM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: ELS	
Antimony	ND	1.3	5.0		mg/Kg	2	10/17/2012 10:26:45 AM	4300
Arsenic	ND	1.3	5.0		mg/Kg	2	10/17/2012 10:26:45 AM	4300
Barium	39	0.12	0.20		mg/Kg	2	10/17/2012 10:26:45 AM	4300
Beryllium	0.61	0.019	0.30		mg/Kg	2	10/17/2012 10:26:45 AM	4300
Cadmium	ND	0.054	0.20		mg/Kg	2	10/17/2012 10:26:45 AM	4300
Chromium	8.1	0.24	0.60		mg/Kg	2	10/17/2012 10:26:45 AM	4300
Cobalt	3.9	0.14	0.60		mg/Kg	2	10/17/2012 10:26:45 AM	4300
Iron	12000	370	500		mg/Kg	500	10/17/2012 12:52:55 PM	4300
Lead	3.5	0.44	0.50		mg/Kg	2	10/17/2012 10:26:45 AM	4300
Manganese	230	0.11	0.50		mg/Kg	5	10/17/2012 12:50:30 PM	4300
Nickel	6.0	0.33	1.0		mg/Kg	2	10/17/2012 10:26:45 AM	4300
Selenium	ND	2.8	5.0		mg/Kg	2	10/23/2012 6:37:37 PM	4300
Silver	ND	0.071	0.50		mg/Kg	2	10/17/2012 10:26:45 AM	4300
Vanadium	16	0.11	5.0		mg/Kg	2	10/17/2012 10:26:45 AM	4300
Zinc	16	2.0	5.0		mg/Kg	2	10/17/2012 10:26:45 AM	4300

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Company
Project: SWMU NO.1
Lab ID: 1210279-002C

Client Sample ID: SWMU 1-2 (10-11')
Collection Date: 10/2/2012 10:20:00 AM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: ELS	
Antimony	ND	1.3	5.0		mg/Kg	2	10/17/2012 10:31:47 AM	4300
Arsenic	ND	1.3	5.0		mg/Kg	2	10/17/2012 10:31:47 AM	4300
Barium	220	0.30	0.50		mg/Kg	5	10/17/2012 12:55:32 PM	4300
Beryllium	0.74	0.019	0.30		mg/Kg	2	10/17/2012 10:31:47 AM	4300
Cadmium	ND	0.054	0.20		mg/Kg	2	10/17/2012 10:31:47 AM	4300
Chromium	6.0	0.24	0.60		mg/Kg	2	10/17/2012 10:31:47 AM	4300
Cobalt	3.3	0.14	0.60		mg/Kg	2	10/17/2012 10:31:47 AM	4300
Iron	11000	370	500		mg/Kg	500	10/17/2012 12:59:38 PM	4300
Lead	3.9	0.44	0.50		mg/Kg	2	10/17/2012 10:31:47 AM	4300
Manganese	310	0.21	1.0		mg/Kg	10	10/23/2012 6:42:27 PM	4300
Nickel	5.6	0.33	1.0		mg/Kg	2	10/17/2012 10:31:47 AM	4300
Selenium	ND	2.8	5.0		mg/Kg	2	10/23/2012 6:40:01 PM	4300
Silver	ND	0.071	0.50		mg/Kg	2	10/17/2012 10:31:47 AM	4300
Vanadium	12	0.11	5.0		mg/Kg	2	10/17/2012 10:31:47 AM	4300
Zinc	13	2.0	5.0		mg/Kg	2	10/17/2012 10:31:47 AM	4300

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Company
Project: SWMU NO.1
Lab ID: 1210279-003C

Client Sample ID: SWMU 1-2 (14-16')
Collection Date: 10/2/2012 10:35:00 AM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: ELS	
Antimony	ND	1.3	5.0		mg/Kg	2	10/17/2012 10:36:49 AM	4300
Arsenic	ND	1.3	5.0		mg/Kg	2	10/17/2012 10:36:49 AM	4300
Barium	680	1.2	2.0		mg/Kg	20	10/23/2012 6:47:15 PM	4300
Beryllium	0.58	0.019	0.30		mg/Kg	2	10/17/2012 10:36:49 AM	4300
Cadmium	ND	0.054	0.20		mg/Kg	2	10/17/2012 10:36:49 AM	4300
Chromium	6.3	0.24	0.60		mg/Kg	2	10/17/2012 10:36:49 AM	4300
Cobalt	3.5	0.14	0.60		mg/Kg	2	10/17/2012 10:36:49 AM	4300
Iron	12000	370	500		mg/Kg	500	10/17/2012 1:04:52 PM	4300
Lead	3.5	0.44	0.50		mg/Kg	2	10/17/2012 10:36:49 AM	4300
Manganese	360	0.21	1.0		mg/Kg	10	10/17/2012 1:02:29 PM	4300
Nickel	5.7	0.33	1.0		mg/Kg	2	10/17/2012 10:36:49 AM	4300
Selenium	ND	2.8	5.0		mg/Kg	2	10/23/2012 6:44:52 PM	4300
Silver	ND	0.071	0.50		mg/Kg	2	10/17/2012 10:36:49 AM	4300
Vanadium	13	0.11	5.0		mg/Kg	2	10/17/2012 10:36:49 AM	4300
Zinc	13	2.0	5.0		mg/Kg	2	10/17/2012 10:36:49 AM	4300

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 11/14/2012

CLIENT: Western Refining Company
Project: SWMU NO.1
Lab ID: 1210279-004C

Client Sample ID: SWMU 1-2 (17-17.25')
Collection Date: 10/2/2012 10:50:00 AM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: JLF	
Antimony	ND	1.3	5.0		mg/Kg	2	10/23/2012 6:49:38 PM	4300
Arsenic	ND	1.3	5.0		mg/Kg	2	10/17/2012 10:54:32 AM	4300
Barium	180	0.30	0.50		mg/Kg	5	10/17/2012 1:07:31 PM	4300
Beryllium	0.74	0.019	0.30		mg/Kg	2	10/17/2012 10:54:32 AM	4300
Cadmium	ND	0.054	0.20		mg/Kg	2	10/17/2012 10:54:32 AM	4300
Chromium	6.9	0.24	0.60		mg/Kg	2	10/17/2012 10:54:32 AM	4300
Cobalt	3.8	0.14	0.60		mg/Kg	2	10/17/2012 10:54:32 AM	4300
Iron	12000	370	500		mg/Kg	500	10/17/2012 1:09:55 PM	4300
Lead	4.8	0.44	0.50		mg/Kg	2	10/17/2012 10:54:32 AM	4300
Manganese	280	0.21	1.0		mg/Kg	10	10/23/2012 6:52:01 PM	4300
Nickel	6.7	0.33	1.0		mg/Kg	2	10/17/2012 10:54:32 AM	4300
Selenium	ND	2.8	5.0		mg/Kg	2	10/23/2012 6:49:38 PM	4300
Silver	ND	0.071	0.50		mg/Kg	2	10/17/2012 10:54:32 AM	4300
Vanadium	12	0.11	5.0		mg/Kg	2	10/17/2012 10:54:32 AM	4300
Zinc	13	2.0	5.0		mg/Kg	2	10/17/2012 10:54:32 AM	4300

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Company
Project: SWMU NO.1
Lab ID: 1210279-005C

Client Sample ID: SWMU 1-2 (19.5-20')
Collection Date: 10/2/2012 11:05:00 AM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: JLF	
Antimony	ND	1.3	5.0		mg/Kg	2	10/23/2012 7:01:34 PM	4300
Arsenic	3.1	1.3	5.0	J	mg/Kg	2	10/17/2012 10:59:42 AM	4300
Barium	1300	3.0	5.0		mg/Kg	50	10/17/2012 1:23:06 PM	4300
Beryllium	0.77	0.019	0.30		mg/Kg	2	10/17/2012 10:59:42 AM	4300
Cadmium	ND	0.054	0.20		mg/Kg	2	10/17/2012 10:59:42 AM	4300
Chromium	12	0.24	0.60		mg/Kg	2	10/17/2012 10:59:42 AM	4300
Cobalt	11	0.14	0.60		mg/Kg	2	10/17/2012 10:59:42 AM	4300
Iron	17000	370	500		mg/Kg	500	10/17/2012 1:25:32 PM	4300
Lead	3.9	0.44	0.50		mg/Kg	2	10/17/2012 10:59:42 AM	4300
Manganese	1200	1.1	5.0		mg/Kg	50	10/17/2012 1:23:06 PM	4300
Nickel	16	0.33	1.0		mg/Kg	2	10/17/2012 10:59:42 AM	4300
Selenium	ND	2.8	5.0		mg/Kg	2	10/23/2012 7:01:34 PM	4300
Silver	ND	0.071	0.50		mg/Kg	2	10/17/2012 10:59:42 AM	4300
Vanadium	14	0.11	5.0		mg/Kg	2	10/17/2012 10:59:42 AM	4300
Zinc	30	2.0	5.0		mg/Kg	2	10/17/2012 10:59:42 AM	4300

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Company
Project: SWMU NO.1
Lab ID: 1210279-008C

Client Sample ID: SWMU 1-3 (2-4')
Collection Date: 10/2/2012 4:20:00 PM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: JLF	
Antimony	ND	0.63	2.5		mg/Kg	1	10/23/2012 7:04:15 PM	4300
Arsenic	ND	13	50		mg/Kg	20	10/17/2012 1:28:13 PM	4300
Barium	770	1.2	2.0		mg/Kg	20	10/17/2012 1:28:13 PM	4300
Beryllium	0.39	0.0093	0.15		mg/Kg	1	10/17/2012 11:02:17 AM	4300
Cadmium	ND	0.027	0.10		mg/Kg	1	10/17/2012 11:02:17 AM	4300
Chromium	3.8	0.12	0.30		mg/Kg	1	10/17/2012 11:02:17 AM	4300
Cobalt	2.4	0.069	0.30		mg/Kg	1	10/17/2012 11:02:17 AM	4300
Iron	4800	150	200		mg/Kg	200	10/23/2012 7:09:43 PM	4300
Lead	ND	0.22	0.25		mg/Kg	1	10/17/2012 11:02:17 AM	4300
Manganese	340	0.42	2.0		mg/Kg	20	10/17/2012 1:28:13 PM	4300
Nickel	3.8	0.17	0.50		mg/Kg	1	10/17/2012 11:02:17 AM	4300
Selenium	ND	1.4	2.5		mg/Kg	1	10/23/2012 7:04:15 PM	4300
Silver	ND	0.035	0.25		mg/Kg	1	10/17/2012 11:02:17 AM	4300
Vanadium	11	0.056	2.5		mg/Kg	1	10/17/2012 11:02:17 AM	4300
Zinc	9.1	1.0	2.5		mg/Kg	1	10/17/2012 11:02:17 AM	4300

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Company
Project: SWMU NO.1
Lab ID: 1210279-009C

Client Sample ID: SWMU 1-3 (10-11')
Collection Date: 10/2/2012 4:35:00 PM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: JLF	
Antimony	ND	1.3	5.0		mg/Kg	2	10/23/2012 7:12:19 PM	4300
Arsenic	2.1	1.3	5.0	J	mg/Kg	2	10/17/2012 11:09:52 AM	4300
Barium	220	0.30	0.50		mg/Kg	5	10/17/2012 1:34:59 PM	4300
Beryllium	0.72	0.019	0.30		mg/Kg	2	10/17/2012 11:09:52 AM	4300
Cadmium	ND	0.054	0.20		mg/Kg	2	10/17/2012 11:09:52 AM	4300
Chromium	7.6	0.24	0.60		mg/Kg	2	10/17/2012 11:09:52 AM	4300
Cobalt	3.6	0.14	0.60		mg/Kg	2	10/17/2012 11:09:52 AM	4300
Iron	11000	370	500		mg/Kg	500	10/17/2012 1:37:26 PM	4300
Lead	3.4	0.44	0.50		mg/Kg	2	10/17/2012 11:09:52 AM	4300
Manganese	420	0.21	1.0		mg/Kg	10	10/23/2012 7:14:46 PM	4300
Nickel	5.7	0.33	1.0		mg/Kg	2	10/17/2012 11:09:52 AM	4300
Selenium	ND	2.8	5.0		mg/Kg	2	10/23/2012 7:12:19 PM	4300
Silver	ND	0.071	0.50		mg/Kg	2	10/17/2012 11:09:52 AM	4300
Vanadium	15	0.11	5.0		mg/Kg	2	10/17/2012 11:09:52 AM	4300
Zinc	11	2.0	5.0		mg/Kg	2	10/17/2012 11:09:52 AM	4300

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 11/14/2012

CLIENT: Western Refining Company
Project: SWMU NO.1
Lab ID: 1210279-010C

Client Sample ID: SWMU 1-3 (11-11.25')
Collection Date: 10/2/2012 4:50:00 PM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: JLF	
Antimony	ND	1.3	5.0		mg/Kg	2	10/23/2012 7:17:10 PM	4300
Arsenic	1.9	1.3	5.0	J	mg/Kg	2	10/17/2012 11:16:34 AM	4300
Barium	110	0.30	0.50		mg/Kg	5	10/17/2012 1:40:18 PM	4300
Beryllium	0.63	0.019	0.30		mg/Kg	2	10/17/2012 11:16:34 AM	4300
Cadmium	ND	0.054	0.20		mg/Kg	2	10/17/2012 11:16:34 AM	4300
Chromium	4.8	0.24	0.60		mg/Kg	2	10/17/2012 11:16:34 AM	4300
Cobalt	3.2	0.14	0.60		mg/Kg	2	10/17/2012 11:16:34 AM	4300
Iron	10000	370	500		mg/Kg	500	10/17/2012 1:42:41 PM	4300
Lead	4.0	0.44	0.50		mg/Kg	2	10/17/2012 11:16:34 AM	4300
Manganese	380	0.21	1.0		mg/Kg	10	10/23/2012 7:19:37 PM	4300
Nickel	5.0	0.33	1.0		mg/Kg	2	10/17/2012 11:16:34 AM	4300
Selenium	ND	2.8	5.0		mg/Kg	2	10/23/2012 7:17:10 PM	4300
Silver	ND	0.071	0.50		mg/Kg	2	10/17/2012 11:16:34 AM	4300
Vanadium	10	0.11	5.0		mg/Kg	2	10/17/2012 11:16:34 AM	4300
Zinc	10	2.0	5.0		mg/Kg	2	10/17/2012 11:16:34 AM	4300

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Company
Project: SWMU NO.1
Lab ID: 1210279-011C

Client Sample ID: SWMU 1-3 (18.5-19.5')
Collection Date: 10/2/2012 5:10:00 PM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: JLF	
Antimony	ND	1.3	5.0		mg/Kg	2	10/23/2012 7:22:03 PM	4300
Arsenic	ND	1.3	5.0		mg/Kg	2	10/17/2012 11:32:55 AM	4300
Barium	270	0.61	1.0		mg/Kg	10	10/17/2012 1:45:34 PM	4300
Beryllium	0.79	0.019	0.30		mg/Kg	2	10/17/2012 11:32:55 AM	4300
Cadmium	ND	0.054	0.20		mg/Kg	2	10/17/2012 11:32:55 AM	4300
Chromium	9.3	0.24	0.60		mg/Kg	2	10/17/2012 11:32:55 AM	4300
Cobalt	5.4	0.14	0.60		mg/Kg	2	10/17/2012 11:32:55 AM	4300
Iron	16000	370	500		mg/Kg	500	10/17/2012 1:48:00 PM	4300
Lead	4.8	0.44	0.50		mg/Kg	2	10/17/2012 11:32:55 AM	4300
Manganese	510	0.42	2.0		mg/Kg	20	10/23/2012 7:24:33 PM	4300
Nickel	10	0.33	1.0		mg/Kg	2	10/17/2012 11:32:55 AM	4300
Selenium	ND	2.8	5.0		mg/Kg	2	10/23/2012 7:22:03 PM	4300
Silver	ND	0.071	0.50		mg/Kg	2	10/17/2012 11:32:55 AM	4300
Vanadium	11	0.11	5.0		mg/Kg	2	10/17/2012 11:32:55 AM	4300
Zinc	15	2.0	5.0		mg/Kg	2	10/17/2012 11:32:55 AM	4300

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	Page 9 of 0
	D	Sample Diluted Due to Matrix	E	Value above quantitation range	
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	% Recovery outside of range due to dilution or matrix			

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Company
Project: SWMU NO.1
Lab ID: 1210279-012C

Client Sample ID: SWMU 1-3 (19.5-20')
Collection Date: 10/2/2012 5:25:00 PM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: JLF	
Antimony	ND	1.3	5.0		mg/Kg	2	10/23/2012 7:26:58 PM	4300
Arsenic	ND	1.3	5.0		mg/Kg	2	10/17/2012 11:38:08 AM	4300
Barium	400	0.61	1.0		mg/Kg	10	10/17/2012 2:00:57 PM	4300
Beryllium	0.83	0.019	0.30		mg/Kg	2	10/17/2012 11:38:08 AM	4300
Cadmium	ND	0.054	0.20		mg/Kg	2	10/17/2012 11:38:08 AM	4300
Chromium	10	0.24	0.60		mg/Kg	2	10/17/2012 11:38:08 AM	4300
Cobalt	5.7	0.14	0.60		mg/Kg	2	10/17/2012 11:38:08 AM	4300
Iron	16000	370	500		mg/Kg	500	10/17/2012 2:05:01 PM	4300
Lead	2.8	0.44	0.50		mg/Kg	2	10/17/2012 11:38:08 AM	4300
Manganese	610	0.42	2.0		mg/Kg	20	10/23/2012 7:36:44 PM	4300
Nickel	12	0.33	1.0		mg/Kg	2	10/17/2012 11:38:08 AM	4300
Selenium	ND	2.8	5.0		mg/Kg	2	10/23/2012 7:26:58 PM	4300
Silver	ND	0.071	0.50		mg/Kg	2	10/17/2012 11:38:08 AM	4300
Vanadium	10	0.11	5.0		mg/Kg	2	10/17/2012 11:38:08 AM	4300
Zinc	16	2.0	5.0		mg/Kg	2	10/17/2012 11:38:08 AM	4300

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 11/14/2012

CLIENT: Western Refining Company
Project: SWMU NO.1
Lab ID: 1210332-001B

Client Sample ID: SWMU 1-4 (10-12')DUP
Collection Date: 10/3/2012 1:15:00 PM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: JLF	
Antimony	ND	3.1	12		mg/Kg	5	10/11/2012 9:55:44 AM	4190
Arsenic	ND	3.1	12		mg/Kg	5	10/11/2012 9:55:44 AM	4190
Barium	870	3.0	5.0		mg/Kg	50	10/11/2012 11:42:40 AM	4190
Beryllium	0.49	0.046	0.75	J	mg/Kg	5	10/11/2012 9:55:44 AM	4190
Cadmium	ND	0.14	0.50		mg/Kg	5	10/11/2012 9:55:44 AM	4190
Chromium	6.4	0.59	1.5		mg/Kg	5	10/11/2012 9:55:44 AM	4190
Cobalt	3.1	0.34	1.5		mg/Kg	5	10/11/2012 9:55:44 AM	4190
Iron	9200	370	500		mg/Kg	500	10/11/2012 11:45:05 AM	4190
Lead	4.4	1.1	1.2		mg/Kg	5	10/11/2012 9:55:44 AM	4190
Manganese	1400	1.1	5.0		mg/Kg	50	10/11/2012 11:42:40 AM	4190
Nickel	5.0	0.83	2.5		mg/Kg	5	10/11/2012 9:55:44 AM	4190
Selenium	ND	7.0	12		mg/Kg	5	10/11/2012 9:55:44 AM	4190
Silver	ND	0.18	1.2		mg/Kg	5	10/11/2012 9:55:44 AM	4190
Vanadium	19	0.28	12		mg/Kg	5	10/11/2012 9:55:44 AM	4190
Zinc	10	5.0	12	J	mg/Kg	5	10/11/2012 9:55:44 AM	4190

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 11/14/2012

CLIENT: Western Refining Company
Project: SWMU NO.1
Lab ID: 1210332-002C

Client Sample ID: SWMU 1-4 (17-18")
Collection Date: 10/3/2012 1:45:00 PM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: JLF	
Antimony	ND	3.1	12		mg/Kg	5	10/11/2012 10:00:49 AM	4190
Arsenic	ND	3.1	12		mg/Kg	5	10/11/2012 10:00:49 AM	4190
Barium	370	3.0	5.0		mg/Kg	50	10/11/2012 11:48:01 AM	4190
Beryllium	0.57	0.046	0.75	J	mg/Kg	5	10/11/2012 10:00:49 AM	4190
Cadmium	ND	0.14	0.50		mg/Kg	5	10/11/2012 10:00:49 AM	4190
Chromium	7.9	0.59	1.5		mg/Kg	5	10/11/2012 10:00:49 AM	4190
Cobalt	3.9	0.34	1.5		mg/Kg	5	10/11/2012 10:00:49 AM	4190
Iron	10000	370	500		mg/Kg	500	10/11/2012 11:50:28 AM	4190
Lead	2.7	1.1	1.2		mg/Kg	5	10/11/2012 10:00:49 AM	4190
Manganese	570	1.1	5.0		mg/Kg	50	10/11/2012 11:48:01 AM	4190
Nickel	6.0	0.83	2.5		mg/Kg	5	10/11/2012 10:00:49 AM	4190
Selenium	ND	7.0	12		mg/Kg	5	10/11/2012 10:00:49 AM	4190
Silver	ND	0.18	1.2		mg/Kg	5	10/11/2012 10:00:49 AM	4190
Vanadium	17	0.28	12		mg/Kg	5	10/11/2012 10:00:49 AM	4190
Zinc	17	5.0	12		mg/Kg	5	10/11/2012 10:00:49 AM	4190

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Company
Project: SWMU NO.1
Lab ID: 1210332-003C

Client Sample ID: SWMU 1-4 (23-24')
Collection Date: 10/3/2012 2:00:00 PM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: JLF	
Antimony	ND	3.1	12		mg/Kg	5	10/11/2012 10:16:19 AM	4190
Arsenic	ND	3.1	12		mg/Kg	5	10/11/2012 10:16:19 AM	4190
Barium	200	0.30	0.50		mg/Kg	5	10/11/2012 10:16:19 AM	4190
Beryllium	1.1	0.046	0.75		mg/Kg	5	10/11/2012 10:16:19 AM	4190
Cadmium	ND	0.14	0.50		mg/Kg	5	10/11/2012 10:16:19 AM	4190
Chromium	14	0.59	1.5		mg/Kg	5	10/11/2012 10:16:19 AM	4190
Cobalt	5.9	0.34	1.5		mg/Kg	5	10/11/2012 10:16:19 AM	4190
Iron	18000	370	500		mg/Kg	500	10/11/2012 12:08:30 PM	4190
Lead	2.1	1.1	1.2		mg/Kg	5	10/11/2012 10:16:19 AM	4190
Manganese	340	0.21	1.0		mg/Kg	10	10/11/2012 12:06:07 PM	4190
Nickel	12	0.83	2.5		mg/Kg	5	10/11/2012 10:16:19 AM	4190
Selenium	ND	7.0	12		mg/Kg	5	10/11/2012 10:16:19 AM	4190
Silver	ND	0.18	1.2		mg/Kg	5	10/11/2012 10:16:19 AM	4190
Vanadium	15	0.28	12		mg/Kg	5	10/11/2012 10:16:19 AM	4190
Zinc	26	5.0	12		mg/Kg	5	10/11/2012 10:16:19 AM	4190

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Company
Project: SWMU NO.1
Lab ID: 1210332-006C

Client Sample ID: SWMU 1-4 (8-10')
Collection Date: 10/3/2012 1:00:00 PM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: JLF	
Antimony	ND	3.1	12		mg/Kg	5	10/11/2012 10:21:28 AM	4190
Arsenic	ND	3.1	12		mg/Kg	5	10/11/2012 10:21:28 AM	4190
Barium	590	3.0	5.0		mg/Kg	50	10/11/2012 12:11:09 PM	4190
Beryllium	0.72	0.046	0.75	J	mg/Kg	5	10/11/2012 10:21:28 AM	4190
Cadmium	ND	0.14	0.50		mg/Kg	5	10/11/2012 10:21:28 AM	4190
Chromium	7.9	0.59	1.5		mg/Kg	5	10/11/2012 10:21:28 AM	4190
Cobalt	4.0	0.34	1.5		mg/Kg	5	10/11/2012 10:21:28 AM	4190
Iron	11000	370	500		mg/Kg	500	10/11/2012 12:13:37 PM	4190
Lead	4.2	1.1	1.2		mg/Kg	5	10/11/2012 10:21:28 AM	4190
Manganese	720	1.1	5.0		mg/Kg	50	10/11/2012 12:11:09 PM	4190
Nickel	6.3	0.83	2.5		mg/Kg	5	10/11/2012 10:21:28 AM	4190
Selenium	ND	7.0	12		mg/Kg	5	10/11/2012 10:21:28 AM	4190
Silver	ND	0.18	1.2		mg/Kg	5	10/11/2012 10:21:28 AM	4190
Vanadium	16	0.28	12		mg/Kg	5	10/11/2012 10:21:28 AM	4190
Zinc	16	5.0	12		mg/Kg	5	10/11/2012 10:21:28 AM	4190

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Company
Project: SWMU NO.1
Lab ID: 1210332-007B

Client Sample ID: SWMU 1-4 (10-12')
Collection Date: 10/3/2012 1:15:00 PM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: JLF	
Antimony	ND	3.1	12		mg/Kg	5	10/11/2012 10:26:23 AM	4190
Arsenic	ND	3.1	12		mg/Kg	5	10/11/2012 10:26:23 AM	4190
Barium	360	3.0	5.0		mg/Kg	50	10/11/2012 12:16:30 PM	4190
Beryllium	0.34	0.046	0.75	J	mg/Kg	5	10/11/2012 10:26:23 AM	4190
Cadmium	ND	0.14	0.50		mg/Kg	5	10/11/2012 10:26:23 AM	4190
Chromium	3.7	0.59	1.5		mg/Kg	5	10/11/2012 10:26:23 AM	4190
Cobalt	2.0	0.34	1.5		mg/Kg	5	10/11/2012 10:26:23 AM	4190
Iron	5300	370	500		mg/Kg	500	10/11/2012 12:18:56 PM	4190
Lead	3.1	1.1	1.2		mg/Kg	5	10/11/2012 10:26:23 AM	4190
Manganese	550	1.1	5.0		mg/Kg	50	10/11/2012 12:16:30 PM	4190
Nickel	2.9	0.83	2.5		mg/Kg	5	10/11/2012 10:26:23 AM	4190
Selenium	ND	7.0	12		mg/Kg	5	10/11/2012 10:26:23 AM	4190
Silver	ND	0.18	1.2		mg/Kg	5	10/11/2012 10:26:23 AM	4190
Vanadium	9.8	0.28	12	J	mg/Kg	5	10/11/2012 10:26:23 AM	4190
Zinc	7.8	5.0	12	J	mg/Kg	5	10/11/2012 10:26:23 AM	4190

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 11/14/2012

CLIENT: Western Refining Company
Project: SWMU NO.1
Lab ID: 1210332-008B

Client Sample ID: SWMU 1-5 (26-27')
Collection Date: 10/3/2012 6:20:00 PM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: JLF	
Antimony	ND	0.63	2.5		mg/Kg	1	10/11/2012 10:28:52 AM	4190
Arsenic	ND	0.63	2.5		mg/Kg	1	10/11/2012 10:28:52 AM	4190
Barium	230	0.30	0.50		mg/Kg	5	10/11/2012 10:31:19 AM	4190
Beryllium	0.30	0.0093	0.15		mg/Kg	1	10/11/2012 10:28:52 AM	4190
Cadmium	ND	0.027	0.10		mg/Kg	1	10/11/2012 10:28:52 AM	4190
Chromium	5.1	0.12	0.30		mg/Kg	1	10/11/2012 10:28:52 AM	4190
Cobalt	2.1	0.069	0.30		mg/Kg	1	10/11/2012 10:28:52 AM	4190
Iron	5900	370	500		mg/Kg	500	10/11/2012 12:21:48 PM	4190
Lead	0.57	0.22	0.25		mg/Kg	1	10/11/2012 10:28:52 AM	4190
Manganese	200	0.11	0.50		mg/Kg	5	10/11/2012 10:31:19 AM	4190
Nickel	3.5	0.17	0.50		mg/Kg	1	10/11/2012 10:28:52 AM	4190
Selenium	ND	1.4	2.5		mg/Kg	1	10/11/2012 10:28:52 AM	4190
Silver	ND	0.035	0.25		mg/Kg	1	10/11/2012 10:28:52 AM	4190
Vanadium	8.6	0.056	2.5		mg/Kg	1	10/11/2012 10:28:52 AM	4190
Zinc	8.5	1.0	2.5		mg/Kg	1	10/11/2012 10:28:52 AM	4190

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	Page 6 of 0
	D	Sample Diluted Due to Matrix	E	Value above quantitation range	
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	% Recovery outside of range due to dilution or matrix			

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Company
Project: SWMU NO.1
Lab ID: 1210332-009C

Client Sample ID: SWMU 1-5 (27-28')
Collection Date: 10/3/2012 6:30:00 PM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: JLF	
Antimony	ND	3.1	12		mg/Kg	5	10/11/2012 2:31:31 PM	4190
Arsenic	ND	3.1	12		mg/Kg	5	10/11/2012 2:31:31 PM	4190
Barium	380	3.0	5.0		mg/Kg	50	10/11/2012 12:24:38 PM	4190
Beryllium	1.1	0.046	0.75		mg/Kg	5	10/11/2012 10:45:59 AM	4190
Cadmium	ND	0.14	0.50		mg/Kg	5	10/11/2012 10:45:59 AM	4190
Chromium	15	0.59	1.5		mg/Kg	5	10/11/2012 10:45:59 AM	4190
Cobalt	7.8	0.34	1.5		mg/Kg	5	10/11/2012 10:45:59 AM	4190
Iron	17000	370	500		mg/Kg	500	10/11/2012 12:27:03 PM	4190
Lead	ND	1.1	1.2		mg/Kg	5	10/11/2012 10:45:59 AM	4190
Manganese	640	1.1	5.0		mg/Kg	50	10/11/2012 12:24:38 PM	4190
Nickel	12	0.83	2.5		mg/Kg	5	10/11/2012 10:45:59 AM	4190
Selenium	ND	7.0	12		mg/Kg	5	10/11/2012 10:45:59 AM	4190
Silver	ND	0.18	1.2		mg/Kg	5	10/11/2012 10:45:59 AM	4190
Vanadium	22	0.28	12		mg/Kg	5	10/11/2012 10:45:59 AM	4190
Zinc	31	5.0	12		mg/Kg	5	10/11/2012 10:45:59 AM	4190

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Company
Project: SWMU NO.1
Lab ID: 1210332-012C

Client Sample ID: SWMU 1-5 (10-12')
Collection Date: 10/3/2012 5:30:00 PM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: JLF	
Antimony	ND	3.1	12		mg/Kg	5	10/11/2012 11:00:15 AM	4190
Arsenic	ND	3.1	12		mg/Kg	5	10/11/2012 11:00:15 AM	4190
Barium	610	3.0	5.0		mg/Kg	50	10/11/2012 12:31:20 PM	4190
Beryllium	0.57	0.046	0.75	J	mg/Kg	5	10/11/2012 11:00:15 AM	4190
Cadmium	ND	0.14	0.50		mg/Kg	5	10/11/2012 11:00:15 AM	4190
Chromium	11	0.59	1.5		mg/Kg	5	10/11/2012 11:00:15 AM	4190
Cobalt	3.3	0.34	1.5		mg/Kg	5	10/11/2012 11:00:15 AM	4190
Iron	9200	370	500		mg/Kg	500	10/11/2012 12:44:37 PM	4190
Lead	3.9	1.1	1.2		mg/Kg	5	10/11/2012 11:00:15 AM	4190
Manganese	1300	1.1	5.0		mg/Kg	50	10/11/2012 12:31:20 PM	4190
Nickel	4.5	0.83	2.5		mg/Kg	5	10/11/2012 11:00:15 AM	4190
Selenium	ND	7.0	12		mg/Kg	5	10/11/2012 11:00:15 AM	4190
Silver	ND	0.18	1.2		mg/Kg	5	10/11/2012 11:00:15 AM	4190
Vanadium	15	0.28	12		mg/Kg	5	10/11/2012 11:00:15 AM	4190
Zinc	12	5.0	12	J	mg/Kg	5	10/11/2012 11:00:15 AM	4190

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Company
Project: SWMU NO.1
Lab ID: 1210332-013C

Client Sample ID: SWMU 1-5 (14-16')
Collection Date: 10/3/2012 5:45:00 PM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: JLF	
Antimony	ND	3.1	12		mg/Kg	5	10/11/2012 11:05:28 AM	4190
Arsenic	ND	3.1	12		mg/Kg	5	10/11/2012 11:05:28 AM	4190
Barium	640	3.0	5.0		mg/Kg	50	10/11/2012 12:47:28 PM	4190
Beryllium	0.67	0.046	0.75	J	mg/Kg	5	10/11/2012 11:05:28 AM	4190
Cadmium	ND	0.14	0.50		mg/Kg	5	10/11/2012 11:05:28 AM	4190
Chromium	11	0.59	1.5		mg/Kg	5	10/11/2012 11:05:28 AM	4190
Cobalt	3.9	0.34	1.5		mg/Kg	5	10/11/2012 11:05:28 AM	4190
Iron	11000	370	500		mg/Kg	500	10/11/2012 12:49:54 PM	4190
Lead	4.4	1.1	1.2		mg/Kg	5	10/11/2012 11:05:28 AM	4190
Manganese	1200	1.1	5.0		mg/Kg	50	10/11/2012 12:47:28 PM	4190
Nickel	5.9	0.83	2.5		mg/Kg	5	10/11/2012 11:05:28 AM	4190
Selenium	ND	7.0	12		mg/Kg	5	10/11/2012 11:05:28 AM	4190
Silver	ND	0.18	1.2		mg/Kg	5	10/11/2012 11:05:28 AM	4190
Vanadium	19	0.28	12		mg/Kg	5	10/11/2012 11:05:28 AM	4190
Zinc	14	5.0	12		mg/Kg	5	10/11/2012 11:05:28 AM	4190

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Company
Project: SWMU NO.1
Lab ID: 1210332-014C

Client Sample ID: SWMU 1-5 (16-18')
Collection Date: 10/3/2012 6:00:00 PM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: JLF	
Antimony	ND	3.1	12		mg/Kg	5	10/11/2012 11:10:31 AM	4190
Arsenic	ND	3.1	12		mg/Kg	5	10/11/2012 11:10:31 AM	4190
Barium	690	3.0	5.0		mg/Kg	50	10/11/2012 12:52:45 PM	4190
Beryllium	0.54	0.046	0.75	J	mg/Kg	5	10/11/2012 11:10:31 AM	4190
Cadmium	ND	0.14	0.50		mg/Kg	5	10/11/2012 11:10:31 AM	4190
Chromium	7.9	0.59	1.5		mg/Kg	5	10/11/2012 11:10:31 AM	4190
Cobalt	3.7	0.34	1.5		mg/Kg	5	10/11/2012 11:10:31 AM	4190
Iron	15000	370	500		mg/Kg	500	10/11/2012 12:55:08 PM	4190
Lead	7.7	1.1	1.2		mg/Kg	5	10/11/2012 11:10:31 AM	4190
Manganese	1400	1.1	5.0		mg/Kg	50	10/11/2012 12:52:45 PM	4190
Nickel	5.1	0.83	2.5		mg/Kg	5	10/11/2012 11:10:31 AM	4190
Selenium	ND	7.0	12		mg/Kg	5	10/11/2012 11:10:31 AM	4190
Silver	ND	0.18	1.2		mg/Kg	5	10/11/2012 11:10:31 AM	4190
Vanadium	34	0.28	12		mg/Kg	5	10/11/2012 11:10:31 AM	4190
Zinc	12	5.0	12	J	mg/Kg	5	10/11/2012 11:10:31 AM	4190

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Company
Project: SWMU NO.1
Lab ID: 1210332-015C

Client Sample ID: SWMU 1-5 (24-25')
Collection Date: 10/3/2012 6:10:00 PM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: JLF	
Antimony	ND	3.1	12		mg/Kg	5	10/11/2012 2:22:14 PM	4190
Arsenic	ND	3.1	12		mg/Kg	5	10/11/2012 11:29:11 AM	4190
Barium	630	3.0	5.0		mg/Kg	50	10/11/2012 12:57:46 PM	4190
Beryllium	0.49	0.046	0.75	J	mg/Kg	5	10/11/2012 11:29:11 AM	4190
Cadmium	ND	0.14	0.50		mg/Kg	5	10/11/2012 11:29:11 AM	4190
Chromium	7.7	0.59	1.5		mg/Kg	5	10/11/2012 11:29:11 AM	4190
Cobalt	3.5	0.34	1.5		mg/Kg	5	10/11/2012 11:29:11 AM	4190
Iron	8700	370	500		mg/Kg	500	10/11/2012 1:00:09 PM	4190
Lead	3.5	1.1	1.2		mg/Kg	5	10/11/2012 11:29:11 AM	4190
Manganese	1200	1.1	5.0		mg/Kg	50	10/11/2012 12:57:46 PM	4190
Nickel	4.9	0.83	2.5		mg/Kg	5	10/11/2012 11:29:11 AM	4190
Selenium	ND	7.0	12		mg/Kg	5	10/11/2012 11:29:11 AM	4190
Silver	ND	0.18	1.2		mg/Kg	5	10/11/2012 11:29:11 AM	4190
Vanadium	14	0.28	12		mg/Kg	5	10/11/2012 11:29:11 AM	4190
Zinc	12	5.0	12	J	mg/Kg	5	10/11/2012 11:29:11 AM	4190

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Company
Project: SWMU NO.1
Lab ID: 1210372-001B

Client Sample ID: SWMU 1-1 (2-4')
Collection Date: 10/5/2012 2:10:00 PM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: JLF	
Antimony	ND	3.1	12		mg/Kg	5	10/11/2012 2:29:04 PM	4191
Arsenic	ND	3.1	12		mg/Kg	5	10/11/2012 2:29:04 PM	4191
Barium	450	0.61	1.0		mg/Kg	10	10/11/2012 3:14:12 PM	4191
Beryllium	0.63	0.046	0.75	J	mg/Kg	5	10/11/2012 2:29:04 PM	4191
Cadmium	ND	0.14	0.50		mg/Kg	5	10/11/2012 2:29:04 PM	4191
Chromium	400	1.2	3.0		mg/Kg	10	10/11/2012 3:14:12 PM	4191
Cobalt	8.1	0.34	1.5		mg/Kg	5	10/11/2012 2:29:04 PM	4191
Iron	16000	370	500		mg/Kg	500	10/11/2012 3:19:11 PM	4191
Lead	80	1.1	1.2		mg/Kg	5	10/11/2012 2:29:04 PM	4191
Manganese	480	0.21	1.0		mg/Kg	10	10/11/2012 3:14:12 PM	4191
Nickel	15	0.83	2.5		mg/Kg	5	10/11/2012 2:29:04 PM	4191
Selenium	ND	7.0	12		mg/Kg	5	10/11/2012 2:29:04 PM	4191
Silver	ND	0.18	1.2		mg/Kg	5	10/11/2012 2:29:04 PM	4191
Vanadium	20	0.28	12		mg/Kg	5	10/11/2012 2:29:04 PM	4191
Zinc	720	50	120		mg/Kg	50	10/11/2012 3:16:43 PM	4191

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Company
Project: SWMU NO.1
Lab ID: 1210372-002A

Client Sample ID: SWMU 1-1 (10-12')
Collection Date: 10/5/2012 2:15:00 PM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: JLF	
Antimony	ND	3.1	12		mg/Kg	5	10/11/2012 2:47:13 PM	4191
Arsenic	ND	3.1	12		mg/Kg	5	10/11/2012 2:47:13 PM	4191
Barium	300	0.61	1.0		mg/Kg	10	10/11/2012 3:21:49 PM	4191
Beryllium	1.2	0.046	0.75		mg/Kg	5	10/11/2012 2:47:13 PM	4191
Cadmium	ND	0.14	0.50		mg/Kg	5	10/11/2012 2:47:13 PM	4191
Chromium	16	0.59	1.5		mg/Kg	5	10/11/2012 2:47:13 PM	4191
Cobalt	7.5	0.34	1.5		mg/Kg	5	10/11/2012 2:47:13 PM	4191
Iron	23000	370	500		mg/Kg	500	10/11/2012 3:29:57 PM	4191
Lead	3.3	1.1	1.2		mg/Kg	5	10/11/2012 2:47:13 PM	4191
Manganese	290	0.21	1.0		mg/Kg	10	10/11/2012 3:21:49 PM	4191
Nickel	15	0.83	2.5		mg/Kg	5	10/11/2012 2:47:13 PM	4191
Selenium	ND	7.0	12		mg/Kg	5	10/11/2012 2:47:13 PM	4191
Silver	ND	0.18	1.2		mg/Kg	5	10/11/2012 2:47:13 PM	4191
Vanadium	25	0.28	12		mg/Kg	5	10/11/2012 2:47:13 PM	4191
Zinc	29	5.0	12		mg/Kg	5	10/11/2012 2:47:13 PM	4191

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Company
Project: SWMU NO.1
Lab ID: 1210372-003B

Client Sample ID: SWMU 1-1 (13-14')
Collection Date: 10/5/2012 2:30:00 PM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: JLF	
Antimony	ND	6.3	25		mg/Kg	10	10/11/2012 3:32:36 PM	4191
Arsenic	ND	6.3	25		mg/Kg	10	10/11/2012 3:32:36 PM	4191
Barium	630	3.0	5.0		mg/Kg	50	10/11/2012 3:39:36 PM	4191
Beryllium	0.55	0.093	1.5	J	mg/Kg	10	10/11/2012 3:32:36 PM	4191
Cadmium	ND	0.27	1.0		mg/Kg	10	10/11/2012 3:32:36 PM	4191
Chromium	6.8	1.2	3.0		mg/Kg	10	10/11/2012 3:32:36 PM	4191
Cobalt	8.0	0.69	3.0		mg/Kg	10	10/11/2012 3:32:36 PM	4191
Iron	8100	370	500		mg/Kg	500	10/11/2012 3:41:59 PM	4191
Lead	ND	2.2	2.5		mg/Kg	10	10/11/2012 3:32:36 PM	4191
Manganese	2800	11	50		mg/Kg	500	10/11/2012 3:41:59 PM	4191
Nickel	8.3	1.7	5.0		mg/Kg	10	10/11/2012 3:32:36 PM	4191
Selenium	ND	14	25		mg/Kg	10	10/11/2012 3:32:36 PM	4191
Silver	ND	0.35	2.5		mg/Kg	10	10/11/2012 3:32:36 PM	4191
Vanadium	30	0.57	25		mg/Kg	10	10/11/2012 3:32:36 PM	4191
Zinc	24	10	25	J	mg/Kg	10	10/11/2012 3:32:36 PM	4191

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Company
Project: SWMU NO.1
Lab ID: 1210372-004C

Client Sample ID: SWMU 1-8 (16-18') DUP
Collection Date: 10/5/2012 11:10:00 AM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: JLF	
Antimony	ND	3.1	12		mg/Kg	5	10/11/2012 3:44:52 PM	4191
Arsenic	ND	3.1	12		mg/Kg	5	10/11/2012 3:44:52 PM	4191
Barium	530	3.0	5.0		mg/Kg	50	10/11/2012 3:47:18 PM	4191
Beryllium	0.53	0.046	0.75	J	mg/Kg	5	10/11/2012 3:44:52 PM	4191
Cadmium	ND	0.14	0.50		mg/Kg	5	10/11/2012 3:44:52 PM	4191
Chromium	6.6	0.59	1.5		mg/Kg	5	10/11/2012 3:44:52 PM	4191
Cobalt	3.5	0.34	1.5		mg/Kg	5	10/11/2012 3:44:52 PM	4191
Iron	9100	370	500		mg/Kg	500	10/11/2012 3:49:43 PM	4191
Lead	2.5	1.1	1.2		mg/Kg	5	10/11/2012 3:44:52 PM	4191
Manganese	660	1.1	5.0		mg/Kg	50	10/11/2012 3:47:18 PM	4191
Nickel	4.4	0.83	2.5		mg/Kg	5	10/11/2012 3:44:52 PM	4191
Selenium	ND	7.0	12		mg/Kg	5	10/11/2012 3:44:52 PM	4191
Silver	ND	0.18	1.2		mg/Kg	5	10/11/2012 3:44:52 PM	4191
Vanadium	23	0.28	12		mg/Kg	5	10/11/2012 3:44:52 PM	4191
Zinc	12	5.0	12	J	mg/Kg	5	10/11/2012 3:44:52 PM	4191

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Company
Project: SWMU NO.1
Lab ID: 1210372-005C

Client Sample ID: SWMU 1-8 (19-20')
Collection Date: 10/5/2012 11:25:00 AM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: JLF	
Antimony	ND	3.1	12		mg/Kg	5	10/11/2012 3:52:34 PM	4191
Arsenic	ND	3.1	12		mg/Kg	5	10/11/2012 3:52:34 PM	4191
Barium	300	3.0	5.0		mg/Kg	50	10/11/2012 3:55:01 PM	4191
Beryllium	0.95	0.046	0.75		mg/Kg	5	10/11/2012 3:52:34 PM	4191
Cadmium	ND	0.14	0.50		mg/Kg	5	10/11/2012 3:52:34 PM	4191
Chromium	14	0.59	1.5		mg/Kg	5	10/11/2012 3:52:34 PM	4191
Cobalt	8.2	0.34	1.5		mg/Kg	5	10/11/2012 3:52:34 PM	4191
Iron	19000	370	500		mg/Kg	500	10/11/2012 3:57:26 PM	4191
Lead	ND	1.1	1.2		mg/Kg	5	10/11/2012 3:52:34 PM	4191
Manganese	300	1.1	5.0		mg/Kg	50	10/11/2012 3:55:01 PM	4191
Nickel	12	0.83	2.5		mg/Kg	5	10/11/2012 3:52:34 PM	4191
Selenium	ND	7.0	12		mg/Kg	5	10/11/2012 3:52:34 PM	4191
Silver	ND	0.18	1.2		mg/Kg	5	10/11/2012 3:52:34 PM	4191
Vanadium	26	0.28	12		mg/Kg	5	10/11/2012 3:52:34 PM	4191
Zinc	29	5.0	12		mg/Kg	5	10/11/2012 3:52:34 PM	4191

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	Page 5 of 0
	D	Sample Diluted Due to Matrix	E	Value above quantitation range	
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	% Recovery outside of range due to dilution or matrix			

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 11/14/2012

CLIENT: Western Refining Company
Project: SWMU NO.1
Lab ID: 1210372-006C

Client Sample ID: SWMU 1-8 (4-6')
Collection Date: 10/5/2012 10:20:00 AM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: JLF	
Antimony	ND	3.1	12		mg/Kg	5	10/11/2012 4:05:56 PM	4191
Arsenic	ND	3.1	12		mg/Kg	5	10/11/2012 4:05:56 PM	4191
Barium	540	3.0	5.0		mg/Kg	50	10/11/2012 4:10:00 PM	4191
Beryllium	0.49	0.046	0.75	J	mg/Kg	5	10/11/2012 4:05:56 PM	4191
Cadmium	ND	0.14	0.50		mg/Kg	5	10/11/2012 4:05:56 PM	4191
Chromium	5.3	0.59	1.5		mg/Kg	5	10/11/2012 4:05:56 PM	4191
Cobalt	3.0	0.34	1.5		mg/Kg	5	10/11/2012 4:05:56 PM	4191
Iron	7900	370	500		mg/Kg	500	10/11/2012 4:15:16 PM	4191
Lead	3.4	1.1	1.2		mg/Kg	5	10/11/2012 4:05:56 PM	4191
Manganese	390	1.1	5.0		mg/Kg	50	10/11/2012 4:10:00 PM	4191
Nickel	4.5	0.83	2.5		mg/Kg	5	10/11/2012 4:05:56 PM	4191
Selenium	ND	7.0	12		mg/Kg	5	10/11/2012 4:05:56 PM	4191
Silver	ND	0.18	1.2		mg/Kg	5	10/11/2012 4:05:56 PM	4191
Vanadium	19	0.28	12		mg/Kg	5	10/11/2012 4:05:56 PM	4191
Zinc	10	5.0	12	J	mg/Kg	5	10/11/2012 4:05:56 PM	4191

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Company
Project: SWMU NO.1
Lab ID: 1210372-007B

Client Sample ID: SWMU 1-8 (10-12')
Collection Date: 10/5/2012 10:30:00 AM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: JLF	
Antimony	ND	3.1	12		mg/Kg	5	10/11/2012 4:18:09 PM	4191
Arsenic	ND	3.1	12		mg/Kg	5	10/11/2012 4:18:09 PM	4191
Barium	620	3.0	5.0		mg/Kg	50	10/11/2012 4:20:33 PM	4191
Beryllium	0.67	0.046	0.75	J	mg/Kg	5	10/11/2012 4:18:09 PM	4191
Cadmium	ND	0.14	0.50		mg/Kg	5	10/11/2012 4:18:09 PM	4191
Chromium	21	0.59	1.5		mg/Kg	5	10/11/2012 4:18:09 PM	4191
Cobalt	6.6	0.34	1.5		mg/Kg	5	10/11/2012 4:18:09 PM	4191
Iron	15000	370	500		mg/Kg	500	10/11/2012 4:22:59 PM	4191
Lead	8.2	1.1	1.2		mg/Kg	5	10/11/2012 4:18:09 PM	4191
Manganese	810	1.1	5.0		mg/Kg	50	10/11/2012 4:20:33 PM	4191
Nickel	16	0.83	2.5		mg/Kg	5	10/11/2012 4:18:09 PM	4191
Selenium	ND	7.0	12		mg/Kg	5	10/11/2012 4:18:09 PM	4191
Silver	ND	0.18	1.2		mg/Kg	5	10/11/2012 4:18:09 PM	4191
Vanadium	26	0.28	12		mg/Kg	5	10/11/2012 4:18:09 PM	4191
Zinc	60	5.0	12		mg/Kg	5	10/11/2012 4:18:09 PM	4191

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 11/14/2012

CLIENT: Western Refining Company
Project: SWMU NO.1
Lab ID: 1210372-008D

Client Sample ID: SWMU 1-8 (12-14')
Collection Date: 10/5/2012 10:40:00 AM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: JLF	
Antimony	ND	3.1	12		mg/Kg	5	10/11/2012 4:25:38 PM	4191
Arsenic	ND	3.1	12		mg/Kg	5	10/11/2012 4:25:38 PM	4191
Barium	370	3.0	5.0		mg/Kg	50	10/11/2012 4:28:05 PM	4191
Beryllium	0.52	0.046	0.75	J	mg/Kg	5	10/11/2012 4:25:38 PM	4191
Cadmium	ND	0.14	0.50		mg/Kg	5	10/11/2012 4:25:38 PM	4191
Chromium	10	0.59	1.5		mg/Kg	5	10/11/2012 4:25:38 PM	4191
Cobalt	4.1	0.34	1.5		mg/Kg	5	10/11/2012 4:25:38 PM	4191
Iron	8000	370	500		mg/Kg	500	10/11/2012 4:30:34 PM	4191
Lead	2.0	1.1	1.2		mg/Kg	5	10/11/2012 4:25:38 PM	4191
Manganese	540	1.1	5.0		mg/Kg	50	10/11/2012 4:28:05 PM	4191
Nickel	6.8	0.83	2.5		mg/Kg	5	10/11/2012 4:25:38 PM	4191
Selenium	ND	7.0	12		mg/Kg	5	10/11/2012 4:25:38 PM	4191
Silver	ND	0.18	1.2		mg/Kg	5	10/11/2012 4:25:38 PM	4191
Vanadium	15	0.28	12		mg/Kg	5	10/11/2012 4:25:38 PM	4191
Zinc	18	5.0	12		mg/Kg	5	10/11/2012 4:25:38 PM	4191

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Company
Project: SWMU NO.1
Lab ID: 1210372-009C

Client Sample ID: SWMU 1-8 (16-18')
Collection Date: 10/5/2012 11:10:00 AM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: JLF	
Antimony	ND	3.1	12		mg/Kg	5	10/11/2012 4:33:26 PM	4191
Arsenic	ND	3.1	12		mg/Kg	5	10/11/2012 4:33:26 PM	4191
Barium	550	3.0	5.0		mg/Kg	50	10/11/2012 4:43:28 PM	4191
Beryllium	0.59	0.046	0.75	J	mg/Kg	5	10/11/2012 4:33:26 PM	4191
Cadmium	ND	0.14	0.50		mg/Kg	5	10/11/2012 4:33:26 PM	4191
Chromium	6.9	0.59	1.5		mg/Kg	5	10/11/2012 4:33:26 PM	4191
Cobalt	4.4	0.34	1.5		mg/Kg	5	10/11/2012 4:33:26 PM	4191
Iron	11000	370	500		mg/Kg	500	10/11/2012 4:45:54 PM	4191
Lead	2.8	1.1	1.2		mg/Kg	5	10/11/2012 4:33:26 PM	4191
Manganese	740	1.1	5.0		mg/Kg	50	10/11/2012 4:43:28 PM	4191
Nickel	6.1	0.83	2.5		mg/Kg	5	10/11/2012 4:33:26 PM	4191
Selenium	ND	7.0	12		mg/Kg	5	10/11/2012 4:33:26 PM	4191
Silver	ND	0.18	1.2		mg/Kg	5	10/11/2012 4:33:26 PM	4191
Vanadium	16	0.28	12		mg/Kg	5	10/11/2012 4:33:26 PM	4191
Zinc	14	5.0	12		mg/Kg	5	10/11/2012 4:33:26 PM	4191

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Company
Project: SWMU NO.1
Lab ID: 1210372-015C

Client Sample ID: SWMU 1-7 (16-18")
Collection Date: 10/4/2012 2:40:00 PM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: JLF	
Antimony	ND	3.1	12		mg/Kg	5	10/11/2012 4:48:45 PM	4191
Arsenic	3.2	3.1	12	J	mg/Kg	5	10/11/2012 4:48:45 PM	4191
Barium	330	3.0	5.0		mg/Kg	50	10/11/2012 4:51:11 PM	4191
Beryllium	1.1	0.046	0.75		mg/Kg	5	10/11/2012 4:48:45 PM	4191
Cadmium	ND	0.14	0.50		mg/Kg	5	10/11/2012 4:48:45 PM	4191
Chromium	15	0.59	1.5		mg/Kg	5	10/11/2012 4:48:45 PM	4191
Cobalt	6.4	0.34	1.5		mg/Kg	5	10/11/2012 4:48:45 PM	4191
Iron	22000	370	500		mg/Kg	500	10/11/2012 4:53:35 PM	4191
Lead	1.7	1.1	1.2		mg/Kg	5	10/11/2012 4:48:45 PM	4191
Manganese	510	1.1	5.0		mg/Kg	50	10/11/2012 4:51:11 PM	4191
Nickel	13	0.83	2.5		mg/Kg	5	10/11/2012 4:48:45 PM	4191
Selenium	ND	7.0	12		mg/Kg	5	10/11/2012 4:48:45 PM	4191
Silver	ND	0.18	1.2		mg/Kg	5	10/11/2012 4:48:45 PM	4191
Vanadium	28	0.28	12		mg/Kg	5	10/11/2012 4:48:45 PM	4191
Zinc	25	5.0	12		mg/Kg	5	10/11/2012 4:48:45 PM	4191

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Company
Project: SWMU NO.1
Lab ID: 1210372-016C

Client Sample ID: SWMU 1-6 (10-11')
Collection Date: 10/4/2012 11:45:00 AM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: JLF	
Antimony	ND	3.1	12		mg/Kg	5	10/11/2012 4:56:13 PM	4191
Arsenic	ND	3.1	12		mg/Kg	5	10/11/2012 4:56:13 PM	4191
Barium	380	3.0	5.0		mg/Kg	50	10/11/2012 4:58:37 PM	4191
Beryllium	0.56	0.046	0.75	J	mg/Kg	5	10/11/2012 4:56:13 PM	4191
Cadmium	ND	0.14	0.50		mg/Kg	5	10/11/2012 4:56:13 PM	4191
Chromium	7.2	0.59	1.5		mg/Kg	5	10/11/2012 4:56:13 PM	4191
Cobalt	3.8	0.34	1.5		mg/Kg	5	10/11/2012 4:56:13 PM	4191
Iron	11000	370	500		mg/Kg	500	10/11/2012 5:01:02 PM	4191
Lead	3.6	1.1	1.2		mg/Kg	5	10/11/2012 4:56:13 PM	4191
Manganese	750	1.1	5.0		mg/Kg	50	10/11/2012 4:58:37 PM	4191
Nickel	5.5	0.83	2.5		mg/Kg	5	10/11/2012 4:56:13 PM	4191
Selenium	ND	7.0	12		mg/Kg	5	10/11/2012 4:56:13 PM	4191
Silver	ND	0.18	1.2		mg/Kg	5	10/11/2012 4:56:13 PM	4191
Vanadium	16	0.28	12		mg/Kg	5	10/11/2012 4:56:13 PM	4191
Zinc	13	5.0	12		mg/Kg	5	10/11/2012 4:56:13 PM	4191

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Company
Project: SWMU NO.1
Lab ID: 1210372-017C

Client Sample ID: SWMU 1-6 (11-12')
Collection Date: 10/4/2012 11:55:00 AM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: JLF	
Antimony	ND	3.1	12		mg/Kg	5	10/11/2012 5:03:56 PM	4191
Arsenic	ND	3.1	12		mg/Kg	5	10/11/2012 5:03:56 PM	4191
Barium	700	3.0	5.0		mg/Kg	50	10/11/2012 5:12:21 PM	4191
Beryllium	0.96	0.046	0.75		mg/Kg	5	10/11/2012 5:03:56 PM	4191
Cadmium	ND	0.14	0.50		mg/Kg	5	10/11/2012 5:03:56 PM	4191
Chromium	14	0.59	1.5		mg/Kg	5	10/11/2012 5:03:56 PM	4191
Cobalt	6.2	0.34	1.5		mg/Kg	5	10/11/2012 5:03:56 PM	4191
Iron	18000	370	500		mg/Kg	500	10/11/2012 5:16:24 PM	4191
Lead	ND	1.1	1.2		mg/Kg	5	10/11/2012 5:03:56 PM	4191
Manganese	480	1.1	5.0		mg/Kg	50	10/11/2012 5:12:21 PM	4191
Nickel	12	0.83	2.5		mg/Kg	5	10/11/2012 5:03:56 PM	4191
Selenium	ND	7.0	12		mg/Kg	5	10/11/2012 5:03:56 PM	4191
Silver	ND	0.18	1.2		mg/Kg	5	10/11/2012 5:03:56 PM	4191
Vanadium	16	0.28	12		mg/Kg	5	10/11/2012 5:03:56 PM	4191
Zinc	25	5.0	12		mg/Kg	5	10/11/2012 5:03:56 PM	4191

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Company
Project: SWMU NO.1
Lab ID: 1210372-018C

Client Sample ID: SWMU 1-7 (12-14')
Collection Date: 10/4/2012 1:55:00 PM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: JLF	
Antimony	ND	3.1	12		mg/Kg	5	10/11/2012 5:21:56 PM	4191
Arsenic	ND	3.1	12		mg/Kg	5	10/11/2012 5:21:56 PM	4191
Barium	87	0.30	0.50		mg/Kg	5	10/11/2012 5:21:56 PM	4191
Beryllium	1.1	0.046	0.75		mg/Kg	5	10/11/2012 5:21:56 PM	4191
Cadmium	ND	0.14	0.50		mg/Kg	5	10/11/2012 5:21:56 PM	4191
Chromium	12	0.59	1.5		mg/Kg	5	10/11/2012 5:21:56 PM	4191
Cobalt	5.4	0.34	1.5		mg/Kg	5	10/11/2012 5:21:56 PM	4191
Iron	16000	370	500		mg/Kg	500	10/11/2012 5:26:48 PM	4191
Lead	4.0	1.1	1.2		mg/Kg	5	10/11/2012 5:21:56 PM	4191
Manganese	360	1.1	5.0		mg/Kg	50	10/11/2012 5:24:24 PM	4191
Nickel	9.3	0.83	2.5		mg/Kg	5	10/11/2012 5:21:56 PM	4191
Selenium	ND	7.0	12		mg/Kg	5	10/11/2012 5:21:56 PM	4191
Silver	ND	0.18	1.2		mg/Kg	5	10/11/2012 5:21:56 PM	4191
Vanadium	20	0.28	12		mg/Kg	5	10/11/2012 5:21:56 PM	4191
Zinc	18	5.0	12		mg/Kg	5	10/11/2012 5:21:56 PM	4191

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Company
Project: SWMU NO.1
Lab ID: 1210372-019C

Client Sample ID: SWMU 1-7 (14-16')
Collection Date: 10/4/2012 2:15:00 PM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: JLF	
Antimony	ND	3.1	12		mg/Kg	5	10/11/2012 5:29:25 PM	4191
Arsenic	ND	3.1	12		mg/Kg	5	10/11/2012 5:29:25 PM	4191
Barium	290	3.0	5.0		mg/Kg	50	10/11/2012 5:31:52 PM	4191
Beryllium	0.95	0.046	0.75		mg/Kg	5	10/11/2012 5:29:25 PM	4191
Cadmium	ND	0.14	0.50		mg/Kg	5	10/11/2012 5:29:25 PM	4191
Chromium	11	0.59	1.5		mg/Kg	5	10/11/2012 5:29:25 PM	4191
Cobalt	6.0	0.34	1.5		mg/Kg	5	10/11/2012 5:29:25 PM	4191
Iron	15000	370	500		mg/Kg	500	10/11/2012 5:34:18 PM	4191
Lead	3.3	1.1	1.2		mg/Kg	5	10/11/2012 5:29:25 PM	4191
Manganese	790	1.1	5.0		mg/Kg	50	10/11/2012 5:31:52 PM	4191
Nickel	9.7	0.83	2.5		mg/Kg	5	10/11/2012 5:29:25 PM	4191
Selenium	ND	7.0	12		mg/Kg	5	10/11/2012 5:29:25 PM	4191
Silver	ND	0.18	1.2		mg/Kg	5	10/11/2012 5:29:25 PM	4191
Vanadium	16	0.28	12		mg/Kg	5	10/11/2012 5:29:25 PM	4191
Zinc	18	5.0	12		mg/Kg	5	10/11/2012 5:29:25 PM	4191

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	Page 14 of 0
	D	Sample Diluted Due to Matrix	E	Value above quantitation range	
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	% Recovery outside of range due to dilution or matrix			

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Company
Project: SWMU NO.1
Lab ID: 1210372-020B

Client Sample ID: SWMU 1-6 (2-4')
Collection Date: 10/4/2012 10:55:00 AM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: JLF	
Antimony	ND	6.3	25		mg/Kg	10	10/15/2012 10:16:58 AM	4191
Arsenic	ND	6.3	25		mg/Kg	10	10/15/2012 10:16:58 AM	4191
Barium	660	3.0	5.0		mg/Kg	50	10/11/2012 5:39:21 PM	4191
Beryllium	0.49	0.093	1.5	J	mg/Kg	10	10/15/2012 10:16:58 AM	4191
Cadmium	ND	0.27	1.0		mg/Kg	10	10/15/2012 10:16:58 AM	4191
Chromium	6.1	1.2	3.0		mg/Kg	10	10/15/2012 10:16:58 AM	4191
Cobalt	3.5	0.69	3.0		mg/Kg	10	10/15/2012 10:16:58 AM	4191
Iron	9600	370	500		mg/Kg	500	10/11/2012 5:49:22 PM	4191
Lead	5.4	2.2	2.5		mg/Kg	10	10/15/2012 10:16:58 AM	4191
Manganese	1000	1.1	5.0		mg/Kg	50	10/11/2012 5:39:21 PM	4191
Nickel	4.5	1.7	5.0	J	mg/Kg	10	10/15/2012 10:16:58 AM	4191
Selenium	ND	14	25		mg/Kg	10	10/15/2012 10:35:25 AM	4191
Silver	ND	0.35	2.5		mg/Kg	10	10/15/2012 10:16:58 AM	4191
Vanadium	18	0.57	25	J	mg/Kg	10	10/15/2012 10:16:58 AM	4191
Zinc	13	10	25	J	mg/Kg	10	10/15/2012 10:16:58 AM	4191

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Company
Project: SWMU NO.1
Lab ID: 1210372-021B

Client Sample ID: SWMU 1-6 (2-4') DUP
Collection Date: 10/4/2012 10:55:00 AM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: JLF	
Antimony	ND	3.1	12		mg/Kg	5	10/11/2012 5:52:15 PM	4191
Arsenic	ND	3.1	12		mg/Kg	5	10/15/2012 10:19:16 AM	4191
Barium	930	3.0	5.0		mg/Kg	50	10/11/2012 5:57:34 PM	4191
Beryllium	0.51	0.046	0.75	J	mg/Kg	5	10/11/2012 5:52:15 PM	4191
Cadmium	ND	0.14	0.50		mg/Kg	5	10/11/2012 5:52:15 PM	4191
Chromium	7.0	0.59	1.5		mg/Kg	5	10/15/2012 10:19:16 AM	4191
Cobalt	3.9	0.34	1.5		mg/Kg	5	10/11/2012 5:52:15 PM	4191
Iron	10000	370	500		mg/Kg	500	10/11/2012 6:00:01 PM	4191
Lead	5.0	1.1	1.2		mg/Kg	5	10/11/2012 5:52:15 PM	4191
Manganese	830	1.1	5.0		mg/Kg	50	10/11/2012 5:57:34 PM	4191
Nickel	5.2	0.83	2.5		mg/Kg	5	10/11/2012 5:52:15 PM	4191
Selenium	ND	7.0	12		mg/Kg	5	10/15/2012 10:37:40 AM	4191
Silver	ND	0.18	1.2		mg/Kg	5	10/11/2012 5:52:15 PM	4191
Vanadium	24	0.28	12		mg/Kg	5	10/11/2012 5:52:15 PM	4191
Zinc	13	5.0	12		mg/Kg	5	10/15/2012 10:19:16 AM	4191

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Company
Project: SWMU NO.1
Lab ID: 1210372-022C

Client Sample ID: SWMU 1-6 (4-6)
Collection Date: 10/4/2012 11:15:00 AM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: JLF	
Antimony	ND	3.1	12		mg/Kg	5	10/11/2012 6:02:53 PM	4191
Arsenic	ND	3.1	12		mg/Kg	5	10/15/2012 10:21:33 AM	4191
Barium	870	3.0	5.0		mg/Kg	50	10/11/2012 6:05:17 PM	4191
Beryllium	0.44	0.046	0.75	J	mg/Kg	5	10/11/2012 6:02:53 PM	4191
Cadmium	ND	0.14	0.50		mg/Kg	5	10/11/2012 6:02:53 PM	4191
Chromium	7.0	0.59	1.5		mg/Kg	5	10/15/2012 10:21:33 AM	4191
Cobalt	5.7	0.34	1.5		mg/Kg	5	10/11/2012 6:02:53 PM	4191
Iron	9500	370	500		mg/Kg	500	10/11/2012 6:07:44 PM	4191
Lead	5.6	1.1	1.2		mg/Kg	5	10/11/2012 6:02:53 PM	4191
Manganese	1100	1.1	5.0		mg/Kg	50	10/11/2012 6:05:17 PM	4191
Nickel	5.2	0.83	2.5		mg/Kg	5	10/11/2012 6:02:53 PM	4191
Selenium	ND	7.0	12		mg/Kg	5	10/15/2012 10:39:58 AM	4191
Silver	ND	0.18	1.2		mg/Kg	5	10/11/2012 6:02:53 PM	4191
Vanadium	16	0.28	12		mg/Kg	5	10/11/2012 6:02:53 PM	4191
Zinc	15	5.0	12		mg/Kg	5	10/15/2012 10:21:33 AM	4191

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Company
Project: SWMU NO.1
Lab ID: 1210372-023C

Client Sample ID: SWMU 1-6 (7.5-8")
Collection Date: 10/4/2012 11:30:00 AM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: JLF	
Antimony	ND	3.1	12		mg/Kg	5	10/11/2012 6:10:37 PM	4191
Arsenic	4.6	3.1	12	J	mg/Kg	5	10/15/2012 10:23:51 AM	4191
Barium	110	0.30	0.50		mg/Kg	5	10/11/2012 6:10:37 PM	4191
Beryllium	0.83	0.046	0.75		mg/Kg	5	10/11/2012 6:10:37 PM	4191
Cadmium	ND	0.14	0.50		mg/Kg	5	10/11/2012 6:10:37 PM	4191
Chromium	8.3	0.59	1.5		mg/Kg	5	10/15/2012 10:23:51 AM	4191
Cobalt	4.1	0.34	1.5		mg/Kg	5	10/11/2012 6:10:37 PM	4191
Iron	13000	370	500		mg/Kg	500	10/11/2012 6:15:26 PM	4191
Lead	4.1	1.1	1.2		mg/Kg	5	10/11/2012 6:10:37 PM	4191
Manganese	390	1.1	5.0		mg/Kg	50	10/11/2012 6:13:03 PM	4191
Nickel	6.7	0.83	2.5		mg/Kg	5	10/11/2012 6:10:37 PM	4191
Selenium	ND	7.0	12		mg/Kg	5	10/15/2012 10:42:12 AM	4191
Silver	ND	0.18	1.2		mg/Kg	5	10/11/2012 6:10:37 PM	4191
Vanadium	14	0.28	12		mg/Kg	5	10/11/2012 6:10:37 PM	4191
Zinc	14	5.0	12		mg/Kg	5	10/15/2012 10:23:51 AM	4191

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	Page 18 of 0
	D	Sample Diluted Due to Matrix	E	Value above quantitation range	
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	% Recovery outside of range due to dilution or matrix			

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Company
Project: SWMU NO.1
Lab ID: 1210521-001C

Client Sample ID: SWMU 1-24 (0-0.5')
Collection Date: 10/8/2012 4:05:00 PM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: JLF	
Antimony	ND	3.1	12		mg/Kg	5	10/16/2012 3:30:30 PM	4298
Arsenic	ND	3.1	12		mg/Kg	5	10/16/2012 3:30:30 PM	4298
Barium	220	0.61	1.0		mg/Kg	10	10/16/2012 3:55:33 PM	4298
Beryllium	0.68	0.046	0.75	J	mg/Kg	5	10/16/2012 3:30:30 PM	4298
Cadmium	ND	0.14	0.50		mg/Kg	5	10/16/2012 3:30:30 PM	4298
Chromium	9.5	0.59	1.5		mg/Kg	5	10/16/2012 3:30:30 PM	4298
Cobalt	5.1	0.34	1.5		mg/Kg	5	10/16/2012 3:30:30 PM	4298
Iron	20000	370	500		mg/Kg	500	10/16/2012 3:52:52 PM	4298
Lead	9.3	1.1	1.2		mg/Kg	5	10/16/2012 3:30:30 PM	4298
Manganese	520	1.1	5.0		mg/Kg	50	10/16/2012 3:50:28 PM	4298
Nickel	9.0	0.83	2.5		mg/Kg	5	10/16/2012 3:30:30 PM	4298
Selenium	ND	7.0	12		mg/Kg	5	10/16/2012 3:30:30 PM	4298
Silver	ND	0.18	1.2		mg/Kg	5	10/16/2012 3:30:30 PM	4298
Vanadium	24	0.28	12		mg/Kg	5	10/16/2012 3:30:30 PM	4298
Zinc	34	5.0	12		mg/Kg	5	10/16/2012 3:30:30 PM	4298

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Company
Project: SWMU NO.1
Lab ID: 1210521-002C

Client Sample ID: SWMU 1-24 (0-0.5') DUP
Collection Date: 10/8/2012 4:05:00 PM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS						Analyst: JLF		
Antimony	ND	3.1	12		mg/Kg	5	10/16/2012 4:00:28 PM	4298
Arsenic	ND	3.1	12		mg/Kg	5	10/16/2012 4:00:28 PM	4298
Barium	180	0.30	0.50		mg/Kg	5	10/16/2012 4:00:28 PM	4298
Beryllium	0.57	0.046	0.75	J	mg/Kg	5	10/16/2012 4:00:28 PM	4298
Cadmium	ND	0.14	0.50		mg/Kg	5	10/16/2012 4:00:28 PM	4298
Chromium	9.6	0.59	1.5		mg/Kg	5	10/16/2012 4:00:28 PM	4298
Cobalt	4.4	0.34	1.5		mg/Kg	5	10/16/2012 4:00:28 PM	4298
Iron	10000	370	500		mg/Kg	500	10/16/2012 4:05:17 PM	4298
Lead	7.8	1.1	1.2		mg/Kg	5	10/16/2012 4:00:28 PM	4298
Manganese	290	1.1	5.0		mg/Kg	50	10/16/2012 4:02:52 PM	4298
Nickel	8.5	0.83	2.5		mg/Kg	5	10/16/2012 4:00:28 PM	4298
Selenium	ND	7.0	12		mg/Kg	5	10/16/2012 4:00:28 PM	4298
Silver	ND	0.18	1.2		mg/Kg	5	10/16/2012 4:00:28 PM	4298
Vanadium	18	0.28	12		mg/Kg	5	10/16/2012 4:00:28 PM	4298
Zinc	29	5.0	12		mg/Kg	5	10/16/2012 4:00:28 PM	4298

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Company
Project: SWMU NO.1
Lab ID: 1210521-003C

Client Sample ID: SWMU 1-24 (1.5-2')
Collection Date: 10/8/2012 4:15:00 PM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: JLF	
Antimony	ND	3.1	12		mg/Kg	5	10/16/2012 4:23:04 PM	4298
Arsenic	ND	3.1	12		mg/Kg	5	10/16/2012 4:23:04 PM	4298
Barium	330	3.0	5.0		mg/Kg	50	10/16/2012 4:25:31 PM	4298
Beryllium	0.86	0.046	0.75		mg/Kg	5	10/16/2012 4:23:04 PM	4298
Cadmium	ND	0.14	0.50		mg/Kg	5	10/16/2012 4:23:04 PM	4298
Chromium	7.4	0.59	1.5		mg/Kg	5	10/16/2012 4:23:04 PM	4298
Cobalt	4.4	0.34	1.5		mg/Kg	5	10/16/2012 4:23:04 PM	4298
Iron	12000	370	500		mg/Kg	500	10/16/2012 4:27:56 PM	4298
Lead	4.4	1.1	1.2		mg/Kg	5	10/16/2012 4:23:04 PM	4298
Manganese	410	1.1	5.0		mg/Kg	50	10/16/2012 4:25:31 PM	4298
Nickel	7.0	0.83	2.5		mg/Kg	5	10/16/2012 4:23:04 PM	4298
Selenium	ND	7.0	12		mg/Kg	5	10/16/2012 4:23:04 PM	4298
Silver	ND	0.18	1.2		mg/Kg	5	10/16/2012 4:23:04 PM	4298
Vanadium	14	0.28	12		mg/Kg	5	10/16/2012 4:23:04 PM	4298
Zinc	13	5.0	12		mg/Kg	5	10/16/2012 4:23:04 PM	4298

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Company
Project: SWMU NO.1
Lab ID: 1210521-004C

Client Sample ID: SWMU 1-24 (10.5-11.5')
Collection Date: 10/8/2012 4:30:00 PM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS						Analyst: JLF		
Antimony	ND	3.1	12		mg/Kg	5	10/16/2012 4:30:35 PM	4298
Arsenic	ND	3.1	12		mg/Kg	5	10/16/2012 4:30:35 PM	4298
Barium	360	3.0	5.0		mg/Kg	50	10/16/2012 4:33:01 PM	4298
Beryllium	0.75	0.046	0.75	J	mg/Kg	5	10/16/2012 4:30:35 PM	4298
Cadmium	ND	0.14	0.50		mg/Kg	5	10/16/2012 4:30:35 PM	4298
Chromium	4.9	0.59	1.5		mg/Kg	5	10/16/2012 4:30:35 PM	4298
Cobalt	3.9	0.34	1.5		mg/Kg	5	10/16/2012 4:30:35 PM	4298
Iron	10000	370	500		mg/Kg	500	10/16/2012 4:35:27 PM	4298
Lead	5.2	1.1	1.2		mg/Kg	5	10/16/2012 4:30:35 PM	4298
Manganese	710	1.1	5.0		mg/Kg	50	10/16/2012 4:33:01 PM	4298
Nickel	5.6	0.83	2.5		mg/Kg	5	10/16/2012 4:30:35 PM	4298
Selenium	ND	7.0	12		mg/Kg	5	10/16/2012 4:30:35 PM	4298
Silver	ND	0.18	1.2		mg/Kg	5	10/16/2012 4:30:35 PM	4298
Vanadium	13	0.28	12		mg/Kg	5	10/16/2012 4:30:35 PM	4298
Zinc	11	5.0	12	J	mg/Kg	5	10/16/2012 4:30:35 PM	4298

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Company
Project: SWMU NO.1
Lab ID: 1210521-005C

Client Sample ID: SWMU 1-24 (16-18')
Collection Date: 10/8/2012 4:40:00 PM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: JLF	
Antimony	ND	3.1	12		mg/Kg	5	10/16/2012 4:38:05 PM	4298
Arsenic	ND	3.1	12		mg/Kg	5	10/16/2012 4:38:05 PM	4298
Barium	480	3.0	5.0		mg/Kg	50	10/16/2012 4:40:30 PM	4298
Beryllium	0.57	0.046	0.75	J	mg/Kg	5	10/16/2012 4:38:05 PM	4298
Cadmium	ND	0.14	0.50		mg/Kg	5	10/16/2012 4:38:05 PM	4298
Chromium	5.9	0.59	1.5		mg/Kg	5	10/16/2012 4:38:05 PM	4298
Cobalt	3.0	0.34	1.5		mg/Kg	5	10/16/2012 4:38:05 PM	4298
Iron	9500	370	500		mg/Kg	500	10/16/2012 4:44:35 PM	4298
Lead	4.9	1.1	1.2		mg/Kg	5	10/16/2012 4:38:05 PM	4298
Manganese	790	1.1	5.0		mg/Kg	50	10/16/2012 4:40:30 PM	4298
Nickel	4.7	0.83	2.5		mg/Kg	5	10/16/2012 4:38:05 PM	4298
Selenium	ND	7.0	12		mg/Kg	5	10/16/2012 4:38:05 PM	4298
Silver	ND	0.18	1.2		mg/Kg	5	10/16/2012 4:38:05 PM	4298
Vanadium	16	0.28	12		mg/Kg	5	10/16/2012 4:38:05 PM	4298
Zinc	11	5.0	12	J	mg/Kg	5	10/16/2012 4:38:05 PM	4298

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Company
Project: SWMU NO.1
Lab ID: 1210521-006C

Client Sample ID: SWMU 1-24 (24-26')
Collection Date: 10/8/2012 4:55:00 PM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: JLF	
Antimony	ND	3.1	12		mg/Kg	5	10/16/2012 4:47:26 PM	4298
Arsenic	ND	3.1	12		mg/Kg	5	10/16/2012 4:47:26 PM	4298
Barium	160	0.30	0.50		mg/Kg	5	10/16/2012 4:47:26 PM	4298
Beryllium	0.89	0.046	0.75		mg/Kg	5	10/16/2012 4:47:26 PM	4298
Cadmium	ND	0.14	0.50		mg/Kg	5	10/16/2012 4:47:26 PM	4298
Chromium	9.9	0.59	1.5		mg/Kg	5	10/16/2012 4:47:26 PM	4298
Cobalt	4.8	0.34	1.5		mg/Kg	5	10/16/2012 4:47:26 PM	4298
Iron	13000	370	500		mg/Kg	500	10/16/2012 5:00:50 PM	4298
Lead	3.4	1.1	1.2		mg/Kg	5	10/16/2012 4:47:26 PM	4298
Manganese	640	1.1	5.0		mg/Kg	50	10/16/2012 4:58:26 PM	4298
Nickel	7.7	0.83	2.5		mg/Kg	5	10/16/2012 4:47:26 PM	4298
Selenium	ND	2.8	5.0		mg/Kg	2	10/25/2012 9:41:06 AM	4298
Silver	ND	0.18	1.2		mg/Kg	5	10/16/2012 4:47:26 PM	4298
Vanadium	23	0.28	12		mg/Kg	5	10/16/2012 4:47:26 PM	4298
Zinc	17	5.0	12		mg/Kg	5	10/16/2012 4:47:26 PM	4298

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 11/12/2012

CLIENT: Western Refining Company
 Project: SWMU NO.1
 Lab ID: 1210521-007C

Client Sample ID: SWMU 1-24 (32-34')
 Collection Date: 10/8/2012 5:05:00 PM
 Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: JLF	
Antimony	ND	3.1	12		mg/Kg	5	10/16/2012 5:03:26 PM	4298
Arsenic	ND	3.1	12		mg/Kg	5	10/16/2012 5:03:26 PM	4298
Barium	220	0.30	0.50		mg/Kg	5	10/16/2012 5:03:26 PM	4298
Beryllium	0.64	0.046	0.75	J	mg/Kg	5	10/16/2012 5:03:26 PM	4298
Cadmium	ND	0.14	0.50		mg/Kg	5	10/16/2012 5:03:26 PM	4298
Chromium	8.1	0.59	1.5		mg/Kg	5	10/16/2012 5:03:26 PM	4298
Cobalt	3.9	0.34	1.5		mg/Kg	5	10/16/2012 5:03:26 PM	4298
Iron	24000	370	500		mg/Kg	500	10/16/2012 5:08:16 PM	4298
Lead	8.6	1.1	1.2		mg/Kg	5	10/16/2012 5:03:26 PM	4298
Manganese	730	1.1	5.0		mg/Kg	50	10/16/2012 5:05:52 PM	4298
Nickel	5.0	0.83	2.5		mg/Kg	5	10/16/2012 5:03:26 PM	4298
Selenium	ND	7.0	12		mg/Kg	5	10/23/2012 6:35:11 PM	4298
Silver	ND	0.18	1.2		mg/Kg	5	10/16/2012 5:03:26 PM	4298
Vanadium	53	0.28	12		mg/Kg	5	10/16/2012 5:03:26 PM	4298
Zinc	12	5.0	12	J	mg/Kg	5	10/16/2012 5:03:26 PM	4298

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Company
Project: SWMU NO.1
Lab ID: 1210653-001C

Client Sample ID: SWMU 1-37 (0-0.5')
Collection Date: 10/10/2012 5:00:00 PM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: JLF	
Antimony	ND	1.3	5.0		mg/Kg	2	10/25/2012 9:46:22 AM	4440
Arsenic	ND	1.3	5.0		mg/Kg	2	10/25/2012 9:46:22 AM	4440
Barium	350	0.61	1.0		mg/Kg	10	10/25/2012 12:29:16 PM	4440
Beryllium	0.85	0.019	0.30		mg/Kg	2	10/25/2012 9:46:22 AM	4440
Cadmium	ND	0.054	0.20		mg/Kg	2	10/25/2012 9:46:22 AM	4440
Chromium	17	0.24	0.60		mg/Kg	2	10/25/2012 9:46:22 AM	4440
Cobalt	4.7	0.14	0.60		mg/Kg	2	10/25/2012 9:46:22 AM	4440
Iron	18000	370	500		mg/Kg	500	11/2/2012 6:21:33 AM	4440
Lead	2.8	0.44	0.50		mg/Kg	2	10/25/2012 9:46:22 AM	4440
Manganese	610	0.42	2.0		mg/Kg	20	10/25/2012 2:24:36 PM	4440
Nickel	8.4	0.33	1.0		mg/Kg	2	10/25/2012 9:46:22 AM	4440
Selenium	ND	2.8	5.0		mg/Kg	2	10/25/2012 9:46:22 AM	4440
Silver	ND	0.071	0.50		mg/Kg	2	10/29/2012 2:11:45 PM	4440
Vanadium	18	0.11	5.0		mg/Kg	2	10/25/2012 9:46:22 AM	4440
Zinc	22	2.0	5.0		mg/Kg	2	10/25/2012 9:46:22 AM	4440

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Company
Project: SWMU NO.1
Lab ID: 1210653-002C

Client Sample ID: SWMU 1-37 (1.5-2')
Collection Date: 10/10/2012 5:15:00 PM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: JLF	
Antimony	ND	1.3	5.0		mg/Kg	2	10/25/2012 9:51:37 AM	4440
Arsenic	2.2	1.3	5.0	J	mg/Kg	2	10/25/2012 9:51:37 AM	4440
Barium	370	0.61	1.0		mg/Kg	10	10/25/2012 12:42:54 PM	4440
Beryllium	0.79	0.019	0.30		mg/Kg	2	10/25/2012 9:51:37 AM	4440
Cadmium	ND	0.054	0.20		mg/Kg	2	10/25/2012 9:51:37 AM	4440
Chromium	24	0.24	0.60		mg/Kg	2	10/25/2012 9:51:37 AM	4440
Cobalt	4.4	0.14	0.60		mg/Kg	2	10/25/2012 9:51:37 AM	4440
Iron	16000	370	500		mg/Kg	500	11/2/2012 6:24:23 AM	4440
Lead	3.1	0.44	0.50		mg/Kg	2	10/25/2012 9:51:37 AM	4440
Manganese	570	0.42	2.0		mg/Kg	20	10/25/2012 2:27:00 PM	4440
Nickel	7.6	0.33	1.0		mg/Kg	2	10/25/2012 9:51:37 AM	4440
Selenium	ND	2.8	5.0		mg/Kg	2	10/25/2012 9:51:37 AM	4440
Silver	ND	0.071	0.50		mg/Kg	2	10/29/2012 2:27:29 PM	4440
Vanadium	19	0.11	5.0		mg/Kg	2	10/25/2012 9:51:37 AM	4440
Zinc	25	2.0	5.0		mg/Kg	2	10/25/2012 9:51:37 AM	4440

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Company
Project: SWMU NO.1
Lab ID: 1210653-003C

Client Sample ID: SWMU 1-37 (8-8.5')
Collection Date: 10/10/2012 5:30:00 PM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: JLF	
Antimony	ND	1.3	5.0		mg/Kg	2	10/25/2012 10:06:49 AM	4440
Arsenic	2.1	1.3	5.0	J	mg/Kg	2	10/25/2012 10:06:49 AM	4440
Barium	130	0.61	1.0		mg/Kg	10	10/25/2012 12:47:59 PM	4440
Beryllium	0.77	0.019	0.30		mg/Kg	2	10/25/2012 10:06:49 AM	4440
Cadmium	ND	0.054	0.20		mg/Kg	2	10/25/2012 10:06:49 AM	4440
Chromium	10	0.24	0.60		mg/Kg	2	10/25/2012 10:06:49 AM	4440
Cobalt	4.1	0.14	0.60		mg/Kg	2	10/25/2012 10:06:49 AM	4440
Iron	18000	370	500		mg/Kg	500	11/2/2012 6:27:16 AM	4440
Lead	3.6	0.44	0.50		mg/Kg	2	10/25/2012 10:06:49 AM	4440
Manganese	350	0.21	1.0		mg/Kg	10	10/25/2012 12:47:59 PM	4440
Nickel	7.3	0.33	1.0		mg/Kg	2	10/25/2012 10:06:49 AM	4440
Selenium	ND	2.8	5.0		mg/Kg	2	10/25/2012 10:06:49 AM	4440
Silver	ND	0.071	0.50		mg/Kg	2	10/29/2012 2:32:46 PM	4440
Vanadium	17	0.11	5.0		mg/Kg	2	10/25/2012 10:06:49 AM	4440
Zinc	16	2.0	5.0		mg/Kg	2	10/25/2012 10:06:49 AM	4440

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Company
Project: SWMU NO.1
Lab ID: 1210653-004C

Client Sample ID: SWMU 1-37 (8.5-9)
Collection Date: 10/10/2012 5:40:00 PM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: JLF	
Antimony	ND	1.3	5.0		mg/Kg	2	10/25/2012 10:12:01 AM	4440
Arsenic	ND	1.3	5.0		mg/Kg	2	10/25/2012 10:12:01 AM	4440
Barium	130	0.61	1.0		mg/Kg	10	10/25/2012 12:54:40 PM	4440
Beryllium	0.83	0.019	0.30		mg/Kg	2	10/25/2012 10:12:01 AM	4440
Cadmium	ND	0.054	0.20		mg/Kg	2	10/25/2012 10:12:01 AM	4440
Chromium	8.6	0.24	0.60		mg/Kg	2	10/25/2012 10:12:01 AM	4440
Cobalt	3.8	0.14	0.60		mg/Kg	2	10/25/2012 10:12:01 AM	4440
Iron	16000	370	500		mg/Kg	500	11/2/2012 6:30:08 AM	4440
Lead	2.8	0.44	0.50		mg/Kg	2	10/25/2012 10:12:01 AM	4440
Manganese	230	0.21	1.0		mg/Kg	10	10/25/2012 12:54:40 PM	4440
Nickel	6.9	0.33	1.0		mg/Kg	2	10/25/2012 10:12:01 AM	4440
Selenium	ND	2.8	5.0		mg/Kg	2	10/25/2012 10:12:01 AM	4440
Silver	ND	0.071	0.50		mg/Kg	2	10/29/2012 2:38:00 PM	4440
Vanadium	14	0.11	5.0		mg/Kg	2	10/25/2012 10:12:01 AM	4440
Zinc	13	2.0	5.0		mg/Kg	2	10/25/2012 10:12:01 AM	4440

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Company
Project: SWMU NO.1
Lab ID: 1210653-005C

Client Sample ID: SWMU 1-37 (12-13')
Collection Date: 10/10/2012 5:55:00 PM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: JLF	
Antimony	ND	1.3	5.0		mg/Kg	2	10/25/2012 10:17:05 AM	4440
Arsenic	ND	1.3	5.0		mg/Kg	2	10/25/2012 10:17:05 AM	4440
Barium	210	0.61	1.0		mg/Kg	10	10/25/2012 12:59:33 PM	4440
Beryllium	0.72	0.019	0.30		mg/Kg	2	10/25/2012 10:17:05 AM	4440
Cadmium	ND	0.054	0.20		mg/Kg	2	10/25/2012 10:17:05 AM	4440
Chromium	15	0.24	0.60		mg/Kg	2	10/25/2012 10:17:05 AM	4440
Cobalt	4.1	0.14	0.60		mg/Kg	2	10/25/2012 10:17:05 AM	4440
Iron	15000	370	500		mg/Kg	500	11/2/2012 6:43:03 AM	4440
Lead	2.8	0.44	0.50		mg/Kg	2	10/25/2012 10:17:05 AM	4440
Manganese	530	0.42	2.0		mg/Kg	20	10/25/2012 2:32:04 PM	4440
Nickel	6.9	0.33	1.0		mg/Kg	2	10/25/2012 10:17:05 AM	4440
Selenium	ND	2.8	5.0		mg/Kg	2	10/25/2012 10:17:05 AM	4440
Silver	ND	0.071	0.50		mg/Kg	2	10/29/2012 2:43:15 PM	4440
Vanadium	17	0.11	5.0		mg/Kg	2	10/25/2012 10:17:05 AM	4440
Zinc	16	2.0	5.0		mg/Kg	2	10/25/2012 10:17:05 AM	4440

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Company
Project: SWMU NO.1
Lab ID: 1210653-006C

Client Sample ID: SWMU 1-37 (13-14')
Collection Date: 10/10/2012 6:05:00 PM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS						Analyst: JLF		
Antimony	ND	3.1	12		mg/Kg	5	10/25/2012 1:04:23 PM	4440
Arsenic	ND	3.1	12		mg/Kg	5	10/25/2012 1:04:23 PM	4440
Barium	280	0.61	1.0		mg/Kg	10	10/25/2012 1:06:48 PM	4440
Beryllium	1.2	0.046	0.75		mg/Kg	5	10/25/2012 1:04:23 PM	4440
Cadmium	ND	0.14	0.50		mg/Kg	5	10/25/2012 1:04:23 PM	4440
Chromium	13	0.59	1.5		mg/Kg	5	10/25/2012 1:04:23 PM	4440
Cobalt	6.0	0.34	1.5		mg/Kg	5	10/25/2012 1:04:23 PM	4440
Iron	20000	370	500		mg/Kg	500	11/2/2012 6:45:53 AM	4440
Lead	4.0	1.1	1.2		mg/Kg	5	10/25/2012 1:04:23 PM	4440
Manganese	320	0.21	1.0		mg/Kg	10	10/25/2012 1:06:48 PM	4440
Nickel	11	0.83	2.5		mg/Kg	5	10/25/2012 1:04:23 PM	4440
Selenium	ND	7.0	12		mg/Kg	5	10/25/2012 1:04:23 PM	4440
Silver	ND	0.18	1.3		mg/Kg	5	10/29/2012 2:48:38 PM	4440
Vanadium	20	0.28	12		mg/Kg	5	10/25/2012 1:04:23 PM	4440
Zinc	20	5.0	12		mg/Kg	5	10/25/2012 1:04:23 PM	4440

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Company
Project: SWMU NO.1
Lab ID: 1210653-007C

Client Sample ID: SWMU 1-37 (17-18')
Collection Date: 10/10/2012 6:20:00 PM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: JLF	
Antimony	ND	3.1	12		mg/Kg	5	10/25/2012 1:20:11 PM	4440
Arsenic	3.9	3.1	12	J	mg/Kg	5	10/25/2012 1:20:11 PM	4440
Barium	870	3.0	5.0		mg/Kg	50	10/25/2012 1:22:36 PM	4440
Beryllium	1.0	0.046	0.75		mg/Kg	5	10/25/2012 1:20:11 PM	4440
Cadmium	ND	0.14	0.50		mg/Kg	5	10/25/2012 1:20:11 PM	4440
Chromium	13	0.59	1.5		mg/Kg	5	10/25/2012 1:20:11 PM	4440
Cobalt	6.2	0.34	1.5		mg/Kg	5	10/25/2012 1:20:11 PM	4440
Iron	24000	750	1000		mg/Kg	1000	11/2/2012 6:48:43 AM	4440
Lead	5.0	1.1	1.2		mg/Kg	5	10/25/2012 1:20:11 PM	4440
Manganese	1400	1.1	5.0		mg/Kg	50	10/25/2012 1:22:36 PM	4440
Nickel	12	0.83	2.5		mg/Kg	5	10/25/2012 1:20:11 PM	4440
Selenium	ND	7.0	12		mg/Kg	5	10/25/2012 1:20:11 PM	4440
Silver	ND	0.18	1.2		mg/Kg	5	10/29/2012 3:03:53 PM	4440
Vanadium	16	0.28	12		mg/Kg	5	10/25/2012 1:20:11 PM	4440
Zinc	21	5.0	12		mg/Kg	5	10/25/2012 1:20:11 PM	4440

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Company
Project: SWMU NO.1
Lab ID: 1210692-001C

Client Sample ID: SWMU 1-20 (0-0.5')
Collection Date: 10/11/2012 12:20:00 PM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: JLF	
Antimony	ND	1.3	5.0		mg/Kg	2	10/25/2012 9:11:00 PM	4498
Arsenic	2.6	1.3	5.0	J	mg/Kg	2	10/25/2012 9:11:00 PM	4498
Barium	740	1.2	2.0		mg/Kg	20	11/2/2012 7:24:51 AM	4498
Beryllium	0.71	0.019	0.30		mg/Kg	2	10/25/2012 9:11:00 PM	4498
Cadmium	ND	0.054	0.20		mg/Kg	2	10/25/2012 9:11:00 PM	4498
Chromium	19	0.24	0.60		mg/Kg	2	10/25/2012 9:11:00 PM	4498
Cobalt	4.0	0.14	0.60		mg/Kg	2	10/25/2012 9:11:00 PM	4498
Iron	15000	370	500		mg/Kg	500	11/2/2012 7:27:16 AM	4498
Lead	2.6	0.44	0.50		mg/Kg	2	10/25/2012 9:11:00 PM	4498
Manganese	650	0.42	2.0		mg/Kg	20	11/2/2012 7:24:51 AM	4498
Nickel	6.9	0.33	1.0		mg/Kg	2	10/25/2012 9:11:00 PM	4498
Selenium	ND	2.8	5.0		mg/Kg	2	10/25/2012 9:11:00 PM	4498
Silver	ND	0.071	0.50		mg/Kg	2	10/25/2012 9:11:00 PM	4498
Vanadium	22	0.11	5.0		mg/Kg	2	10/25/2012 9:11:00 PM	4498
Zinc	22	2.0	5.0		mg/Kg	2	10/25/2012 9:11:00 PM	4498

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		
				Page 1 of 0

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Company
Project: SWMU NO.1
Lab ID: 1210692-002C

Client Sample ID: SWMU 1-20 (0-0.5') DUP
Collection Date: 10/11/2012 12:20:00 PM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: ELS	
Antimony	ND	3.1	13		mg/Kg	5	11/2/2012 7:30:09 AM	4498
Arsenic	ND	3.1	13		mg/Kg	5	11/2/2012 7:30:09 AM	4498
Barium	840	1.2	2.0		mg/Kg	20	11/2/2012 9:49:13 AM	4498
Beryllium	0.94	0.047	0.75		mg/Kg	5	11/2/2012 7:30:09 AM	4498
Cadmium	ND	0.14	0.50		mg/Kg	5	11/2/2012 7:30:09 AM	4498
Chromium	23	0.59	1.5		mg/Kg	5	11/2/2012 7:30:09 AM	4498
Cobalt	5.4	0.34	1.5		mg/Kg	5	11/2/2012 7:30:09 AM	4498
Iron	19000	370	500		mg/Kg	500	11/2/2012 9:51:40 AM	4498
Lead	3.4	1.1	1.3		mg/Kg	5	11/2/2012 7:30:09 AM	4498
Manganese	680	0.42	2.0		mg/Kg	20	11/2/2012 9:49:13 AM	4498
Nickel	8.5	0.83	2.5		mg/Kg	5	11/2/2012 7:30:09 AM	4498
Selenium	ND	7.0	13		mg/Kg	5	11/2/2012 7:30:09 AM	4498
Silver	ND	0.18	1.3		mg/Kg	5	11/2/2012 7:30:09 AM	4498
Vanadium	32	0.28	13		mg/Kg	5	11/2/2012 7:30:09 AM	4498
Zinc	28	5.0	13		mg/Kg	5	11/2/2012 7:30:09 AM	4498

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Company
Project: SWMU NO.1
Lab ID: 1210692-003C

Client Sample ID: SWMU 1-20 (1.5-2')
Collection Date: 10/11/2012 12:30:00 PM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: ELS	
Antimony	ND	3.1	13		mg/Kg	5	11/2/2012 7:32:33 AM	4498
Arsenic	ND	3.1	13		mg/Kg	5	11/2/2012 7:32:33 AM	4498
Barium	1000	3.0	5.0		mg/Kg	50	11/2/2012 10:25:25 AM	4498
Beryllium	0.74	0.047	0.75	J	mg/Kg	5	11/2/2012 7:32:33 AM	4498
Cadmium	ND	0.14	0.50		mg/Kg	5	11/2/2012 7:32:33 AM	4498
Chromium	11	0.59	1.5		mg/Kg	5	11/2/2012 7:32:33 AM	4498
Cobalt	4.7	0.34	1.5		mg/Kg	5	11/2/2012 7:32:33 AM	4498
Iron	16000	370	500		mg/Kg	500	11/2/2012 9:56:46 AM	4498
Lead	3.9	1.1	1.3		mg/Kg	5	11/2/2012 7:32:33 AM	4498
Manganese	950	0.42	2.0		mg/Kg	20	11/2/2012 9:54:19 AM	4498
Nickel	7.3	0.83	2.5		mg/Kg	5	11/2/2012 7:32:33 AM	4498
Selenium	ND	7.0	13		mg/Kg	5	11/2/2012 7:32:33 AM	4498
Silver	ND	0.18	1.3		mg/Kg	5	11/2/2012 7:32:33 AM	4498
Vanadium	29	0.28	13		mg/Kg	5	11/2/2012 7:32:33 AM	4498
Zinc	17	5.0	13		mg/Kg	5	11/2/2012 7:32:33 AM	4498

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Company
Project: SWMU NO.1
Lab ID: 1210692-004C

Client Sample ID: SWMU 1-20 (4-6')
Collection Date: 10/11/2012 12:45:00 PM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: JLF	
Antimony	ND	1.3	5.0		mg/Kg	2	10/25/2012 9:36:54 PM	4498
Arsenic	2.4	1.3	5.0	J	mg/Kg	2	10/25/2012 9:36:54 PM	4498
Barium	190	0.61	1.0		mg/Kg	10	11/2/2012 7:35:01 AM	4498
Beryllium	0.97	0.019	0.30		mg/Kg	2	10/25/2012 9:36:54 PM	4498
Cadmium	ND	0.054	0.20		mg/Kg	2	10/25/2012 9:36:54 PM	4498
Chromium	10	0.24	0.60		mg/Kg	2	10/25/2012 9:36:54 PM	4498
Cobalt	4.9	0.14	0.60		mg/Kg	2	10/25/2012 9:36:54 PM	4498
Iron	17000	370	500		mg/Kg	500	11/2/2012 7:37:27 AM	4498
Lead	2.8	0.44	0.50		mg/Kg	2	10/25/2012 9:36:54 PM	4498
Manganese	330	0.21	1.0		mg/Kg	10	11/2/2012 7:35:01 AM	4498
Nickel	8.6	0.33	1.0		mg/Kg	2	10/25/2012 9:36:54 PM	4498
Selenium	ND	2.8	5.0		mg/Kg	2	10/25/2012 9:36:54 PM	4498
Silver	ND	0.071	0.50		mg/Kg	2	10/25/2012 9:36:54 PM	4498
Vanadium	17	0.11	5.0		mg/Kg	2	10/25/2012 9:36:54 PM	4498
Zinc	16	2.0	5.0		mg/Kg	2	10/25/2012 9:36:54 PM	4498

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Company
Project: SWMU NO.1
Lab ID: 1210692-005C

Client Sample ID: SWMU 1-20 (10-12')
Collection Date: 10/11/2012 1:00:00 PM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: JLF	
Antimony	ND	1.3	5.0		mg/Kg	2	10/25/2012 9:45:32 PM	4498
Arsenic	2.1	1.3	5.0	J	mg/Kg	2	10/25/2012 9:45:32 PM	4498
Barium	1100	3.0	5.0		mg/Kg	50	11/2/2012 9:59:37 AM	4498
Beryllium	1.0	0.019	0.30		mg/Kg	2	10/25/2012 9:45:32 PM	4498
Cadmium	ND	0.054	0.20		mg/Kg	2	10/25/2012 9:45:32 PM	4498
Chromium	12	0.24	0.60		mg/Kg	2	10/25/2012 9:45:32 PM	4498
Cobalt	5.8	0.14	0.60		mg/Kg	2	10/25/2012 9:45:32 PM	4498
Iron	18000	370	500		mg/Kg	500	11/2/2012 7:42:48 AM	4498
Lead	1.5	0.44	0.50		mg/Kg	2	10/25/2012 9:45:32 PM	4498
Manganese	540	0.42	2.0		mg/Kg	20	11/2/2012 7:40:21 AM	4498
Nickel	12	0.33	1.0		mg/Kg	2	10/25/2012 9:45:32 PM	4498
Selenium	ND	2.8	5.0		mg/Kg	2	10/25/2012 9:45:32 PM	4498
Silver	ND	0.071	0.50		mg/Kg	2	10/25/2012 9:45:32 PM	4498
Vanadium	21	0.11	5.0		mg/Kg	2	10/25/2012 9:45:32 PM	4498
Zinc	24	2.0	5.0		mg/Kg	2	10/25/2012 9:45:32 PM	4498

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Company
Project: SWMU NO.1
Lab ID: 1210692-006C

Client Sample ID: SWMU 1-38 (0-0.5')
Collection Date: 10/11/2012 2:20:00 PM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: JLF	
Antimony	ND	1.3	5.0		mg/Kg	2	10/25/2012 9:51:21 PM	4498
Arsenic	1.7	1.3	5.0	J	mg/Kg	2	10/25/2012 9:51:21 PM	4498
Barium	360	1.2	2.0		mg/Kg	20	11/2/2012 7:45:41 AM	4498
Beryllium	0.70	0.019	0.30		mg/Kg	2	10/25/2012 9:51:21 PM	4498
Cadmium	ND	0.054	0.20		mg/Kg	2	10/25/2012 9:51:21 PM	4498
Chromium	24	0.24	0.60		mg/Kg	2	10/25/2012 9:51:21 PM	4498
Cobalt	3.9	0.14	0.60		mg/Kg	2	10/25/2012 9:51:21 PM	4498
Iron	14000	370	500		mg/Kg	500	11/2/2012 7:58:27 AM	4498
Lead	2.8	0.44	0.50		mg/Kg	2	10/25/2012 9:51:21 PM	4498
Manganese	480	0.42	2.0		mg/Kg	20	11/2/2012 7:45:41 AM	4498
Nickel	7.7	0.33	1.0		mg/Kg	2	10/25/2012 9:51:21 PM	4498
Selenium	ND	2.8	5.0		mg/Kg	2	10/25/2012 9:51:21 PM	4498
Silver	ND	0.071	0.50		mg/Kg	2	10/25/2012 9:51:21 PM	4498
Vanadium	17	0.11	5.0		mg/Kg	2	10/25/2012 9:51:21 PM	4498
Zinc	34	2.0	5.0		mg/Kg	2	10/25/2012 9:51:21 PM	4498

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Company
Project: SWMU NO.1
Lab ID: 1210692-007C

Client Sample ID: SWMU 1-38 (1.5-2')
Collection Date: 10/11/2012 2:30:00 PM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: JLF	
Antimony	ND	1.3	5.0		mg/Kg	2	10/25/2012 10:07:42 PM	4498
Arsenic	1.9	1.3	5.0	J	mg/Kg	2	10/25/2012 10:07:42 PM	4498
Barium	81	0.12	0.20		mg/Kg	2	10/25/2012 10:07:42 PM	4498
Beryllium	0.84	0.019	0.30		mg/Kg	2	10/25/2012 10:07:42 PM	4498
Cadmium	ND	0.054	0.20		mg/Kg	2	10/25/2012 10:07:42 PM	4498
Chromium	12	0.24	0.60		mg/Kg	2	10/25/2012 10:07:42 PM	4498
Cobalt	4.9	0.14	0.60		mg/Kg	2	10/25/2012 10:07:42 PM	4498
Iron	20000	370	500		mg/Kg	500	11/2/2012 8:03:45 AM	4498
Lead	3.2	0.44	0.50		mg/Kg	2	10/25/2012 10:07:42 PM	4498
Manganese	600	0.42	2.0		mg/Kg	20	11/2/2012 8:01:20 AM	4498
Nickel	8.5	0.33	1.0		mg/Kg	2	10/25/2012 10:07:42 PM	4498
Selenium	ND	2.8	5.0		mg/Kg	2	10/25/2012 10:07:42 PM	4498
Silver	ND	0.071	0.50		mg/Kg	2	10/25/2012 10:07:42 PM	4498
Vanadium	30	0.11	5.0		mg/Kg	2	10/25/2012 10:07:42 PM	4498
Zinc	18	2.0	5.0		mg/Kg	2	10/25/2012 10:07:42 PM	4498

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Company
Project: SWMU NO.1
Lab ID: 1210692-008C

Client Sample ID: SWMU 1-38 (6-8')
Collection Date: 10/11/2012 2:45:00 PM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: JLF	
Antimony	ND	1.3	5.0		mg/Kg	2	10/25/2012 10:15:17 PM	4498
Arsenic	2.2	1.3	5.0	J	mg/Kg	2	10/25/2012 10:15:17 PM	4498
Barium	540	1.2	2.0		mg/Kg	20	11/2/2012 8:06:38 AM	4498
Beryllium	0.90	0.019	0.30		mg/Kg	2	10/25/2012 10:15:17 PM	4498
Cadmium	ND	0.054	0.20		mg/Kg	2	10/25/2012 10:15:17 PM	4498
Chromium	12	0.24	0.60		mg/Kg	2	10/25/2012 10:15:17 PM	4498
Cobalt	5.2	0.14	0.60		mg/Kg	2	10/25/2012 10:15:17 PM	4498
Iron	22000	370	500		mg/Kg	500	11/2/2012 8:09:03 AM	4498
Lead	ND	0.44	0.50		mg/Kg	2	10/25/2012 10:15:17 PM	4498
Manganese	570	0.42	2.0		mg/Kg	20	11/2/2012 8:06:38 AM	4498
Nickel	11	0.33	1.0		mg/Kg	2	10/25/2012 10:15:17 PM	4498
Selenium	ND	2.8	5.0		mg/Kg	2	10/25/2012 10:15:17 PM	4498
Silver	ND	0.071	0.50		mg/Kg	2	10/25/2012 10:15:17 PM	4498
Vanadium	26	0.11	5.0		mg/Kg	2	10/25/2012 10:15:17 PM	4498
Zinc	22	2.0	5.0		mg/Kg	2	10/25/2012 10:15:17 PM	4498

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Company
Project: SWMU NO.1
Lab ID: 1210692-009C

Client Sample ID: SWMU 1-27 (0-0.5')
Collection Date: 10/12/2012 9:00:00 AM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: JLF	
Antimony	ND	1.3	5.0		mg/Kg	2	10/25/2012 10:21:12 PM	4498
Arsenic	3.5	1.3	5.0	J	mg/Kg	2	10/25/2012 10:21:12 PM	4498
Barium	560	1.2	2.0		mg/Kg	20	11/2/2012 8:11:40 AM	4498
Beryllium	0.60	0.019	0.30		mg/Kg	2	10/25/2012 10:21:12 PM	4498
Cadmium	ND	0.054	0.20		mg/Kg	2	10/25/2012 10:21:12 PM	4498
Chromium	8.0	0.24	0.60		mg/Kg	2	10/25/2012 10:21:12 PM	4498
Cobalt	2.9	0.14	0.60		mg/Kg	2	10/25/2012 10:21:12 PM	4498
Iron	11000	370	500		mg/Kg	500	11/2/2012 8:14:06 AM	4498
Lead	1.4	0.44	0.50		mg/Kg	2	10/25/2012 10:21:12 PM	4498
Manganese	470	0.42	2.0		mg/Kg	20	11/2/2012 8:11:40 AM	4498
Nickel	5.8	0.33	1.0		mg/Kg	2	10/25/2012 10:21:12 PM	4498
Selenium	ND	2.8	5.0		mg/Kg	2	10/25/2012 10:21:12 PM	4498
Silver	ND	0.071	0.50		mg/Kg	2	10/25/2012 10:21:12 PM	4498
Vanadium	17	0.11	5.0		mg/Kg	2	10/25/2012 10:21:12 PM	4498
Zinc	15	2.0	5.0		mg/Kg	2	10/25/2012 10:21:12 PM	4498

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Company
Project: SWMU NO.1
Lab ID: 1210692-010C

Client Sample ID: SWMU 1-27 (1.5-2')
Collection Date: 10/12/2012 9:15:00 AM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: ELS	
Antimony	ND	3.1	13		mg/Kg	5	11/2/2012 8:17:00 AM	4498
Arsenic	ND	3.1	13		mg/Kg	5	11/2/2012 8:17:00 AM	4498
Barium	750	3.0	5.0		mg/Kg	50	11/2/2012 10:02:03 AM	4498
Beryllium	0.63	0.047	0.75	J	mg/Kg	5	11/2/2012 8:17:00 AM	4498
Cadmium	ND	0.14	0.50		mg/Kg	5	11/2/2012 8:17:00 AM	4498
Chromium	8.0	0.59	1.5		mg/Kg	5	11/2/2012 8:17:00 AM	4498
Cobalt	4.3	0.34	1.5		mg/Kg	5	11/2/2012 8:17:00 AM	4498
Iron	11000	370	500		mg/Kg	500	11/2/2012 10:06:05 AM	4498
Lead	2.7	1.1	1.3		mg/Kg	5	11/2/2012 8:17:00 AM	4498
Manganese	1300	1.1	5.0		mg/Kg	50	11/2/2012 10:02:03 AM	4498
Nickel	6.0	0.83	2.5		mg/Kg	5	11/2/2012 8:17:00 AM	4498
Selenium	ND	7.0	13		mg/Kg	5	11/2/2012 8:17:00 AM	4498
Silver	ND	0.18	1.3		mg/Kg	5	11/2/2012 8:17:00 AM	4498
Vanadium	20	0.28	13		mg/Kg	5	11/2/2012 8:17:00 AM	4498
Zinc	13	5.0	13		mg/Kg	5	11/2/2012 8:17:00 AM	4498

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Company
Project: SWMU NO.1
Lab ID: 1210692-011C

Client Sample ID: SWMU 1-28 (0-0.5')
Collection Date: 10/12/2012 9:50:00 AM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: JLF	
Antimony	ND	1.3	5.0		mg/Kg	2	10/25/2012 10:32:52 PM	4498
Arsenic	2.9	1.3	5.0	J	mg/Kg	2	10/25/2012 10:32:52 PM	4498
Barium	490	1.2	2.0		mg/Kg	20	11/2/2012 8:19:27 AM	4498
Beryllium	0.70	0.019	0.30		mg/Kg	2	10/25/2012 10:32:52 PM	4498
Cadmium	ND	0.054	0.20		mg/Kg	2	10/25/2012 10:32:52 PM	4498
Chromium	10	0.24	0.60		mg/Kg	2	10/25/2012 10:32:52 PM	4498
Cobalt	3.7	0.14	0.60		mg/Kg	2	10/25/2012 10:32:52 PM	4498
Iron	13000	370	500		mg/Kg	500	11/2/2012 8:24:30 AM	4498
Lead	2.6	0.44	0.50		mg/Kg	2	10/25/2012 10:32:52 PM	4498
Manganese	520	0.42	2.0		mg/Kg	20	11/2/2012 8:19:27 AM	4498
Nickel	7.1	0.33	1.0		mg/Kg	2	10/25/2012 10:32:52 PM	4498
Selenium	ND	2.8	5.0		mg/Kg	2	10/25/2012 10:32:52 PM	4498
Silver	ND	0.071	0.50		mg/Kg	2	10/25/2012 10:32:52 PM	4498
Vanadium	18	0.11	5.0		mg/Kg	2	10/25/2012 10:32:52 PM	4498
Zinc	19	2.0	5.0		mg/Kg	2	10/25/2012 10:32:52 PM	4498

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Company
Project: SWMU NO.1
Lab ID: 1210692-012C

Client Sample ID: SWMU 1-28 (1.5-2')
Collection Date: 10/12/2012 10:10:00 AM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: JLF	
Antimony	ND	1.3	5.0		mg/Kg	2	10/25/2012 10:48:56 PM	4498
Arsenic	2.0	1.3	5.0	J	mg/Kg	2	10/25/2012 10:48:56 PM	4498
Barium	570	1.2	2.0		mg/Kg	20	11/2/2012 8:36:09 AM	4498
Beryllium	0.41	0.019	0.30		mg/Kg	2	10/25/2012 10:48:56 PM	4498
Cadmium	ND	0.054	0.20		mg/Kg	2	10/25/2012 10:48:56 PM	4498
Chromium	5.2	0.24	0.60		mg/Kg	2	10/25/2012 10:48:56 PM	4498
Cobalt	2.7	0.14	0.60		mg/Kg	2	10/25/2012 10:48:56 PM	4498
Iron	8800	370	500		mg/Kg	500	11/2/2012 8:38:33 AM	4498
Lead	1.4	0.44	0.50		mg/Kg	2	10/25/2012 10:48:56 PM	4498
Manganese	430	0.42	2.0		mg/Kg	20	11/2/2012 8:36:09 AM	4498
Nickel	3.7	0.33	1.0		mg/Kg	2	10/25/2012 10:48:56 PM	4498
Selenium	ND	2.8	5.0		mg/Kg	2	10/25/2012 10:48:56 PM	4498
Silver	ND	0.071	0.50		mg/Kg	2	10/25/2012 10:48:56 PM	4498
Vanadium	12	0.11	5.0		mg/Kg	2	10/25/2012 10:48:56 PM	4498
Zinc	8.8	2.0	5.0		mg/Kg	2	10/25/2012 10:48:56 PM	4498

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Company
Project: SWMU NO.1
Lab ID: 1210692-013C

Client Sample ID: SWMU 1-28 (1.5-2') DUP
Collection Date: 10/12/2012 10:10:00 AM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: ELS	
Antimony	ND	3.1	12		mg/Kg	5	11/2/2012 8:41:27 AM	4498
Arsenic	ND	3.1	12		mg/Kg	5	11/2/2012 8:41:27 AM	4498
Barium	630	1.2	2.0		mg/Kg	20	11/2/2012 10:08:56 AM	4498
Beryllium	0.56	0.046	0.75	J	mg/Kg	5	11/2/2012 8:41:27 AM	4498
Cadmium	ND	0.14	0.50		mg/Kg	5	11/2/2012 8:41:27 AM	4498
Chromium	6.0	0.59	1.5		mg/Kg	5	11/2/2012 8:41:27 AM	4498
Cobalt	4.1	0.34	1.5		mg/Kg	5	11/2/2012 8:41:27 AM	4498
Iron	10000	370	500		mg/Kg	500	11/2/2012 10:11:20 AM	4498
Lead	3.1	1.1	1.2		mg/Kg	5	11/2/2012 8:41:27 AM	4498
Manganese	680	0.42	2.0		mg/Kg	20	11/2/2012 10:08:56 AM	4498
Nickel	4.8	0.83	2.5		mg/Kg	5	11/2/2012 8:41:27 AM	4498
Selenium	ND	7.0	12		mg/Kg	5	11/2/2012 8:41:27 AM	4498
Silver	ND	0.18	1.2		mg/Kg	5	11/2/2012 8:41:27 AM	4498
Vanadium	22	0.28	12		mg/Kg	5	11/2/2012 8:41:27 AM	4498
Zinc	12	5.0	12	J	mg/Kg	5	11/2/2012 8:41:27 AM	4498

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Company
Project: SWMU NO.1
Lab ID: 1210692-014C

Client Sample ID: SWMU 1-30 (0-0.5')
Collection Date: 10/12/2012 11:40:00 AM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: JLF	
Antimony	ND	1.3	5.0		mg/Kg	2	10/25/2012 11:16:17 PM	4498
Arsenic	2.0	1.3	5.0	J	mg/Kg	2	10/25/2012 11:16:17 PM	4498
Barium	580	1.2	2.0		mg/Kg	20	11/2/2012 8:51:14 AM	4498
Beryllium	0.69	0.019	0.30		mg/Kg	2	10/25/2012 11:16:17 PM	4498
Cadmium	ND	0.054	0.20		mg/Kg	2	10/25/2012 11:16:17 PM	4498
Chromium	13	0.24	0.60		mg/Kg	2	10/25/2012 11:16:17 PM	4498
Cobalt	4.0	0.14	0.60		mg/Kg	2	10/25/2012 11:16:17 PM	4498
Iron	14000	370	500		mg/Kg	500	11/2/2012 8:53:39 AM	4498
Lead	3.7	0.44	0.50		mg/Kg	2	10/25/2012 11:16:17 PM	4498
Manganese	550	0.42	2.0		mg/Kg	20	11/2/2012 8:51:14 AM	4498
Nickel	7.3	0.33	1.0		mg/Kg	2	10/25/2012 11:16:17 PM	4498
Selenium	ND	2.8	5.0		mg/Kg	2	10/25/2012 11:16:17 PM	4498
Silver	ND	0.071	0.50		mg/Kg	2	10/25/2012 11:16:17 PM	4498
Vanadium	21	0.11	5.0		mg/Kg	2	10/25/2012 11:16:17 PM	4498
Zinc	26	2.0	5.0		mg/Kg	2	10/25/2012 11:16:17 PM	4498

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	Page 14 of 0
	D	Sample Diluted Due to Matrix	E	Value above quantitation range	
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	% Recovery outside of range due to dilution or matrix			

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Company
Project: SWMU NO.1
Lab ID: 1210692-015C

Client Sample ID: SWMU 1-30 (1.5-2')
Collection Date: 10/12/2012 12:00:00 PM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: JLF	
Antimony	ND	1.3	5.0		mg/Kg	2	10/25/2012 11:32:24 PM	4498
Arsenic	1.5	1.3	5.0	J	mg/Kg	2	10/25/2012 11:32:24 PM	4498
Barium	610	1.2	2.0		mg/Kg	20	11/2/2012 8:58:09 AM	4498
Beryllium	0.67	0.019	0.30		mg/Kg	2	10/25/2012 11:32:24 PM	4498
Cadmium	ND	0.054	0.20		mg/Kg	2	10/25/2012 11:32:24 PM	4498
Chromium	12	0.24	0.60		mg/Kg	2	10/25/2012 11:32:24 PM	4498
Cobalt	3.8	0.14	0.60		mg/Kg	2	10/25/2012 11:32:24 PM	4498
Iron	14000	370	500		mg/Kg	500	11/2/2012 9:00:35 AM	4498
Lead	3.1	0.44	0.50		mg/Kg	2	10/25/2012 11:32:24 PM	4498
Manganese	530	0.42	2.0		mg/Kg	20	11/2/2012 8:58:09 AM	4498
Nickel	6.9	0.33	1.0		mg/Kg	2	10/25/2012 11:32:24 PM	4498
Selenium	ND	2.8	5.0		mg/Kg	2	10/25/2012 11:32:24 PM	4498
Silver	ND	0.071	0.50		mg/Kg	2	10/25/2012 11:32:24 PM	4498
Vanadium	17	0.11	5.0		mg/Kg	2	10/25/2012 11:32:24 PM	4498
Zinc	19	2.0	5.0		mg/Kg	2	10/25/2012 11:32:24 PM	4498

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 11/26/2012

CLIENT: Western Refining Company
Project: SWMU NO.1
Lab ID: 1210692-016C

Client Sample ID: SWMU 1-30 (4-6')
Collection Date: 10/12/2012 12:10:00 PM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: JLF	
Antimony	ND	1.3	5.0		mg/Kg	2	10/25/2012 11:38:10 PM	4498
Arsenic	1.8	1.3	5.0	J	mg/Kg	2	10/25/2012 11:38:10 PM	4498
Barium	870	1.2	2.0		mg/Kg	20	11/2/2012 9:12:14 AM	4498
Beryllium	0.47	0.019	0.30		mg/Kg	2	10/25/2012 11:38:10 PM	4498
Cadmium	ND	0.054	0.20		mg/Kg	2	10/25/2012 11:38:10 PM	4498
Chromium	7.5	0.24	0.60		mg/Kg	2	10/25/2012 11:38:10 PM	4498
Cobalt	3.1	0.14	0.60		mg/Kg	2	10/25/2012 11:38:10 PM	4498
Iron	12000	370	500		mg/Kg	500	11/2/2012 9:14:39 AM	4498
Lead	3.3	0.44	0.50		mg/Kg	2	10/25/2012 11:38:10 PM	4498
Manganese	840	0.42	2.0		mg/Kg	20	11/2/2012 9:12:14 AM	4498
Nickel	4.7	0.33	1.0		mg/Kg	2	10/25/2012 11:38:10 PM	4498
Selenium	ND	2.8	5.0		mg/Kg	2	10/25/2012 11:38:10 PM	4498
Silver	ND	0.071	0.50		mg/Kg	2	10/25/2012 11:38:10 PM	4498
Vanadium	16	0.11	5.0		mg/Kg	2	10/25/2012 11:38:10 PM	4498
Zinc	10	2.0	5.0		mg/Kg	2	10/25/2012 11:38:10 PM	4498

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Company
Project: SWMU NO.1
Lab ID: 1210692-017C

Client Sample ID: SWMU 1-35 (0-0.5')
Collection Date: 10/12/2012 12:45:00 PM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: JLF	
Antimony	ND	1.3	5.0		mg/Kg	2	10/25/2012 11:43:54 PM	4498
Arsenic	2.1	1.3	5.0	J	mg/Kg	2	10/25/2012 11:43:54 PM	4498
Barium	610	1.2	2.0		mg/Kg	20	11/2/2012 9:17:31 AM	4498
Beryllium	0.67	0.019	0.30		mg/Kg	2	10/25/2012 11:43:54 PM	4498
Cadmium	ND	0.054	0.20		mg/Kg	2	10/25/2012 11:43:54 PM	4498
Chromium	14	0.24	0.60		mg/Kg	2	10/25/2012 11:43:54 PM	4498
Cobalt	3.9	0.14	0.60		mg/Kg	2	10/25/2012 11:43:54 PM	4498
Iron	13000	370	500		mg/Kg	500	11/2/2012 9:19:57 AM	4498
Lead	2.6	0.44	0.50		mg/Kg	2	10/25/2012 11:43:54 PM	4498
Manganese	500	0.42	2.0		mg/Kg	20	11/2/2012 9:17:31 AM	4498
Nickel	10	0.33	1.0		mg/Kg	2	10/25/2012 11:43:54 PM	4498
Selenium	ND	2.8	5.0		mg/Kg	2	10/25/2012 11:43:54 PM	4498
Silver	ND	0.071	0.50		mg/Kg	2	10/25/2012 11:43:54 PM	4498
Vanadium	26	0.11	5.0		mg/Kg	2	10/25/2012 11:43:54 PM	4498
Zinc	23	2.0	5.0		mg/Kg	2	10/25/2012 11:43:54 PM	4498

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Company
Project: SWMU NO.1
Lab ID: 1210692-018C

Client Sample ID: SWMU 1-35 (1.5-2')
Collection Date: 10/12/2012 1:00:00 PM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: JLF	
Antimony	ND	1.3	5.0		mg/Kg	2	10/25/2012 11:49:40 PM	4498
Arsenic	3.4	1.3	5.0	J	mg/Kg	2	10/25/2012 11:49:40 PM	4498
Barium	1200	3.0	5.0		mg/Kg	50	11/2/2012 10:14:10 AM	4498
Beryllium	0.46	0.019	0.30		mg/Kg	2	10/25/2012 11:49:40 PM	4498
Cadmium	ND	0.054	0.20		mg/Kg	2	10/25/2012 11:49:40 PM	4498
Chromium	11	0.24	0.60		mg/Kg	2	10/25/2012 11:49:40 PM	4498
Cobalt	3.4	0.14	0.60		mg/Kg	2	10/25/2012 11:49:40 PM	4498
Iron	10000	370	500		mg/Kg	500	11/2/2012 9:25:14 AM	4498
Lead	2.3	0.44	0.50		mg/Kg	2	10/25/2012 11:49:40 PM	4498
Manganese	820	0.42	2.0		mg/Kg	20	11/2/2012 9:22:48 AM	4498
Nickel	9.0	0.33	1.0		mg/Kg	2	10/25/2012 11:49:40 PM	4498
Selenium	ND	2.8	5.0		mg/Kg	2	10/25/2012 11:49:40 PM	4498
Silver	ND	0.071	0.50		mg/Kg	2	10/25/2012 11:49:40 PM	4498
Vanadium	19	0.11	5.0		mg/Kg	2	10/25/2012 11:49:40 PM	4498
Zinc	22	2.0	5.0		mg/Kg	2	10/25/2012 11:49:40 PM	4498

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	Page 18 of 0
	D	Sample Diluted Due to Matrix	E	Value above quantitation range	
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	% Recovery outside of range due to dilution or matrix			

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Company
Project: SWMU NO.1
Lab ID: 1210692-019C

Client Sample ID: SWMU 1-35 (4-6')
Collection Date: 10/12/2012 1:10:00 PM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: JLF	
Antimony	ND	1.3	5.0		mg/Kg	2	10/25/2012 11:57:27 PM	4498
Arsenic	2.3	1.3	5.0	J	mg/Kg	2	10/25/2012 11:57:27 PM	4498
Barium	440	1.2	2.0		mg/Kg	20	11/2/2012 9:28:08 AM	4498
Beryllium	0.67	0.019	0.30		mg/Kg	2	10/25/2012 11:57:27 PM	4498
Cadmium	ND	0.054	0.20		mg/Kg	2	10/25/2012 11:57:27 PM	4498
Chromium	9.8	0.24	0.60		mg/Kg	2	10/25/2012 11:57:27 PM	4498
Cobalt	3.6	0.14	0.60		mg/Kg	2	10/25/2012 11:57:27 PM	4498
Iron	16000	370	500		mg/Kg	500	11/2/2012 9:32:13 AM	4498
Lead	3.3	0.44	0.50		mg/Kg	2	10/25/2012 11:57:27 PM	4498
Manganese	770	0.42	2.0		mg/Kg	20	11/2/2012 9:28:08 AM	4498
Nickel	6.2	0.33	1.0		mg/Kg	2	10/25/2012 11:57:27 PM	4498
Selenium	ND	2.8	5.0		mg/Kg	2	10/25/2012 11:57:27 PM	4498
Silver	ND	0.071	0.50		mg/Kg	2	10/25/2012 11:57:27 PM	4498
Vanadium	25	0.11	5.0		mg/Kg	2	10/25/2012 11:57:27 PM	4498
Zinc	12	2.0	5.0		mg/Kg	2	10/25/2012 11:57:27 PM	4498

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.**CLIENT:** Western Refining Company**Client Sample ID:** SWMU 1-13 (0-0.5')**Project:** SWMU NO.1**Collection Date:** 10/12/2012 2:05:00 PM**Lab ID:** 1210692-021C**Matrix:** Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: JLF	
Antimony	ND	1.3	5.0		mg/Kg	2	10/26/2012 12:11:53 AM	4498
Arsenic	2.5	1.3	5.0	J	mg/Kg	2	10/26/2012 12:11:53 AM	4498
Barium	600	1.2	2.0		mg/Kg	20	11/2/2012 9:35:04 AM	4498
Beryllium	0.56	0.019	0.30		mg/Kg	2	10/26/2012 12:11:53 AM	4498
Cadmium	ND	0.054	0.20		mg/Kg	2	10/26/2012 12:11:53 AM	4498
Chromium	11	0.24	0.60		mg/Kg	2	10/26/2012 12:11:53 AM	4498
Cobalt	3.6	0.14	0.60		mg/Kg	2	10/26/2012 12:11:53 AM	4498
Iron	13000	370	500		mg/Kg	500	11/2/2012 9:37:29 AM	4498
Lead	3.5	0.44	0.50		mg/Kg	2	10/26/2012 12:11:53 AM	4498
Manganese	590	0.42	2.0		mg/Kg	20	11/2/2012 9:35:04 AM	4498
Nickel	6.3	0.33	1.0		mg/Kg	2	10/26/2012 12:11:53 AM	4498
Selenium	ND	2.8	5.0		mg/Kg	2	10/26/2012 12:11:53 AM	4498
Silver	ND	0.071	0.50		mg/Kg	2	10/26/2012 12:11:53 AM	4498
Vanadium	18	0.11	5.0		mg/Kg	2	10/26/2012 12:11:53 AM	4498
Zinc	30	2.0	5.0		mg/Kg	2	10/26/2012 12:11:53 AM	4498

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Company
Project: SWMU NO.1
Lab ID: 1210692-022C

Client Sample ID: SWMU 1-13 (1.5-2')
Collection Date: 10/12/2012 2:25:00 PM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: ELS	
Antimony	ND	1.3	5.0		mg/Kg	2	11/2/2012 10:27:47 AM	4499
Arsenic	ND	1.3	5.0		mg/Kg	2	11/2/2012 10:27:47 AM	4499
Barium	310	0.61	1.0		mg/Kg	10	11/2/2012 2:53:36 PM	4499
Beryllium	0.74	0.019	0.30		mg/Kg	2	11/2/2012 10:27:47 AM	4499
Cadmium	ND	0.054	0.20		mg/Kg	2	11/2/2012 10:27:47 AM	4499
Chromium	7.1	0.24	0.60		mg/Kg	2	11/2/2012 10:27:47 AM	4499
Cobalt	3.8	0.14	0.60		mg/Kg	2	11/2/2012 10:27:47 AM	4499
Iron	10000	370	500		mg/Kg	500	11/2/2012 2:56:03 PM	4499
Lead	3.7	0.44	0.50		mg/Kg	2	11/2/2012 10:27:47 AM	4499
Manganese	510	0.42	2.0		mg/Kg	20	11/2/2012 3:30:43 PM	4499
Nickel	6.1	0.33	1.0		mg/Kg	2	11/2/2012 10:27:47 AM	4499
Selenium	ND	2.8	5.0		mg/Kg	2	11/2/2012 10:27:47 AM	4499
Silver	ND	0.071	0.50		mg/Kg	2	11/2/2012 10:27:47 AM	4499
Vanadium	15	0.11	5.0		mg/Kg	2	11/2/2012 10:27:47 AM	4499
Zinc	13	2.0	5.0		mg/Kg	2	11/2/2012 10:27:47 AM	4499

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	Page 21 of 0
	D	Sample Diluted Due to Matrix	E	Value above quantitation range	
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	% Recovery outside of range due to dilution or matrix			

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Company
Project: SWMU NO.1
Lab ID: 1210692-023C

Client Sample ID: SWMU 1-13 (2-4')
Collection Date: 10/12/2012 2:35:00 PM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: ELS	
Antimony	ND	1.3	5.0		mg/Kg	2	11/2/2012 10:30:13 AM	4499
Arsenic	ND	1.3	5.0		mg/Kg	2	11/2/2012 10:30:13 AM	4499
Barium	250	0.61	1.0		mg/Kg	10	11/2/2012 3:00:37 PM	4499
Beryllium	0.60	0.019	0.30		mg/Kg	2	11/2/2012 10:30:13 AM	4499
Cadmium	ND	0.054	0.20		mg/Kg	2	11/2/2012 10:30:13 AM	4499
Chromium	22	0.24	0.60		mg/Kg	2	11/2/2012 10:30:13 AM	4499
Cobalt	4.3	0.14	0.60		mg/Kg	2	11/2/2012 10:30:13 AM	4499
Iron	11000	370	500		mg/Kg	500	11/2/2012 3:03:01 PM	4499
Lead	4.2	0.44	0.50		mg/Kg	2	11/2/2012 10:30:13 AM	4499
Manganese	250	0.21	1.0		mg/Kg	10	11/2/2012 3:00:37 PM	4499
Nickel	7.0	0.33	1.0		mg/Kg	2	11/2/2012 10:30:13 AM	4499
Selenium	ND	2.8	5.0		mg/Kg	2	11/2/2012 10:30:13 AM	4499
Silver	ND	0.071	0.50		mg/Kg	2	11/2/2012 10:30:13 AM	4499
Vanadium	18	0.11	5.0		mg/Kg	2	11/2/2012 10:30:13 AM	4499
Zinc	29	2.0	5.0		mg/Kg	2	11/2/2012 10:30:13 AM	4499

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	Page 22 of 0
	D	Sample Diluted Due to Matrix	E	Value above quantitation range	
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	% Recovery outside of range due to dilution or matrix			

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Company
Project: SWMU NO.1
Lab ID: 1210692-024C

Client Sample ID: SWMU 1-13 (4-6')
Collection Date: 10/12/2012 3:00:00 PM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: ELS	
Antimony	ND	1.3	5.0		mg/Kg	2	11/2/2012 10:32:38 AM	4499
Arsenic	ND	1.3	5.0		mg/Kg	2	11/2/2012 10:32:38 AM	4499
Barium	120	0.61	1.0		mg/Kg	10	11/2/2012 3:05:52 PM	4499
Beryllium	0.71	0.019	0.30		mg/Kg	2	11/2/2012 10:32:38 AM	4499
Cadmium	ND	0.054	0.20		mg/Kg	2	11/2/2012 10:32:38 AM	4499
Chromium	7.8	0.24	0.60		mg/Kg	2	11/2/2012 10:32:38 AM	4499
Cobalt	4.1	0.14	0.60		mg/Kg	2	11/2/2012 10:32:38 AM	4499
Iron	11000	370	500		mg/Kg	500	11/2/2012 3:08:17 PM	4499
Lead	2.5	0.44	0.50		mg/Kg	2	11/2/2012 10:32:38 AM	4499
Manganese	320	0.21	1.0		mg/Kg	10	11/2/2012 3:05:52 PM	4499
Nickel	6.6	0.33	1.0		mg/Kg	2	11/2/2012 10:32:38 AM	4499
Selenium	ND	2.8	5.0		mg/Kg	2	11/2/2012 10:32:38 AM	4499
Silver	ND	0.071	0.50		mg/Kg	2	11/2/2012 10:32:38 AM	4499
Vanadium	17	0.11	5.0		mg/Kg	2	11/2/2012 10:32:38 AM	4499
Zinc	14	2.0	5.0		mg/Kg	2	11/2/2012 10:32:38 AM	4499

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Company
Project: SWMU NO.1
Lab ID: 1210692-025C

Client Sample ID: SWMU 1-13 (4-6') DUP
Collection Date: 10/12/2012 3:00:00 PM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: ELS	
Antimony	ND	1.3	5.0		mg/Kg	2	11/2/2012 10:35:02 AM	4499
Arsenic	ND	1.3	5.0		mg/Kg	2	11/2/2012 10:35:02 AM	4499
Barium	290	0.61	1.0		mg/Kg	10	11/2/2012 3:11:09 PM	4499
Beryllium	0.68	0.019	0.30		mg/Kg	2	11/2/2012 10:35:02 AM	4499
Cadmium	ND	0.054	0.20		mg/Kg	2	11/2/2012 10:35:02 AM	4499
Chromium	7.3	0.24	0.60		mg/Kg	2	11/2/2012 10:35:02 AM	4499
Cobalt	4.0	0.14	0.60		mg/Kg	2	11/2/2012 10:35:02 AM	4499
Iron	11000	370	500		mg/Kg	500	11/2/2012 3:13:34 PM	4499
Lead	3.0	0.44	0.50		mg/Kg	2	11/2/2012 10:35:02 AM	4499
Manganese	310	0.21	1.0		mg/Kg	10	11/2/2012 3:11:09 PM	4499
Nickel	6.5	0.33	1.0		mg/Kg	2	11/2/2012 10:35:02 AM	4499
Selenium	ND	2.8	5.0		mg/Kg	2	11/2/2012 10:35:02 AM	4499
Silver	ND	0.071	0.50		mg/Kg	2	11/2/2012 10:35:02 AM	4499
Vanadium	16	0.11	5.0		mg/Kg	2	11/2/2012 10:35:02 AM	4499
Zinc	14	2.0	5.0		mg/Kg	2	11/2/2012 10:35:02 AM	4499

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Company
Project: SWMU NO.1
Lab ID: 1210811-001C

Client Sample ID: SWMU 1-9 (0-0.5')
Collection Date: 10/15/2012 10:55:00 AM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: ELS	
Antimony	ND	1.3	5.0		mg/Kg	2	11/2/2012 10:39:08 AM	4499
Arsenic	2.2	1.3	5.0	J	mg/Kg	2	11/2/2012 10:39:08 AM	4499
Barium	620	1.2	2.0		mg/Kg	20	11/2/2012 3:25:22 PM	4499
Beryllium	0.71	0.019	0.30		mg/Kg	2	11/2/2012 10:39:08 AM	4499
Cadmium	ND	0.054	0.20		mg/Kg	2	11/2/2012 10:39:08 AM	4499
Chromium	24	0.24	0.60		mg/Kg	2	11/2/2012 10:39:08 AM	4499
Cobalt	5.0	0.14	0.60		mg/Kg	2	11/2/2012 10:39:08 AM	4499
Iron	12000	370	500		mg/Kg	500	11/2/2012 3:27:50 PM	4499
Lead	7.0	0.44	0.50		mg/Kg	2	11/2/2012 10:39:08 AM	4499
Manganese	600	0.42	2.0		mg/Kg	20	11/2/2012 3:25:22 PM	4499
Nickel	15	0.33	1.0		mg/Kg	2	11/2/2012 10:39:08 AM	4499
Selenium	ND	2.8	5.0		mg/Kg	2	11/2/2012 10:39:08 AM	4499
Silver	ND	0.071	0.50		mg/Kg	2	11/2/2012 10:39:08 AM	4499
Vanadium	21	0.11	5.0		mg/Kg	2	11/2/2012 10:39:08 AM	4499
Zinc	53	2.0	5.0		mg/Kg	2	11/2/2012 10:39:08 AM	4499

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Company
Project: SWMU NO.1
Lab ID: 1210811-002C

Client Sample ID: SWMU 1-9 (1.5-2')
Collection Date: 10/15/2012 11:05:00 AM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: ELS	
Antimony	ND	1.3	5.0		mg/Kg	2	11/2/2012 10:41:39 AM	4499
Arsenic	ND	1.3	5.0		mg/Kg	2	11/2/2012 10:41:39 AM	4499
Barium	200	0.61	1.0		mg/Kg	10	11/2/2012 3:34:47 PM	4499
Beryllium	0.84	0.019	0.30		mg/Kg	2	11/2/2012 10:41:39 AM	4499
Cadmium	ND	0.054	0.20		mg/Kg	2	11/2/2012 10:41:39 AM	4499
Chromium	8.7	0.24	0.60		mg/Kg	2	11/2/2012 10:41:39 AM	4499
Cobalt	4.3	0.14	0.60		mg/Kg	2	11/2/2012 10:41:39 AM	4499
Iron	12000	370	500		mg/Kg	500	11/2/2012 3:37:14 PM	4499
Lead	2.7	0.44	0.50		mg/Kg	2	11/2/2012 10:41:39 AM	4499
Manganese	300	0.21	1.0		mg/Kg	10	11/2/2012 3:34:47 PM	4499
Nickel	7.1	0.33	1.0		mg/Kg	2	11/2/2012 10:41:39 AM	4499
Selenium	ND	2.8	5.0		mg/Kg	2	11/2/2012 10:41:39 AM	4499
Silver	ND	0.071	0.50		mg/Kg	2	11/2/2012 10:41:39 AM	4499
Vanadium	16	0.11	5.0		mg/Kg	2	11/2/2012 10:41:39 AM	4499
Zinc	14	2.0	5.0		mg/Kg	2	11/2/2012 10:41:39 AM	4499

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Company
Project: SWMU NO.1
Lab ID: 1210811-003C

Client Sample ID: SWMU 1-10 (0-0.5')
Collection Date: 10/15/2012 11:20:00 AM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: ELS	
Antimony	ND	1.3	5.0		mg/Kg	2	11/2/2012 10:44:04 AM	4499
Arsenic	2.9	1.3	5.0	J	mg/Kg	2	11/2/2012 10:44:04 AM	4499
Barium	590	1.2	2.0		mg/Kg	20	11/2/2012 3:40:07 PM	4499
Beryllium	0.65	0.019	0.30		mg/Kg	2	11/2/2012 10:44:04 AM	4499
Cadmium	ND	0.054	0.20		mg/Kg	2	11/2/2012 10:44:04 AM	4499
Chromium	24	0.24	0.60		mg/Kg	2	11/2/2012 10:44:04 AM	4499
Cobalt	5.0	0.14	0.60		mg/Kg	2	11/2/2012 10:44:04 AM	4499
Iron	14000	370	500		mg/Kg	500	11/2/2012 3:42:33 PM	4499
Lead	9.1	0.44	0.50		mg/Kg	2	11/2/2012 10:44:04 AM	4499
Manganese	560	0.42	2.0		mg/Kg	20	11/2/2012 3:40:07 PM	4499
Nickel	14	0.33	1.0		mg/Kg	2	11/2/2012 10:44:04 AM	4499
Selenium	ND	2.8	5.0		mg/Kg	2	11/2/2012 10:44:04 AM	4499
Silver	ND	0.071	0.50		mg/Kg	2	11/2/2012 10:44:04 AM	4499
Vanadium	24	0.11	5.0		mg/Kg	2	11/2/2012 10:44:04 AM	4499
Zinc	70	2.0	5.0		mg/Kg	2	11/2/2012 10:44:04 AM	4499

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Company
Project: SWMU NO.1
Lab ID: 1210811-004C

Client Sample ID: SWMU 1-10 (1.5-2')
Collection Date: 10/15/2012 11:30:00 AM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: ELS	
Antimony	ND	1.3	5.0		mg/Kg	2	11/2/2012 10:46:49 AM	4499
Arsenic	3.3	1.3	5.0	J	mg/Kg	2	11/2/2012 10:46:49 AM	4499
Barium	580	1.2	2.0		mg/Kg	20	11/2/2012 3:45:28 PM	4499
Beryllium	0.54	0.019	0.30		mg/Kg	2	11/2/2012 10:46:49 AM	4499
Cadmium	ND	0.054	0.20		mg/Kg	2	11/2/2012 10:46:49 AM	4499
Chromium	15	0.24	0.60		mg/Kg	2	11/2/2012 10:46:49 AM	4499
Cobalt	4.2	0.14	0.60		mg/Kg	2	11/2/2012 10:46:49 AM	4499
Iron	7400	370	500		mg/Kg	500	11/2/2012 3:47:54 PM	4499
Lead	3.0	0.44	0.50		mg/Kg	2	11/2/2012 10:46:49 AM	4499
Manganese	790	0.42	2.0		mg/Kg	20	11/2/2012 3:45:28 PM	4499
Nickel	11	0.33	1.0		mg/Kg	2	11/2/2012 10:46:49 AM	4499
Selenium	ND	2.8	5.0		mg/Kg	2	11/2/2012 10:46:49 AM	4499
Silver	ND	0.071	0.50		mg/Kg	2	11/2/2012 10:46:49 AM	4499
Vanadium	22	0.11	5.0		mg/Kg	2	11/2/2012 10:46:49 AM	4499
Zinc	26	2.0	5.0		mg/Kg	2	11/2/2012 10:46:49 AM	4499

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Company
Project: SWMU NO.1
Lab ID: 1210811-005C

Client Sample ID: SWMU 1-11 (0-0.5')
Collection Date: 10/15/2012 12:05:00 PM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: ELS	
Antimony	ND	1.3	5.0		mg/Kg	2	11/2/2012 10:49:22 AM	4499
Arsenic	2.0	1.3	5.0	J	mg/Kg	2	11/2/2012 10:49:22 AM	4499
Barium	510	1.2	2.0		mg/Kg	20	11/2/2012 3:50:46 PM	4499
Beryllium	0.77	0.019	0.30		mg/Kg	2	11/2/2012 10:49:22 AM	4499
Cadmium	ND	0.054	0.20		mg/Kg	2	11/2/2012 10:49:22 AM	4499
Chromium	15	0.24	0.60		mg/Kg	2	11/2/2012 10:49:22 AM	4499
Cobalt	5.4	0.14	0.60		mg/Kg	2	11/2/2012 10:49:22 AM	4499
Iron	14000	370	500		mg/Kg	500	11/2/2012 4:02:06 PM	4499
Lead	3.5	0.44	0.50		mg/Kg	2	11/2/2012 10:49:22 AM	4499
Manganese	620	0.42	2.0		mg/Kg	20	11/2/2012 3:50:46 PM	4499
Nickel	8.8	0.33	1.0		mg/Kg	2	11/2/2012 10:49:22 AM	4499
Selenium	ND	2.8	5.0		mg/Kg	2	11/2/2012 10:49:22 AM	4499
Silver	ND	0.071	0.50		mg/Kg	2	11/2/2012 10:49:22 AM	4499
Vanadium	25	0.11	5.0		mg/Kg	2	11/2/2012 10:49:22 AM	4499
Zinc	39	2.0	5.0		mg/Kg	2	11/2/2012 10:49:22 AM	4499

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Company
Project: SWMU NO.1
Lab ID: 1210811-006C

Client Sample ID: SWMU 1-11 (1.5-2')
Collection Date: 10/15/2012 12:20:00 PM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: ELS	
Antimony	ND	1.3	5.0		mg/Kg	2	11/2/2012 11:00:53 AM	4499
Arsenic	2.8	1.3	5.0	J	mg/Kg	2	11/2/2012 11:00:53 AM	4499
Barium	590	1.2	2.0		mg/Kg	20	11/2/2012 4:05:01 PM	4499
Beryllium	0.61	0.019	0.30		mg/Kg	2	11/2/2012 11:00:53 AM	4499
Cadmium	ND	0.054	0.20		mg/Kg	2	11/2/2012 11:00:53 AM	4499
Chromium	12	0.24	0.60		mg/Kg	2	11/2/2012 11:00:53 AM	4499
Cobalt	4.0	0.14	0.60		mg/Kg	2	11/2/2012 11:00:53 AM	4499
Iron	7400	370	500		mg/Kg	500	11/2/2012 4:09:11 PM	4499
Lead	1.4	0.44	0.50		mg/Kg	2	11/2/2012 11:00:53 AM	4499
Manganese	400	0.42	2.0		mg/Kg	20	11/2/2012 4:05:01 PM	4499
Nickel	7.1	0.33	1.0		mg/Kg	2	11/2/2012 11:00:53 AM	4499
Selenium	ND	2.8	5.0		mg/Kg	2	11/2/2012 11:00:53 AM	4499
Silver	ND	0.071	0.50		mg/Kg	2	11/2/2012 11:00:53 AM	4499
Vanadium	18	0.11	5.0		mg/Kg	2	11/2/2012 11:00:53 AM	4499
Zinc	44	2.0	5.0		mg/Kg	2	11/2/2012 11:00:53 AM	4499

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Company
Project: SWMU NO.1
Lab ID: 1210811-007C

Client Sample ID: SWMU 1-12 (0-0.5')
Collection Date: 10/15/2012 2:45:00 PM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: ELS	
Antimony	ND	1.3	5.0		mg/Kg	2	11/2/2012 11:03:20 AM	4499
Arsenic	2.6	1.3	5.0	J	mg/Kg	2	11/2/2012 11:03:20 AM	4499
Barium	400	0.61	1.0		mg/Kg	10	11/2/2012 4:12:04 PM	4499
Beryllium	0.95	0.019	0.30		mg/Kg	2	11/2/2012 11:03:20 AM	4499
Cadmium	ND	0.054	0.20		mg/Kg	2	11/2/2012 11:03:20 AM	4499
Chromium	15	0.24	0.60		mg/Kg	2	11/2/2012 11:03:20 AM	4499
Cobalt	5.4	0.14	0.60		mg/Kg	2	11/2/2012 11:03:20 AM	4499
Iron	15000	370	500		mg/Kg	500	11/2/2012 4:14:29 PM	4499
Lead	1.6	0.44	0.50		mg/Kg	2	11/2/2012 11:03:20 AM	4499
Manganese	390	0.21	1.0		mg/Kg	10	11/2/2012 4:12:04 PM	4499
Nickel	9.9	0.33	1.0		mg/Kg	2	11/2/2012 11:03:20 AM	4499
Selenium	ND	2.8	5.0		mg/Kg	2	11/2/2012 11:03:20 AM	4499
Silver	ND	0.071	0.50		mg/Kg	2	11/2/2012 11:03:20 AM	4499
Vanadium	24	0.11	5.0		mg/Kg	2	11/2/2012 11:03:20 AM	4499
Zinc	61	2.0	5.0		mg/Kg	2	11/2/2012 11:03:20 AM	4499

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Company
Project: SWMU NO.1
Lab ID: 1210811-008C

Client Sample ID: SWMU 1-12 (0.5-1')
Collection Date: 10/15/2012 3:00:00 PM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: ELS	
Antimony	ND	1.3	5.0		mg/Kg	2	11/2/2012 11:05:49 AM	4499
Arsenic	2.4	1.3	5.0	J	mg/Kg	2	11/2/2012 11:05:49 AM	4499
Barium	440	0.61	1.0		mg/Kg	10	11/2/2012 4:17:23 PM	4499
Beryllium	0.76	0.019	0.30		mg/Kg	2	11/2/2012 11:05:49 AM	4499
Cadmium	ND	0.054	0.20		mg/Kg	2	11/2/2012 11:05:49 AM	4499
Chromium	14	0.24	0.60		mg/Kg	2	11/2/2012 11:05:49 AM	4499
Cobalt	4.9	0.14	0.60		mg/Kg	2	11/2/2012 11:05:49 AM	4499
Iron	13000	370	500		mg/Kg	500	11/2/2012 4:19:48 PM	4499
Lead	1.6	0.44	0.50		mg/Kg	2	11/2/2012 11:05:49 AM	4499
Manganese	460	0.21	1.0		mg/Kg	10	11/2/2012 4:17:23 PM	4499
Nickel	8.0	0.33	1.0		mg/Kg	2	11/2/2012 11:05:49 AM	4499
Selenium	ND	2.8	5.0		mg/Kg	2	11/2/2012 11:05:49 AM	4499
Silver	ND	0.071	0.50		mg/Kg	2	11/2/2012 11:05:49 AM	4499
Vanadium	24	0.11	5.0		mg/Kg	2	11/2/2012 11:05:49 AM	4499
Zinc	40	2.0	5.0		mg/Kg	2	11/2/2012 11:05:49 AM	4499

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Company
Project: SWMU NO.1
Lab ID: 1210811-009C

Client Sample ID: SWMU 1-14 (0-0.5')
Collection Date: 10/15/2012 3:30:00 PM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: ELS	
Antimony	ND	1.3	5.0		mg/Kg	2	11/2/2012 11:08:19 AM	4499
Arsenic	ND	1.3	5.0		mg/Kg	2	11/2/2012 11:08:19 AM	4499
Barium	530	1.2	2.0		mg/Kg	20	11/2/2012 4:25:06 PM	4499
Beryllium	1.0	0.019	0.30		mg/Kg	2	11/2/2012 11:08:19 AM	4499
Cadmium	ND	0.054	0.20		mg/Kg	2	11/2/2012 11:08:19 AM	4499
Chromium	11	0.24	0.60		mg/Kg	2	11/2/2012 11:08:19 AM	4499
Cobalt	5.4	0.14	0.60		mg/Kg	2	11/2/2012 11:08:19 AM	4499
Iron	14000	370	500		mg/Kg	500	11/2/2012 4:27:31 PM	4499
Lead	1.9	0.44	0.50		mg/Kg	2	11/2/2012 11:08:19 AM	4499
Manganese	300	0.21	1.0		mg/Kg	10	11/2/2012 4:22:41 PM	4499
Nickel	8.9	0.33	1.0		mg/Kg	2	11/2/2012 11:08:19 AM	4499
Selenium	ND	2.8	5.0		mg/Kg	2	11/2/2012 11:08:19 AM	4499
Silver	ND	0.071	0.50		mg/Kg	2	11/2/2012 11:08:19 AM	4499
Vanadium	20	0.11	5.0		mg/Kg	2	11/2/2012 11:08:19 AM	4499
Zinc	33	2.0	5.0		mg/Kg	2	11/2/2012 11:08:19 AM	4499

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Company
Project: SWMU NO.1
Lab ID: 1210811-010C

Client Sample ID: SWMU 1-14 (1.5-2')
Collection Date: 10/15/2012 3:55:00 PM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: JLF	
Antimony	ND	3.1	13		mg/Kg	5	11/2/2012 4:43:30 PM	4499
Arsenic	ND	3.1	13		mg/Kg	5	11/2/2012 4:43:30 PM	4499
Barium	360	1.2	2.0		mg/Kg	20	11/2/2012 4:45:54 PM	4499
Beryllium	0.75	0.047	0.75		mg/Kg	5	11/2/2012 4:43:30 PM	4499
Cadmium	ND	0.14	0.50		mg/Kg	5	11/2/2012 4:43:30 PM	4499
Chromium	11	0.59	1.5		mg/Kg	5	11/2/2012 4:43:30 PM	4499
Cobalt	4.4	0.34	1.5		mg/Kg	5	11/2/2012 4:43:30 PM	4499
Iron	13000	370	500		mg/Kg	500	11/2/2012 4:48:20 PM	4499
Lead	4.1	1.1	1.3		mg/Kg	5	11/2/2012 4:43:30 PM	4499
Manganese	430	0.42	2.0		mg/Kg	20	11/2/2012 4:45:54 PM	4499
Nickel	7.6	0.83	2.5		mg/Kg	5	11/2/2012 4:43:30 PM	4499
Selenium	ND	7.0	13		mg/Kg	5	11/2/2012 4:43:30 PM	4499
Silver	ND	0.18	1.3		mg/Kg	5	11/2/2012 4:43:30 PM	4499
Vanadium	19	0.28	13		mg/Kg	5	11/2/2012 4:43:30 PM	4499
Zinc	16	5.0	13		mg/Kg	5	11/2/2012 4:43:30 PM	4499

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Company
Project: SWMU NO.1
Lab ID: 1210811-011C

Client Sample ID: SWMU 1-14 (1.5-2') DUP
Collection Date: 10/15/2012 3:55:00 PM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: ELS	
Antimony	ND	1.3	5.0		mg/Kg	2	11/2/2012 11:15:00 AM	4499
Arsenic	ND	1.3	5.0		mg/Kg	2	11/2/2012 11:15:00 AM	4499
Barium	240	0.61	1.0		mg/Kg	10	11/2/2012 4:51:10 PM	4499
Beryllium	0.81	0.019	0.30		mg/Kg	2	11/2/2012 11:15:00 AM	4499
Cadmium	ND	0.054	0.20		mg/Kg	2	11/2/2012 11:15:00 AM	4499
Chromium	11	0.24	0.60		mg/Kg	2	11/2/2012 11:15:00 AM	4499
Cobalt	5.0	0.14	0.60		mg/Kg	2	11/2/2012 11:15:00 AM	4499
Iron	15000	370	500		mg/Kg	500	11/2/2012 4:53:33 PM	4499
Lead	1.0	0.44	0.50		mg/Kg	2	11/2/2012 11:15:00 AM	4499
Manganese	350	0.21	1.0		mg/Kg	10	11/2/2012 4:51:10 PM	4499
Nickel	8.3	0.33	1.0		mg/Kg	2	11/2/2012 11:15:00 AM	4499
Selenium	ND	2.8	5.0		mg/Kg	2	11/2/2012 11:15:00 AM	4499
Silver	ND	0.071	0.50		mg/Kg	2	11/2/2012 11:15:00 AM	4499
Vanadium	28	0.11	5.0		mg/Kg	2	11/2/2012 11:15:00 AM	4499
Zinc	21	2.0	5.0		mg/Kg	2	11/2/2012 11:15:00 AM	4499

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		
				Page 11 of 0

Hall Environmental Analysis Laboratory, Inc.**CLIENT:** Western Refining Company**Project:** SWMU NO.1**Lab ID:** 1210811-012C**Client Sample ID:** SWMU 1-15 (0-0.5')**Collection Date:** 10/15/2012 4:20:00 PM**Matrix:** Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
							Analyst: JLF	
EPA METHOD 6010B: SOIL METALS								
Antimony	ND	3.1	13		mg/Kg	5	11/2/2012 4:56:27 PM	4499
Arsenic	ND	3.1	13		mg/Kg	5	11/2/2012 4:56:27 PM	4499
Barium	360	1.2	2.0		mg/Kg	20	11/2/2012 4:58:52 PM	4499
Beryllium	0.75	0.047	0.75		mg/Kg	5	11/2/2012 4:56:27 PM	4499
Cadmium	ND	0.14	0.50		mg/Kg	5	11/2/2012 4:56:27 PM	4499
Chromium	10	0.59	1.5		mg/Kg	5	11/2/2012 4:56:27 PM	4499
Cobalt	4.4	0.34	1.5		mg/Kg	5	11/2/2012 4:56:27 PM	4499
Iron	13000	370	500		mg/Kg	500	11/2/2012 5:01:17 PM	4499
Lead	3.1	1.1	1.3		mg/Kg	5	11/2/2012 4:56:27 PM	4499
Manganese	350	0.42	2.0		mg/Kg	20	11/2/2012 4:58:52 PM	4499
Nickel	7.6	0.83	2.5		mg/Kg	5	11/2/2012 4:56:27 PM	4499
Selenium	ND	7.0	13		mg/Kg	5	11/2/2012 4:56:27 PM	4499
Silver	ND	0.18	1.3		mg/Kg	5	11/2/2012 4:56:27 PM	4499
Vanadium	19	0.28	13		mg/Kg	5	11/2/2012 4:56:27 PM	4499
Zinc	18	5.0	13		mg/Kg	5	11/2/2012 4:56:27 PM	4499

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Company
Project: SWMU NO.1
Lab ID: 1210811-013C

Client Sample ID: SWMU 1-15 (1.5-2')
Collection Date: 10/15/2012 4:30:00 PM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: ELS	
Antimony	ND	1.3	5.0		mg/Kg	2	11/2/2012 11:19:59 AM	4499
Arsenic	ND	1.3	5.0		mg/Kg	2	11/2/2012 11:19:59 AM	4499
Barium	240	0.61	1.0		mg/Kg	10	11/2/2012 5:04:08 PM	4499
Beryllium	0.79	0.019	0.30		mg/Kg	2	11/2/2012 11:19:59 AM	4499
Cadmium	ND	0.054	0.20		mg/Kg	2	11/2/2012 11:19:59 AM	4499
Chromium	11	0.24	0.60		mg/Kg	2	11/2/2012 11:19:59 AM	4499
Cobalt	5.3	0.14	0.60		mg/Kg	2	11/2/2012 11:19:59 AM	4499
Iron	12000	370	500		mg/Kg	500	11/6/2012 11:53:57 AM	4499
Lead	1.4	0.44	0.50		mg/Kg	2	11/2/2012 11:19:59 AM	4499
Manganese	400	0.21	1.0		mg/Kg	10	11/2/2012 5:04:08 PM	4499
Nickel	8.3	0.33	1.0		mg/Kg	2	11/2/2012 11:19:59 AM	4499
Selenium	ND	2.8	5.0		mg/Kg	2	11/2/2012 11:19:59 AM	4499
Silver	ND	0.071	0.50		mg/Kg	2	11/2/2012 11:19:59 AM	4499
Vanadium	22	0.11	5.0		mg/Kg	2	11/2/2012 11:19:59 AM	4499
Zinc	21	2.0	5.0		mg/Kg	2	11/2/2012 11:19:59 AM	4499

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Company
Project: SWMU NO.1
Lab ID: 1210811-014C

Client Sample ID: SWMU 1-16 (0-0.5')
Collection Date: 10/15/2012 4:55:00 PM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: ELS	
Antimony	ND	1.3	5.0		mg/Kg	2	11/2/2012 11:22:28 AM	4499
Arsenic	ND	1.3	5.0		mg/Kg	2	11/2/2012 11:22:28 AM	4499
Barium	640	1.2	2.0		mg/Kg	20	11/2/2012 5:19:54 PM	4499
Beryllium	0.46	0.019	0.30		mg/Kg	2	11/2/2012 11:22:28 AM	4499
Cadmium	ND	0.054	0.20		mg/Kg	2	11/2/2012 11:22:28 AM	4499
Chromium	3.9	0.24	0.60		mg/Kg	2	11/2/2012 11:22:28 AM	4499
Cobalt	3.0	0.14	0.60		mg/Kg	2	11/2/2012 11:22:28 AM	4499
Iron	3400	370	500		mg/Kg	500	11/6/2012 11:56:51 AM	4499
Lead	ND	0.44	0.50		mg/Kg	2	11/2/2012 11:22:28 AM	4499
Manganese	330	0.42	2.0		mg/Kg	20	11/2/2012 5:19:54 PM	4499
Nickel	4.6	0.33	1.0		mg/Kg	2	11/2/2012 11:22:28 AM	4499
Selenium	ND	2.8	5.0		mg/Kg	2	11/2/2012 11:22:28 AM	4499
Silver	ND	0.071	0.50		mg/Kg	2	11/2/2012 11:22:28 AM	4499
Vanadium	14	0.11	5.0		mg/Kg	2	11/2/2012 11:22:28 AM	4499
Zinc	14	2.0	5.0		mg/Kg	2	11/2/2012 11:22:28 AM	4499

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Company
Project: SWMU NO.1
Lab ID: 1210811-015C

Client Sample ID: SWMU 1-16 (1.5-2')
Collection Date: 10/15/2012 5:05:00 PM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: JLF	
Antimony	ND	3.1	12		mg/Kg	5	11/6/2012 11:59:37 AM	4499
Arsenic	ND	3.1	12		mg/Kg	5	11/6/2012 11:59:37 AM	4499
Barium	290	1.2	2.0		mg/Kg	20	11/2/2012 5:27:35 PM	4499
Beryllium	0.70	0.046	0.75	J	mg/Kg	5	11/2/2012 5:25:09 PM	4499
Cadmium	ND	0.14	0.50		mg/Kg	5	11/2/2012 5:25:09 PM	4499
Chromium	9.9	0.59	1.5		mg/Kg	5	11/2/2012 5:25:09 PM	4499
Cobalt	4.2	0.34	1.5		mg/Kg	5	11/2/2012 5:25:09 PM	4499
Iron	12000	370	500		mg/Kg	500	11/6/2012 12:02:39 PM	4499
Lead	4.2	1.1	1.2		mg/Kg	5	11/2/2012 5:25:09 PM	4499
Manganese	790	0.42	2.0		mg/Kg	20	11/2/2012 5:27:35 PM	4499
Nickel	7.2	0.83	2.5		mg/Kg	5	11/2/2012 5:25:09 PM	4499
Selenium	ND	7.0	12		mg/Kg	5	11/2/2012 5:25:09 PM	4499
Silver	ND	0.18	1.2		mg/Kg	5	11/2/2012 5:25:09 PM	4499
Vanadium	18	0.28	12		mg/Kg	5	11/2/2012 5:25:09 PM	4499
Zinc	17	5.0	12		mg/Kg	5	11/6/2012 11:59:37 AM	4499

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	Page 15 of 0
	D	Sample Diluted Due to Matrix	E	Value above quantitation range	
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	% Recovery outside of range due to dilution or matrix			

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Company
Project: SWMU NO.1
Lab ID: 1210811-016C

Client Sample ID: SWMU 1-17 (0-0.5')
Collection Date: 10/15/2012 5:30:00 PM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: ELS	
Antimony	ND	1.3	5.0		mg/Kg	2	11/27/2012 10:08:12 AM	4499
Arsenic	4.7	1.3	5.0	J	mg/Kg	2	11/27/2012 10:08:12 AM	4499
Barium	500	1.2	2.0		mg/Kg	20	11/2/2012 5:40:07 PM	4499
Beryllium	0.67	0.019	0.30		mg/Kg	2	11/2/2012 11:37:29 AM	4499
Cadmium	ND	0.054	0.20		mg/Kg	2	11/2/2012 11:37:29 AM	4499
Chromium	6.6	0.24	0.60		mg/Kg	2	11/2/2012 11:37:29 AM	4499
Cobalt	4.1	0.14	0.60		mg/Kg	2	11/2/2012 11:37:29 AM	4499
Iron	8200	370	500		mg/Kg	500	11/6/2012 2:17:39 PM	4499
Lead	0.82	0.44	0.50		mg/Kg	2	11/2/2012 11:37:29 AM	4499
Manganese	360	0.42	2.0		mg/Kg	20	11/2/2012 5:40:07 PM	4499
Nickel	6.4	0.33	1.0		mg/Kg	2	11/2/2012 11:37:29 AM	4499
Selenium	ND	2.8	5.0		mg/Kg	2	11/27/2012 10:08:12 AM	4499
Silver	ND	0.071	0.50		mg/Kg	2	11/2/2012 11:37:29 AM	4499
Vanadium	19	0.11	5.0		mg/Kg	2	11/2/2012 11:37:29 AM	4499
Zinc	15	2.0	5.0		mg/Kg	2	11/2/2012 11:37:29 AM	4499

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Company
Project: SWMU NO.1
Lab ID: 1210811-017C

Client Sample ID: SWMU 1-17 (1-1.5')
Collection Date: 10/15/2012 5:40:00 PM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: JLF	
Antimony	ND	1.3	5.0		mg/Kg	2	11/6/2012 12:24:33 PM	4583
Arsenic	ND	1.3	5.0		mg/Kg	2	11/6/2012 2:00:22 PM	4583
Barium	310	1.2	2.0		mg/Kg	20	11/2/2012 6:05:26 PM	4583
Beryllium	0.78	0.019	0.30		mg/Kg	2	11/2/2012 6:02:58 PM	4583
Cadmium	ND	0.054	0.20		mg/Kg	2	11/2/2012 6:02:58 PM	4583
Chromium	8.8	0.24	0.60		mg/Kg	2	11/2/2012 6:02:58 PM	4583
Cobalt	4.1	0.14	0.60		mg/Kg	2	11/2/2012 6:02:58 PM	4583
Iron	11000	370	500		mg/Kg	500	11/6/2012 2:20:27 PM	4583
Lead	3.5	0.44	0.50		mg/Kg	2	11/2/2012 6:02:58 PM	4583
Manganese	340	0.42	2.0		mg/Kg	20	11/2/2012 6:05:26 PM	4583
Nickel	7.2	0.33	1.0		mg/Kg	2	11/2/2012 6:02:58 PM	4583
Selenium	ND	2.8	5.0		mg/Kg	2	11/2/2012 6:02:58 PM	4583
Silver	0.18	0.071	0.50	J	mg/Kg	2	11/13/2012 5:30:19 AM	4745
Vanadium	13	0.11	5.0		mg/Kg	2	11/2/2012 6:02:58 PM	4583
Zinc	15	2.0	5.0		mg/Kg	2	11/6/2012 12:24:33 PM	4583

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	Page 17 of 0
	D	Sample Diluted Due to Matrix	E	Value above quantitation range	
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	% Recovery outside of range due to dilution or matrix			

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Company
Project: SWMU NO.1
Lab ID: 1210856-001C

Client Sample ID: SWMU 1-31 (0-0.5')
Collection Date: 10/16/2012 3:00:00 PM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: JLF	
Antimony	ND	1.3	5.0		mg/Kg	2	10/25/2012 11:38:41 AM	4440
Arsenic	3.5	1.3	5.0	J	mg/Kg	2	10/25/2012 11:38:41 AM	4440
Barium	350	0.61	1.0		mg/Kg	10	10/25/2012 1:29:20 PM	4440
Beryllium	0.56	0.019	0.30		mg/Kg	2	10/25/2012 11:38:41 AM	4440
Cadmium	ND	0.054	0.20		mg/Kg	2	10/25/2012 11:38:41 AM	4440
Chromium	12	0.24	0.60		mg/Kg	2	10/25/2012 11:38:41 AM	4440
Cobalt	3.8	0.14	0.60		mg/Kg	2	10/25/2012 11:38:41 AM	4440
Iron	13000	370	500		mg/Kg	500	11/2/2012 6:51:37 AM	4440
Lead	5.2	0.44	0.50		mg/Kg	2	10/25/2012 11:38:41 AM	4440
Manganese	420	0.21	1.0		mg/Kg	10	10/25/2012 1:29:20 PM	4440
Nickel	8.0	0.33	1.0		mg/Kg	2	10/25/2012 11:38:41 AM	4440
Selenium	ND	2.8	5.0		mg/Kg	2	10/25/2012 11:38:41 AM	4440
Silver	ND	0.071	0.50		mg/Kg	2	10/29/2012 3:19:29 PM	4440
Vanadium	19	0.11	5.0		mg/Kg	2	10/25/2012 11:38:41 AM	4440
Zinc	30	2.0	5.0		mg/Kg	2	10/25/2012 11:38:41 AM	4440

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Company
Project: SWMU NO.1
Lab ID: 1210856-002C

Client Sample ID: SWMU 1-32 (0-0.5')
Collection Date: 10/16/2012 3:40:00 PM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: JLF	
Antimony	ND	1.3	5.0		mg/Kg	2	10/25/2012 11:43:44 AM	4440
Arsenic	3.1	1.3	5.0	J	mg/Kg	2	10/25/2012 11:43:44 AM	4440
Barium	600	1.2	2.0		mg/Kg	20	10/25/2012 2:44:01 PM	4440
Beryllium	0.64	0.019	0.30		mg/Kg	2	10/25/2012 11:43:44 AM	4440
Cadmium	ND	0.054	0.20		mg/Kg	2	10/25/2012 11:43:44 AM	4440
Chromium	17	0.24	0.60		mg/Kg	2	10/25/2012 11:43:44 AM	4440
Cobalt	4.0	0.14	0.60		mg/Kg	2	10/25/2012 11:43:44 AM	4440
Iron	14000	370	500		mg/Kg	500	11/2/2012 6:54:30 AM	4440
Lead	6.3	0.44	0.50		mg/Kg	2	10/25/2012 11:43:44 AM	4440
Manganese	440	0.21	1.0		mg/Kg	10	10/25/2012 1:34:12 PM	4440
Nickel	13	0.33	1.0		mg/Kg	2	10/25/2012 11:43:44 AM	4440
Selenium	ND	2.8	5.0		mg/Kg	2	10/25/2012 11:43:44 AM	4440
Silver	ND	0.035	0.25		mg/Kg	1	10/29/2012 3:24:30 PM	4440
Vanadium	22	0.11	5.0		mg/Kg	2	10/25/2012 11:43:44 AM	4440
Zinc	36	2.0	5.0		mg/Kg	2	10/25/2012 11:43:44 AM	4440

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Company
Project: SWMU NO.1
Lab ID: 1210856-003C

Client Sample ID: SWMU 1-32 (0-0.5') DUP
Collection Date: 10/16/2012 3:40:00 PM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: JLF	
Antimony	ND	1.3	5.0		mg/Kg	2	10/25/2012 11:50:31 AM	4440
Arsenic	2.5	1.3	5.0	J	mg/Kg	2	10/25/2012 11:50:31 AM	4440
Barium	580	1.2	2.0		mg/Kg	20	10/25/2012 2:48:50 PM	4440
Beryllium	0.66	0.019	0.30		mg/Kg	2	10/25/2012 11:50:31 AM	4440
Cadmium	ND	0.054	0.20		mg/Kg	2	10/25/2012 11:50:31 AM	4440
Chromium	21	0.24	0.60		mg/Kg	2	10/25/2012 11:50:31 AM	4440
Cobalt	5.1	0.14	0.60		mg/Kg	2	10/25/2012 11:50:31 AM	4440
Iron	19000	370	500		mg/Kg	500	11/2/2012 6:57:23 AM	4440
Lead	8.0	0.44	0.50		mg/Kg	2	10/25/2012 11:50:31 AM	4440
Manganese	540	0.42	2.0		mg/Kg	20	10/25/2012 2:48:50 PM	4440
Nickel	16	0.33	1.0		mg/Kg	2	10/25/2012 11:50:31 AM	4440
Selenium	ND	2.8	5.0		mg/Kg	2	10/25/2012 11:50:31 AM	4440
Silver	ND	0.071	0.50		mg/Kg	2	10/29/2012 3:41:51 PM	4440
Vanadium	28	0.11	5.0		mg/Kg	2	10/25/2012 11:50:31 AM	4440
Zinc	43	2.0	5.0		mg/Kg	2	10/25/2012 11:50:31 AM	4440

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Company
Project: SWMU NO.1
Lab ID: 1210856-004C

Client Sample ID: SWMU 1-33 (0-0.5')
Collection Date: 10/16/2012 4:03:00 PM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: JLF	
Antimony	ND	1.3	5.0		mg/Kg	2	10/25/2012 11:55:53 AM	4440
Arsenic	2.3	1.3	5.0	J	mg/Kg	2	10/25/2012 11:55:53 AM	4440
Barium	680	1.2	2.0		mg/Kg	20	10/25/2012 1:52:47 PM	4440
Beryllium	0.64	0.019	0.30		mg/Kg	2	10/25/2012 11:55:53 AM	4440
Cadmium	ND	0.054	0.20		mg/Kg	2	10/25/2012 11:55:53 AM	4440
Chromium	12	0.24	0.60		mg/Kg	2	10/25/2012 11:55:53 AM	4440
Cobalt	3.2	0.14	0.60		mg/Kg	2	10/25/2012 11:55:53 AM	4440
Iron	13000	370	500		mg/Kg	500	11/2/2012 7:00:17 AM	4440
Lead	3.7	0.44	0.50		mg/Kg	2	10/25/2012 11:55:53 AM	4440
Manganese	800	0.42	2.0		mg/Kg	20	10/25/2012 1:52:47 PM	4440
Nickel	8.9	0.33	1.0		mg/Kg	2	10/25/2012 11:55:53 AM	4440
Selenium	ND	2.8	5.0		mg/Kg	2	10/25/2012 11:55:53 AM	4440
Silver	ND	0.035	0.25		mg/Kg	1	10/29/2012 3:47:14 PM	4440
Vanadium	19	0.11	5.0		mg/Kg	2	10/25/2012 11:55:53 AM	4440
Zinc	23	2.0	5.0		mg/Kg	2	10/25/2012 11:55:53 AM	4440

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Company
Project: SWMU NO.1
Lab ID: 1210856-005C

Client Sample ID: SWMU 1-34 (0-0.5')
Collection Date: 10/16/2012 4:30:00 PM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: JLF	
Antimony	ND	1.3	5.0		mg/Kg	2	10/25/2012 12:09:46 PM	4440
Arsenic	2.9	1.3	5.0	J	mg/Kg	2	10/25/2012 12:09:46 PM	4440
Barium	740	1.2	2.0		mg/Kg	20	10/25/2012 1:57:39 PM	4440
Beryllium	0.52	0.019	0.30		mg/Kg	2	10/25/2012 12:09:46 PM	4440
Cadmium	ND	0.054	0.20		mg/Kg	2	10/25/2012 12:09:46 PM	4440
Chromium	12	0.24	0.60		mg/Kg	2	10/25/2012 12:09:46 PM	4440
Cobalt	2.7	0.14	0.60		mg/Kg	2	10/25/2012 12:09:46 PM	4440
Iron	9800	370	500		mg/Kg	500	11/2/2012 7:03:09 AM	4440
Lead	2.5	0.44	0.50		mg/Kg	2	10/25/2012 12:09:46 PM	4440
Manganese	520	0.42	2.0		mg/Kg	20	10/25/2012 1:57:39 PM	4440
Nickel	7.5	0.33	1.0		mg/Kg	2	10/25/2012 12:09:46 PM	4440
Selenium	ND	2.8	5.0		mg/Kg	2	10/25/2012 12:09:46 PM	4440
Silver	ND	0.035	0.25		mg/Kg	1	10/29/2012 3:52:27 PM	4440
Vanadium	18	0.11	5.0		mg/Kg	2	10/25/2012 12:09:46 PM	4440
Zinc	28	2.0	5.0		mg/Kg	2	10/25/2012 12:09:46 PM	4440

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Company
Project: SWMU NO.1
Lab ID: 1210856-006C

Client Sample ID: SWMU 1-36 (0-0.5')
Collection Date: 10/16/2012 5:00:00 PM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: JLF	
Antimony	ND	1.3	5.0		mg/Kg	2	10/25/2012 12:14:48 PM	4440
Arsenic	2.5	1.3	5.0	J	mg/Kg	2	10/25/2012 12:14:48 PM	4440
Barium	690	1.2	2.0		mg/Kg	20	10/25/2012 2:04:20 PM	4440
Beryllium	0.66	0.019	0.30		mg/Kg	2	10/25/2012 12:14:48 PM	4440
Cadmium	ND	0.054	0.20		mg/Kg	2	10/25/2012 12:14:48 PM	4440
Chromium	21	0.24	0.60		mg/Kg	2	10/25/2012 12:14:48 PM	4440
Cobalt	4.3	0.14	0.60		mg/Kg	2	10/25/2012 12:14:48 PM	4440
Iron	16000	370	500		mg/Kg	500	11/2/2012 7:06:02 AM	4440
Lead	6.8	0.44	0.50		mg/Kg	2	10/25/2012 12:14:48 PM	4440
Manganese	580	0.42	2.0		mg/Kg	20	10/25/2012 2:04:20 PM	4440
Nickel	12	0.33	1.0		mg/Kg	2	10/25/2012 12:14:48 PM	4440
Selenium	ND	2.8	5.0		mg/Kg	2	10/25/2012 12:14:48 PM	4440
Silver	ND	0.071	0.50		mg/Kg	2	10/29/2012 3:57:34 PM	4440
Vanadium	20	0.11	5.0		mg/Kg	2	10/25/2012 12:14:48 PM	4440
Zinc	50	2.0	5.0		mg/Kg	2	10/25/2012 12:14:48 PM	4440

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	

Hall Environmental Analysis Laboratory, Inc.**CLIENT:** Western Refining Company**Client Sample ID:** SWMU 1-18 (0-0.5')**Project:** SWMU NO.1**Collection Date:** 10/16/2012 10:00:00 AM**Lab ID:** 1210858-001C**Matrix:** Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: JLF	
Antimony	ND	1.3	5.0		mg/Kg	2	10/25/2012 4:50:20 PM	4441
Arsenic	4.9	1.3	5.0	J	mg/Kg	2	10/25/2012 4:50:20 PM	4441
Barium	700	1.2	2.0		mg/Kg	20	10/25/2012 4:53:22 PM	4441
Beryllium	0.35	0.019	0.30		mg/Kg	2	10/25/2012 4:50:20 PM	4441
Cadmium	ND	0.054	0.20		mg/Kg	2	10/25/2012 4:50:20 PM	4441
Chromium	3.4	0.24	0.60		mg/Kg	2	10/25/2012 4:50:20 PM	4441
Cobalt	1.9	0.14	0.60		mg/Kg	2	10/25/2012 4:50:20 PM	4441
Iron	3600	370	500		mg/Kg	500	10/25/2012 4:56:13 PM	4441
Lead	ND	0.44	0.50		mg/Kg	2	10/25/2012 4:50:20 PM	4441
Manganese	300	0.42	2.0		mg/Kg	20	10/25/2012 4:53:22 PM	4441
Nickel	3.6	0.33	1.0		mg/Kg	2	10/25/2012 4:50:20 PM	4441
Selenium	ND	2.8	5.0		mg/Kg	2	10/25/2012 4:50:20 PM	4441
Silver	ND	0.071	0.50		mg/Kg	2	10/25/2012 4:50:20 PM	4441
Vanadium	11	0.11	5.0		mg/Kg	2	10/25/2012 4:50:20 PM	4441
Zinc	11	2.0	5.0		mg/Kg	2	10/25/2012 4:50:20 PM	4441

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Company
Project: SWMU NO.1
Lab ID: 1210858-002C

Client Sample ID: SWMU 1-18 (1-1.5')
Collection Date: 10/16/2012 10:10:00 AM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: ELS	
Antimony	ND	3.1	12		mg/Kg	5	10/29/2012 4:05:34 PM	4441
Arsenic	ND	3.1	12		mg/Kg	5	10/29/2012 4:05:34 PM	4441
Barium	340	1.2	2.0		mg/Kg	20	10/25/2012 5:06:32 PM	4441
Beryllium	0.64	0.046	0.75	J	mg/Kg	5	10/29/2012 4:05:34 PM	4441
Cadmium	ND	0.14	0.50		mg/Kg	5	10/29/2012 4:05:34 PM	4441
Chromium	9.2	0.59	1.5		mg/Kg	5	10/29/2012 4:05:34 PM	4441
Cobalt	3.8	0.34	1.5		mg/Kg	5	10/29/2012 4:05:34 PM	4441
Iron	11000	370	500		mg/Kg	500	10/25/2012 5:20:33 PM	4441
Lead	6.1	1.1	1.2		mg/Kg	5	10/29/2012 4:05:34 PM	4441
Manganese	1500	1.1	5.0		mg/Kg	50	10/29/2012 4:18:19 PM	4441
Nickel	6.4	0.83	2.5		mg/Kg	5	10/29/2012 4:05:34 PM	4441
Selenium	ND	7.0	12		mg/Kg	5	10/29/2012 4:05:34 PM	4441
Silver	ND	0.18	1.2		mg/Kg	5	10/29/2012 4:05:34 PM	4441
Vanadium	20	0.28	12		mg/Kg	5	10/29/2012 4:05:34 PM	4441
Zinc	15	5.0	12		mg/Kg	5	10/29/2012 4:05:34 PM	4441

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Company
Project: SWMU NO.1
Lab ID: 1210858-003C

Client Sample ID: SWMU 1-19 (0-0.5')
Collection Date: 10/16/2012 10:35:00 AM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: JLF	
Antimony	ND	1.3	5.0		mg/Kg	2	10/25/2012 5:26:14 PM	4441
Arsenic	1.6	1.3	5.0	J	mg/Kg	2	10/25/2012 5:26:14 PM	4441
Barium	530	1.2	2.0		mg/Kg	20	10/25/2012 5:29:06 PM	4441
Beryllium	0.68	0.019	0.30		mg/Kg	2	10/25/2012 5:26:14 PM	4441
Cadmium	ND	0.054	0.20		mg/Kg	2	10/25/2012 5:26:14 PM	4441
Chromium	13	0.24	0.60		mg/Kg	2	10/25/2012 5:26:14 PM	4441
Cobalt	3.8	0.14	0.60		mg/Kg	2	10/25/2012 5:26:14 PM	4441
Iron	13000	370	500		mg/Kg	500	10/25/2012 5:31:45 PM	4441
Lead	2.8	0.44	0.50		mg/Kg	2	10/25/2012 5:26:14 PM	4441
Manganese	550	0.42	2.0		mg/Kg	20	10/25/2012 5:29:06 PM	4441
Nickel	6.5	0.33	1.0		mg/Kg	2	10/25/2012 5:26:14 PM	4441
Selenium	ND	2.8	5.0		mg/Kg	2	10/25/2012 5:26:14 PM	4441
Silver	ND	0.18	1.2		mg/Kg	5	10/31/2012 1:29:43 PM	4441
Vanadium	18	0.11	5.0		mg/Kg	2	10/25/2012 5:26:14 PM	4441
Zinc	25	2.0	5.0		mg/Kg	2	10/25/2012 5:26:14 PM	4441

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.**CLIENT:** Western Refining Company**Client Sample ID:** SWMU 1-21 (0-0.5')**Project:** SWMU NO.1**Collection Date:** 10/16/2012 11:05:00 AM**Lab ID:** 1210858-004C**Matrix:** Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: JLF	
Antimony	ND	1.3	5.0		mg/Kg	2	10/25/2012 5:39:12 PM	4441
Arsenic	2.1	1.3	5.0	J	mg/Kg	2	10/25/2012 5:39:12 PM	4441
Barium	440	1.2	2.0		mg/Kg	20	10/25/2012 5:42:05 PM	4441
Beryllium	0.77	0.019	0.30		mg/Kg	2	10/25/2012 5:39:12 PM	4441
Cadmium	ND	0.054	0.20		mg/Kg	2	10/25/2012 5:39:12 PM	4441
Chromium	9.9	0.24	0.60		mg/Kg	2	10/25/2012 5:39:12 PM	4441
Cobalt	4.1	0.14	0.60		mg/Kg	2	10/25/2012 5:39:12 PM	4441
Iron	14000	370	500		mg/Kg	500	10/25/2012 5:44:46 PM	4441
Lead	2.6	0.44	0.50		mg/Kg	2	10/25/2012 5:39:12 PM	4441
Manganese	450	0.42	2.0		mg/Kg	20	10/25/2012 5:42:05 PM	4441
Nickel	7.5	0.33	1.0		mg/Kg	2	10/25/2012 5:39:12 PM	4441
Selenium	ND	2.8	5.0		mg/Kg	2	10/25/2012 5:39:12 PM	4441
Silver	ND	0.071	0.50		mg/Kg	2	10/31/2012 1:44:15 PM	4441
Vanadium	19	0.11	5.0		mg/Kg	2	10/25/2012 5:39:12 PM	4441
Zinc	17	2.0	5.0		mg/Kg	2	10/25/2012 5:39:12 PM	4441

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.**CLIENT:** Western Refining Company**Project:** SWMU NO.1**Lab ID:** 1210858-005C**Client Sample ID:** SWMU 1-21 (0-0.5') DUP**Collection Date:** 10/16/2012 11:05:00 AM**Matrix:** Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: JLF	
Antimony	ND	1.3	5.0		mg/Kg	2	10/25/2012 6:01:03 PM	4441
Arsenic	2.6	1.3	5.0	J	mg/Kg	2	10/25/2012 6:01:03 PM	4441
Barium	290	1.2	2.0		mg/Kg	20	10/25/2012 6:03:57 PM	4441
Beryllium	0.89	0.019	0.30		mg/Kg	2	10/25/2012 6:01:03 PM	4441
Cadmium	ND	0.054	0.20		mg/Kg	2	10/25/2012 6:01:03 PM	4441
Chromium	11	0.24	0.60		mg/Kg	2	10/25/2012 6:01:03 PM	4441
Cobalt	4.5	0.14	0.60		mg/Kg	2	10/25/2012 6:01:03 PM	4441
Iron	17000	370	500		mg/Kg	500	10/31/2012 1:51:45 PM	4441
Lead	2.3	0.44	0.50		mg/Kg	2	10/25/2012 6:01:03 PM	4441
Manganese	470	0.42	2.0		mg/Kg	20	10/25/2012 6:03:57 PM	4441
Nickel	8.4	0.33	1.0		mg/Kg	2	10/25/2012 6:01:03 PM	4441
Selenium	ND	2.8	5.0		mg/Kg	2	10/25/2012 6:01:03 PM	4441
Silver	ND	0.071	0.50		mg/Kg	2	10/31/2012 1:47:07 PM	4441
Vanadium	22	0.11	5.0		mg/Kg	2	10/25/2012 6:01:03 PM	4441
Zinc	18	2.0	5.0		mg/Kg	2	10/25/2012 6:01:03 PM	4441

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 11/14/2012

CLIENT: Western Refining Company

Client Sample ID: SWMU 1-22 (0-0.5')

Project: SWMU NO.1

Collection Date: 10/16/2012 11:35:00 AM

Lab ID: 1210858-006C

Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: JLF	
Antimony	ND	1.3	5.0		mg/Kg	2	10/25/2012 6:14:12 PM	4441
Arsenic	3.5	1.3	5.0	J	mg/Kg	2	10/25/2012 6:14:12 PM	4441
Barium	590	1.2	2.0		mg/Kg	20	10/25/2012 6:17:18 PM	4441
Beryllium	0.89	0.019	0.30		mg/Kg	2	10/25/2012 6:14:12 PM	4441
Cadmium	ND	0.054	0.20		mg/Kg	2	10/25/2012 6:14:12 PM	4441
Chromium	14	0.24	0.60		mg/Kg	2	10/25/2012 6:14:12 PM	4441
Cobalt	5.3	0.14	0.60		mg/Kg	2	10/25/2012 6:14:12 PM	4441
Iron	22000	370	500		mg/Kg	500	10/31/2012 1:57:31 PM	4441
Lead	3.5	0.44	0.50		mg/Kg	2	10/25/2012 6:14:12 PM	4441
Manganese	530	0.42	2.0		mg/Kg	20	10/25/2012 6:17:18 PM	4441
Nickel	8.6	0.33	1.0		mg/Kg	2	10/25/2012 6:14:12 PM	4441
Selenium	ND	2.8	5.0		mg/Kg	2	10/25/2012 6:14:12 PM	4441
Silver	ND	0.071	0.50		mg/Kg	2	10/31/2012 1:54:36 PM	4441
Vanadium	27	0.11	5.0		mg/Kg	2	10/25/2012 6:14:12 PM	4441
Zinc	26	2.0	5.0		mg/Kg	2	10/25/2012 6:14:12 PM	4441

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Company
Project: SWMU NO.1
Lab ID: 1210858-007C

Client Sample ID: SWMU 1-22 (1.5-2')
Collection Date: 10/16/2012 11:45:00 AM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: JLF	
Antimony	ND	1.3	5.0		mg/Kg	2	10/25/2012 6:25:49 PM	4441
Arsenic	1.9	1.3	5.0	J	mg/Kg	2	10/25/2012 6:25:49 PM	4441
Barium	500	1.2	2.0		mg/Kg	20	10/25/2012 6:28:40 PM	4441
Beryllium	0.69	0.019	0.30		mg/Kg	2	10/25/2012 6:25:49 PM	4441
Cadmium	ND	0.054	0.20		mg/Kg	2	10/25/2012 6:25:49 PM	4441
Chromium	9.8	0.24	0.60		mg/Kg	2	10/25/2012 6:25:49 PM	4441
Cobalt	3.8	0.14	0.60		mg/Kg	2	10/25/2012 6:25:49 PM	4441
Iron	14000	370	500		mg/Kg	500	10/31/2012 2:03:13 PM	4441
Lead	2.4	0.44	0.50		mg/Kg	2	10/25/2012 6:25:49 PM	4441
Manganese	330	0.42	2.0		mg/Kg	20	10/25/2012 6:28:40 PM	4441
Nickel	6.9	0.33	1.0		mg/Kg	2	10/25/2012 6:25:49 PM	4441
Selenium	ND	2.8	5.0		mg/Kg	2	10/25/2012 6:25:49 PM	4441
Silver	ND	0.071	0.50		mg/Kg	2	10/31/2012 2:00:20 PM	4441
Vanadium	18	0.11	5.0		mg/Kg	2	10/25/2012 6:25:49 PM	4441
Zinc	15	2.0	5.0		mg/Kg	2	10/25/2012 6:25:49 PM	4441

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Company
Project: SWMU NO.1
Lab ID: 1210859-001C

Client Sample ID: SWMU 1-23 (0-0.5')
Collection Date: 10/16/2012 12:10:00 PM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: JLF	
Antimony	ND	1.3	5.0		mg/Kg	2	10/25/2012 6:49:19 PM	4441
Arsenic	2.7	1.3	5.0	J	mg/Kg	2	10/25/2012 6:49:19 PM	4441
Barium	670	1.2	2.0		mg/Kg	20	10/25/2012 6:52:13 PM	4441
Beryllium	0.69	0.019	0.30		mg/Kg	2	10/25/2012 6:49:19 PM	4441
Cadmium	ND	0.054	0.20		mg/Kg	2	10/25/2012 6:49:19 PM	4441
Chromium	16	0.24	0.60		mg/Kg	2	10/25/2012 6:49:19 PM	4441
Cobalt	4.0	0.14	0.60		mg/Kg	2	10/25/2012 6:49:19 PM	4441
Iron	14000	370	500		mg/Kg	500	10/31/2012 2:08:56 PM	4441
Lead	3.0	0.44	0.50		mg/Kg	2	10/25/2012 6:49:19 PM	4441
Manganese	980	0.42	2.0		mg/Kg	20	10/25/2012 6:52:13 PM	4441
Nickel	7.9	0.33	1.0		mg/Kg	2	10/25/2012 6:49:19 PM	4441
Selenium	ND	2.8	5.0		mg/Kg	2	10/25/2012 6:49:19 PM	4441
Silver	ND	0.071	0.50		mg/Kg	2	10/31/2012 2:06:02 PM	4441
Vanadium	19	0.11	5.0		mg/Kg	2	10/25/2012 6:49:19 PM	4441
Zinc	21	2.0	5.0		mg/Kg	2	10/25/2012 6:49:19 PM	4441

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Company
Project: SWMU NO.1
Lab ID: 1210859-002C

Client Sample ID: SWMU 1-39 (0-0.5')
Collection Date: 10/16/2012 12:35:00 PM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: JLF	
Antimony	ND	1.3	5.0		mg/Kg	2	10/25/2012 7:00:48 PM	4441
Arsenic	ND	1.3	5.0		mg/Kg	2	10/25/2012 7:00:48 PM	4441
Barium	450	1.2	2.0		mg/Kg	20	10/25/2012 7:03:53 PM	4441
Beryllium	0.71	0.019	0.30		mg/Kg	2	10/25/2012 7:00:48 PM	4441
Cadmium	ND	0.054	0.20		mg/Kg	2	10/25/2012 7:00:48 PM	4441
Chromium	10	0.24	0.60		mg/Kg	2	10/25/2012 7:00:48 PM	4441
Cobalt	3.9	0.14	0.60		mg/Kg	2	10/25/2012 7:00:48 PM	4441
Iron	18000	370	500		mg/Kg	500	10/31/2012 2:26:50 PM	4441
Lead	4.6	0.44	0.50		mg/Kg	2	10/25/2012 7:00:48 PM	4441
Manganese	580	0.42	2.0		mg/Kg	20	10/25/2012 7:03:53 PM	4441
Nickel	6.2	0.33	1.0		mg/Kg	2	10/25/2012 7:00:48 PM	4441
Selenium	ND	2.8	5.0		mg/Kg	2	10/25/2012 7:00:48 PM	4441
Silver	ND	0.071	0.50		mg/Kg	2	10/31/2012 2:11:46 PM	4441
Vanadium	25	0.11	5.0		mg/Kg	2	10/25/2012 7:00:48 PM	4441
Zinc	16	2.0	5.0		mg/Kg	2	10/25/2012 7:00:48 PM	4441

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 11/14/2012

CLIENT: Western Refining Company
Project: SWMU NO.1
Lab ID: 1210859-003C

Client Sample ID: SWMU 1-25 (0-0.5')
Collection Date: 10/16/2012 1:00:00 PM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: JLF	
Antimony	ND	1.3	5.0		mg/Kg	2	10/25/2012 7:24:44 PM	4441
Arsenic	3.7	1.3	5.0	J	mg/Kg	2	10/25/2012 7:24:44 PM	4441
Barium	370	1.2	2.0		mg/Kg	20	10/25/2012 7:27:51 PM	4441
Beryllium	0.53	0.019	0.30		mg/Kg	2	10/25/2012 7:24:44 PM	4441
Cadmium	ND	0.054	0.20		mg/Kg	2	10/25/2012 7:24:44 PM	4441
Chromium	14	0.24	0.60		mg/Kg	2	10/25/2012 7:24:44 PM	4441
Cobalt	3.2	0.14	0.60		mg/Kg	2	10/25/2012 7:24:44 PM	4441
Iron	11000	370	500		mg/Kg	500	10/25/2012 7:30:37 PM	4441
Lead	5.6	0.44	0.50		mg/Kg	2	10/25/2012 7:24:44 PM	4441
Manganese	310	0.42	2.0		mg/Kg	20	10/25/2012 7:27:51 PM	4441
Nickel	8.6	0.33	1.0		mg/Kg	2	10/25/2012 7:24:44 PM	4441
Selenium	ND	2.8	5.0		mg/Kg	2	10/25/2012 7:24:44 PM	4441
Silver	ND	0.035	0.25		mg/Kg	1	10/31/2012 2:29:39 PM	4441
Vanadium	21	0.11	5.0		mg/Kg	2	10/25/2012 7:24:44 PM	4441
Zinc	27	2.0	5.0		mg/Kg	2	10/25/2012 7:24:44 PM	4441

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 11/14/2012

CLIENT: Western Refining Company

Client Sample ID: SWMU 1-25 (0.5-1')

Project: SWMU NO.1

Collection Date: 10/16/2012 1:15:00 PM

Lab ID: 1210859-004C

Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: JLF	
Antimony	ND	1.3	5.0		mg/Kg	2	10/25/2012 7:36:32 PM	4441
Arsenic	3.7	1.3	5.0	J	mg/Kg	2	10/25/2012 7:36:32 PM	4441
Barium	360	1.2	2.0		mg/Kg	20	10/25/2012 7:39:34 PM	4441
Beryllium	0.45	0.019	0.30		mg/Kg	2	10/25/2012 7:36:32 PM	4441
Cadmium	ND	0.054	0.20		mg/Kg	2	10/25/2012 7:36:32 PM	4441
Chromium	12	0.24	0.60		mg/Kg	2	10/25/2012 7:36:32 PM	4441
Cobalt	4.3	0.14	0.60		mg/Kg	2	10/25/2012 7:36:32 PM	4441
Iron	10000	370	500		mg/Kg	500	10/25/2012 7:42:20 PM	4441
Lead	4.1	0.44	0.50		mg/Kg	2	10/25/2012 7:36:32 PM	4441
Manganese	270	0.42	2.0		mg/Kg	20	10/25/2012 7:39:34 PM	4441
Nickel	9.8	0.33	1.0		mg/Kg	2	10/25/2012 7:36:32 PM	4441
Selenium	ND	2.8	5.0		mg/Kg	2	10/25/2012 7:36:32 PM	4441
Silver	ND	0.071	0.50		mg/Kg	2	10/31/2012 2:32:45 PM	4441
Vanadium	20	0.11	5.0		mg/Kg	2	10/25/2012 7:36:32 PM	4441
Zinc	28	2.0	5.0		mg/Kg	2	10/25/2012 7:36:32 PM	4441

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Company
Project: SWMU NO.1
Lab ID: 1210859-005C

Client Sample ID: SWMU 1-26 (0-0.5')
Collection Date: 10/16/2012 1:35:00 PM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: JLF	
Antimony	ND	1.3	5.0		mg/Kg	2	10/25/2012 7:48:02 PM	4441
Arsenic	1.5	1.3	5.0	J	mg/Kg	2	10/25/2012 7:48:02 PM	4441
Barium	390	1.2	2.0		mg/Kg	20	10/25/2012 7:50:55 PM	4441
Beryllium	0.62	0.019	0.30		mg/Kg	2	10/25/2012 7:48:02 PM	4441
Cadmium	ND	0.054	0.20		mg/Kg	2	10/25/2012 7:48:02 PM	4441
Chromium	7.9	0.24	0.60		mg/Kg	2	10/25/2012 7:48:02 PM	4441
Cobalt	3.7	0.14	0.60		mg/Kg	2	10/25/2012 7:48:02 PM	4441
Iron	11000	370	500		mg/Kg	500	10/25/2012 8:05:04 PM	4441
Lead	2.7	0.44	0.50		mg/Kg	2	10/25/2012 7:48:02 PM	4441
Manganese	670	0.42	2.0		mg/Kg	20	10/25/2012 7:50:55 PM	4441
Nickel	6.1	0.33	1.0		mg/Kg	2	10/25/2012 7:48:02 PM	4441
Selenium	ND	2.8	5.0		mg/Kg	2	10/25/2012 7:48:02 PM	4441
Silver	ND	0.071	0.50		mg/Kg	2	10/31/2012 2:35:55 PM	4441
Vanadium	14	0.11	5.0		mg/Kg	2	10/25/2012 7:48:02 PM	4441
Zinc	16	2.0	5.0		mg/Kg	2	10/25/2012 7:48:02 PM	4441

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

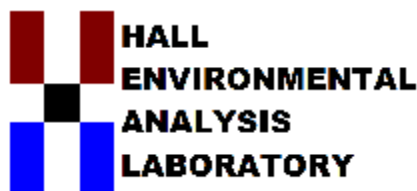
Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.**CLIENT:** Western Refining Company**Client Sample ID:** SWMU 1-29 (0-0.5')**Project:** SWMU NO.1**Collection Date:** 10/16/2012 2:40:00 PM**Lab ID:** 1210859-006C**Matrix:** Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: SOIL METALS							Analyst: JLF	
Antimony	ND	1.3	5.0		mg/Kg	2	10/25/2012 8:10:53 PM	4441
Arsenic	2.3	1.3	5.0	J	mg/Kg	2	10/25/2012 8:10:53 PM	4441
Barium	550	1.2	2.0		mg/Kg	20	10/25/2012 8:13:48 PM	4441
Beryllium	0.69	0.019	0.30		mg/Kg	2	10/25/2012 8:10:53 PM	4441
Cadmium	ND	0.054	0.20		mg/Kg	2	10/25/2012 8:10:53 PM	4441
Chromium	17	0.24	0.60		mg/Kg	2	10/25/2012 8:10:53 PM	4441
Cobalt	5.1	0.14	0.60		mg/Kg	2	10/25/2012 8:10:53 PM	4441
Iron	15000	370	500		mg/Kg	500	10/25/2012 8:16:27 PM	4441
Lead	7.0	0.44	0.50		mg/Kg	2	10/25/2012 8:10:53 PM	4441
Manganese	620	0.42	2.0		mg/Kg	20	10/25/2012 8:13:48 PM	4441
Nickel	9.3	0.33	1.0		mg/Kg	2	10/25/2012 8:10:53 PM	4441
Selenium	ND	2.8	5.0		mg/Kg	2	10/25/2012 8:10:53 PM	4441
Silver	ND	0.071	0.50		mg/Kg	2	10/31/2012 2:38:49 PM	4441
Vanadium	19	0.11	5.0		mg/Kg	2	10/25/2012 8:10:53 PM	4441
Zinc	48	2.0	5.0		mg/Kg	2	10/25/2012 8:10:53 PM	4441

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

November 14, 2012

Scott Crouch

Western Refining Southwest, Gallup

Rt. 3 Box 7

Gallup, NM 87301

TEL:

FAX

RE: SWMU NO.1

OrderNo.: 1210279

Dear Scott Crouch:

Hall Environmental Analysis Laboratory received 13 sample(s) on 10/4/2012 for the analyses presented in the following report.

This report is a revised report and it replaces the original report issued October 29, 2012.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. All samples are reported as received unless otherwise indicated.

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

Sincerely,

A handwritten signature in black ink, appearing to read "Andy Freeman", is written over a horizontal line.

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210279

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-2 (6-8")

Project: SWMU NO.1

Collection Date: 10/2/2012 10:00:00 AM

Lab ID: 1210279-001

Matrix: SOIL

Received Date: 10/4/2012 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: JMP
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	10/7/2012 12:39:13 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	10/7/2012 12:39:13 AM
Surr: DNOP	89.9	77.6-140		%REC	1	10/7/2012 12:39:13 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	10/6/2012 3:27:07 AM
Surr: BFB	102	84-116		%REC	1	10/6/2012 3:27:07 AM
EPA METHOD 7471: MERCURY						Analyst: IDC
Mercury	ND	0.033		mg/kg	1	10/9/2012 10:23:08 AM
EPA METHOD 6010B: SOIL METALS						Analyst: ELS
Antimony	ND	5.0		mg/Kg	2	10/17/2012 10:26:45 AM
Arsenic	ND	5.0		mg/Kg	2	10/17/2012 10:26:45 AM
Barium	39	0.20		mg/Kg	2	10/17/2012 10:26:45 AM
Beryllium	0.61	0.30		mg/Kg	2	10/17/2012 10:26:45 AM
Cadmium	ND	0.20		mg/Kg	2	10/17/2012 10:26:45 AM
Chromium	8.1	0.60		mg/Kg	2	10/17/2012 10:26:45 AM
Cobalt	3.9	0.60		mg/Kg	2	10/17/2012 10:26:45 AM
Iron	12000	500		mg/Kg	500	10/17/2012 12:52:55 PM
Lead	3.5	0.50		mg/Kg	2	10/17/2012 10:26:45 AM
Manganese	230	0.50		mg/Kg	5	10/17/2012 12:50:30 PM
Nickel	6.0	1.0		mg/Kg	2	10/17/2012 10:26:45 AM
Selenium	ND	5.0		mg/Kg	2	10/23/2012 6:37:37 PM
Silver	ND	0.50		mg/Kg	2	10/17/2012 10:26:45 AM
Vanadium	16	5.0		mg/Kg	2	10/17/2012 10:26:45 AM
Zinc	16	5.0		mg/Kg	2	10/17/2012 10:26:45 AM
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Acenaphthene	ND	0.20		mg/Kg	1	10/9/2012 1:19:59 PM
Acenaphthylene	ND	0.20		mg/Kg	1	10/9/2012 1:19:59 PM
Aniline	ND	0.20		mg/Kg	1	10/9/2012 1:19:59 PM
Anthracene	ND	0.20		mg/Kg	1	10/9/2012 1:19:59 PM
Azobenzene	ND	0.20		mg/Kg	1	10/9/2012 1:19:59 PM
Benz(a)anthracene	ND	0.20		mg/Kg	1	10/9/2012 1:19:59 PM
Benzo(a)pyrene	ND	0.20		mg/Kg	1	10/9/2012 1:19:59 PM
Benzo(b)fluoranthene	ND	0.20		mg/Kg	1	10/9/2012 1:19:59 PM
Benzo(g,h,i)perylene	ND	0.20		mg/Kg	1	10/9/2012 1:19:59 PM
Benzo(k)fluoranthene	ND	0.20		mg/Kg	1	10/9/2012 1:19:59 PM
Benzoic acid	ND	0.50		mg/Kg	1	10/9/2012 1:19:59 PM
Benzyl alcohol	ND	0.20		mg/Kg	1	10/9/2012 1:19:59 PM
Bis(2-chloroethoxy)methane	ND	0.20		mg/Kg	1	10/9/2012 1:19:59 PM
Bis(2-chloroethyl)ether	ND	0.20		mg/Kg	1	10/9/2012 1:19:59 PM
Bis(2-chloroisopropyl)ether	ND	0.20		mg/Kg	1	10/9/2012 1:19:59 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210279

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-2 (6-8")

Project: SWMU NO.1

Collection Date: 10/2/2012 10:00:00 AM

Lab ID: 1210279-001

Matrix: SOIL

Received Date: 10/4/2012 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Bis(2-ethylhexyl)phthalate	ND	0.50		mg/Kg	1	10/9/2012 1:19:59 PM
4-Bromophenyl phenyl ether	ND	0.20		mg/Kg	1	10/9/2012 1:19:59 PM
Butyl benzyl phthalate	ND	0.20		mg/Kg	1	10/9/2012 1:19:59 PM
Carbazole	ND	0.20		mg/Kg	1	10/9/2012 1:19:59 PM
4-Chloro-3-methylphenol	ND	0.50		mg/Kg	1	10/9/2012 1:19:59 PM
4-Chloroaniline	ND	0.50		mg/Kg	1	10/9/2012 1:19:59 PM
2-Chloronaphthalene	ND	0.25		mg/Kg	1	10/9/2012 1:19:59 PM
2-Chlorophenol	ND	0.20		mg/Kg	1	10/9/2012 1:19:59 PM
4-Chlorophenyl phenyl ether	ND	0.20		mg/Kg	1	10/9/2012 1:19:59 PM
Chrysene	ND	0.20		mg/Kg	1	10/9/2012 1:19:59 PM
Di-n-butyl phthalate	ND	0.50		mg/Kg	1	10/9/2012 1:19:59 PM
Di-n-octyl phthalate	ND	0.25		mg/Kg	1	10/9/2012 1:19:59 PM
Dibenz(a,h)anthracene	ND	0.20		mg/Kg	1	10/9/2012 1:19:59 PM
Dibenzofuran	ND	0.20		mg/Kg	1	10/9/2012 1:19:59 PM
1,2-Dichlorobenzene	ND	0.20		mg/Kg	1	10/9/2012 1:19:59 PM
1,3-Dichlorobenzene	ND	0.20		mg/Kg	1	10/9/2012 1:19:59 PM
1,4-Dichlorobenzene	ND	0.20		mg/Kg	1	10/9/2012 1:19:59 PM
3,3'-Dichlorobenzidine	ND	0.25		mg/Kg	1	10/9/2012 1:19:59 PM
Diethyl phthalate	ND	0.20		mg/Kg	1	10/9/2012 1:19:59 PM
Dimethyl phthalate	ND	0.20		mg/Kg	1	10/9/2012 1:19:59 PM
2,4-Dichlorophenol	ND	0.40		mg/Kg	1	10/9/2012 1:19:59 PM
2,4-Dimethylphenol	ND	0.30		mg/Kg	1	10/9/2012 1:19:59 PM
4,6-Dinitro-2-methylphenol	ND	0.50		mg/Kg	1	10/9/2012 1:19:59 PM
2,4-Dinitrophenol	ND	0.40		mg/Kg	1	10/9/2012 1:19:59 PM
2,4-Dinitrotoluene	ND	0.50		mg/Kg	1	10/9/2012 1:19:59 PM
2,6-Dinitrotoluene	ND	0.50		mg/Kg	1	10/9/2012 1:19:59 PM
Fluoranthene	ND	0.20		mg/Kg	1	10/9/2012 1:19:59 PM
Fluorene	ND	0.20		mg/Kg	1	10/9/2012 1:19:59 PM
Hexachlorobenzene	ND	0.20		mg/Kg	1	10/9/2012 1:19:59 PM
Hexachlorobutadiene	ND	0.20		mg/Kg	1	10/9/2012 1:19:59 PM
Hexachlorocyclopentadiene	ND	0.20		mg/Kg	1	10/9/2012 1:19:59 PM
Hexachloroethane	ND	0.20		mg/Kg	1	10/9/2012 1:19:59 PM
Indeno(1,2,3-cd)pyrene	ND	0.20		mg/Kg	1	10/9/2012 1:19:59 PM
Isophorone	ND	0.50		mg/Kg	1	10/9/2012 1:19:59 PM
1-Methylnaphthalene	ND	0.20		mg/Kg	1	10/9/2012 1:19:59 PM
2-Methylnaphthalene	ND	0.20		mg/Kg	1	10/9/2012 1:19:59 PM
2-Methylphenol	ND	0.50		mg/Kg	1	10/9/2012 1:19:59 PM
3+4-Methylphenol	ND	0.20		mg/Kg	1	10/9/2012 1:19:59 PM
N-Nitrosodi-n-propylamine	ND	0.20		mg/Kg	1	10/9/2012 1:19:59 PM
N-Nitrosodiphenylamine	ND	0.20		mg/Kg	1	10/9/2012 1:19:59 PM
Naphthalene	ND	0.20		mg/Kg	1	10/9/2012 1:19:59 PM
2-Nitroaniline	ND	0.20		mg/Kg	1	10/9/2012 1:19:59 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210279

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-2 (6-8")

Project: SWMU NO.1

Collection Date: 10/2/2012 10:00:00 AM

Lab ID: 1210279-001

Matrix: SOIL

Received Date: 10/4/2012 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
3-Nitroaniline	ND	0.20		mg/Kg	1	10/9/2012 1:19:59 PM
4-Nitroaniline	ND	0.40		mg/Kg	1	10/9/2012 1:19:59 PM
Nitrobenzene	ND	0.50		mg/Kg	1	10/9/2012 1:19:59 PM
2-Nitrophenol	ND	0.20		mg/Kg	1	10/9/2012 1:19:59 PM
4-Nitrophenol	ND	0.25		mg/Kg	1	10/9/2012 1:19:59 PM
Pentachlorophenol	ND	0.40		mg/Kg	1	10/9/2012 1:19:59 PM
Phenanthrene	ND	0.20		mg/Kg	1	10/9/2012 1:19:59 PM
Phenol	ND	0.20		mg/Kg	1	10/9/2012 1:19:59 PM
Pyrene	ND	0.20		mg/Kg	1	10/9/2012 1:19:59 PM
Pyridine	ND	0.50		mg/Kg	1	10/9/2012 1:19:59 PM
1,2,4-Trichlorobenzene	ND	0.20		mg/Kg	1	10/9/2012 1:19:59 PM
2,4,5-Trichlorophenol	ND	0.20		mg/Kg	1	10/9/2012 1:19:59 PM
2,4,6-Trichlorophenol	ND	0.20		mg/Kg	1	10/9/2012 1:19:59 PM
Surr: 2,4,6-Tribromophenol	69.4	21.3-145		%REC	1	10/9/2012 1:19:59 PM
Surr: 2-Fluorobiphenyl	67.8	20-131		%REC	1	10/9/2012 1:19:59 PM
Surr: 2-Fluorophenol	70.2	11.9-130		%REC	1	10/9/2012 1:19:59 PM
Surr: 4-Terphenyl-d14	59.7	25.1-149		%REC	1	10/9/2012 1:19:59 PM
Surr: Nitrobenzene-d5	70.7	25.6-137		%REC	1	10/9/2012 1:19:59 PM
Surr: Phenol-d5	71.6	20.3-132		%REC	1	10/9/2012 1:19:59 PM
EPA METHOD 8260B: VOLATILES						Analyst: RAA
Benzene	ND	0.050		mg/Kg	1	10/10/2012 11:09:51 AM
Toluene	ND	0.050		mg/Kg	1	10/10/2012 11:09:51 AM
Ethylbenzene	ND	0.050		mg/Kg	1	10/10/2012 11:09:51 AM
Methyl tert-butyl ether (MTBE)	ND	0.050		mg/Kg	1	10/10/2012 11:09:51 AM
1,2,4-Trimethylbenzene	ND	0.050		mg/Kg	1	10/10/2012 11:09:51 AM
1,3,5-Trimethylbenzene	ND	0.050		mg/Kg	1	10/10/2012 11:09:51 AM
1,2-Dichloroethane (EDC)	ND	0.050		mg/Kg	1	10/10/2012 11:09:51 AM
1,2-Dibromoethane (EDB)	ND	0.050		mg/Kg	1	10/10/2012 11:09:51 AM
Naphthalene	ND	0.10		mg/Kg	1	10/10/2012 11:09:51 AM
1-Methylnaphthalene	ND	0.20		mg/Kg	1	10/10/2012 11:09:51 AM
2-Methylnaphthalene	ND	0.20		mg/Kg	1	10/10/2012 11:09:51 AM
Acetone	ND	0.75		mg/Kg	1	10/10/2012 11:09:51 AM
Bromobenzene	ND	0.050		mg/Kg	1	10/10/2012 11:09:51 AM
Bromodichloromethane	ND	0.050		mg/Kg	1	10/10/2012 11:09:51 AM
Bromoform	ND	0.050		mg/Kg	1	10/10/2012 11:09:51 AM
Bromomethane	ND	0.15		mg/Kg	1	10/10/2012 11:09:51 AM
2-Butanone	ND	0.50		mg/Kg	1	10/10/2012 11:09:51 AM
Carbon disulfide	ND	0.50		mg/Kg	1	10/10/2012 11:09:51 AM
Carbon tetrachloride	ND	0.10		mg/Kg	1	10/10/2012 11:09:51 AM
Chlorobenzene	ND	0.050		mg/Kg	1	10/10/2012 11:09:51 AM
Chloroethane	ND	0.10		mg/Kg	1	10/10/2012 11:09:51 AM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210279

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-2 (6-8")

Project: SWMU NO.1

Collection Date: 10/2/2012 10:00:00 AM

Lab ID: 1210279-001

Matrix: SOIL

Received Date: 10/4/2012 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: RAA
Chloroform	ND	0.050		mg/Kg	1	10/10/2012 11:09:51 AM
Chloromethane	ND	0.15		mg/Kg	1	10/10/2012 11:09:51 AM
2-Chlorotoluene	ND	0.050		mg/Kg	1	10/10/2012 11:09:51 AM
4-Chlorotoluene	ND	0.050		mg/Kg	1	10/10/2012 11:09:51 AM
cis-1,2-DCE	ND	0.050		mg/Kg	1	10/10/2012 11:09:51 AM
cis-1,3-Dichloropropene	ND	0.050		mg/Kg	1	10/10/2012 11:09:51 AM
1,2-Dibromo-3-chloropropane	ND	0.10		mg/Kg	1	10/10/2012 11:09:51 AM
Dibromochloromethane	ND	0.050		mg/Kg	1	10/10/2012 11:09:51 AM
Dibromomethane	ND	0.10		mg/Kg	1	10/10/2012 11:09:51 AM
1,2-Dichlorobenzene	ND	0.050		mg/Kg	1	10/10/2012 11:09:51 AM
1,3-Dichlorobenzene	ND	0.050		mg/Kg	1	10/10/2012 11:09:51 AM
1,4-Dichlorobenzene	ND	0.050		mg/Kg	1	10/10/2012 11:09:51 AM
Dichlorodifluoromethane	ND	0.050		mg/Kg	1	10/10/2012 11:09:51 AM
1,1-Dichloroethane	ND	0.10		mg/Kg	1	10/10/2012 11:09:51 AM
1,1-Dichloroethene	ND	0.050		mg/Kg	1	10/10/2012 11:09:51 AM
1,2-Dichloropropane	ND	0.050		mg/Kg	1	10/10/2012 11:09:51 AM
1,3-Dichloropropane	ND	0.050		mg/Kg	1	10/10/2012 11:09:51 AM
2,2-Dichloropropane	ND	0.10		mg/Kg	1	10/10/2012 11:09:51 AM
1,1-Dichloropropene	ND	0.10		mg/Kg	1	10/10/2012 11:09:51 AM
Hexachlorobutadiene	ND	0.10		mg/Kg	1	10/10/2012 11:09:51 AM
2-Hexanone	ND	0.50		mg/Kg	1	10/10/2012 11:09:51 AM
Isopropylbenzene	ND	0.050		mg/Kg	1	10/10/2012 11:09:51 AM
4-Isopropyltoluene	ND	0.050		mg/Kg	1	10/10/2012 11:09:51 AM
4-Methyl-2-pentanone	ND	0.50		mg/Kg	1	10/10/2012 11:09:51 AM
Methylene chloride	ND	0.15		mg/Kg	1	10/10/2012 11:09:51 AM
n-Butylbenzene	ND	0.15		mg/Kg	1	10/10/2012 11:09:51 AM
n-Propylbenzene	ND	0.050		mg/Kg	1	10/10/2012 11:09:51 AM
sec-Butylbenzene	ND	0.050		mg/Kg	1	10/10/2012 11:09:51 AM
Styrene	ND	0.050		mg/Kg	1	10/10/2012 11:09:51 AM
tert-Butylbenzene	ND	0.050		mg/Kg	1	10/10/2012 11:09:51 AM
1,1,1,2-Tetrachloroethane	ND	0.050		mg/Kg	1	10/10/2012 11:09:51 AM
1,1,2,2-Tetrachloroethane	ND	0.050		mg/Kg	1	10/10/2012 11:09:51 AM
Tetrachloroethene (PCE)	ND	0.050		mg/Kg	1	10/10/2012 11:09:51 AM
trans-1,2-DCE	ND	0.050		mg/Kg	1	10/10/2012 11:09:51 AM
trans-1,3-Dichloropropene	ND	0.050		mg/Kg	1	10/10/2012 11:09:51 AM
1,2,3-Trichlorobenzene	ND	0.10		mg/Kg	1	10/10/2012 11:09:51 AM
1,2,4-Trichlorobenzene	ND	0.050		mg/Kg	1	10/10/2012 11:09:51 AM
1,1,1-Trichloroethane	ND	0.050		mg/Kg	1	10/10/2012 11:09:51 AM
1,1,2-Trichloroethane	ND	0.050		mg/Kg	1	10/10/2012 11:09:51 AM
Trichloroethene (TCE)	ND	0.050		mg/Kg	1	10/10/2012 11:09:51 AM
Trichlorofluoromethane	ND	0.050		mg/Kg	1	10/10/2012 11:09:51 AM
1,2,3-Trichloropropane	ND	0.10		mg/Kg	1	10/10/2012 11:09:51 AM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210279

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-2 (6-8')

Project: SWMU NO.1

Collection Date: 10/2/2012 10:00:00 AM

Lab ID: 1210279-001

Matrix: SOIL

Received Date: 10/4/2012 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: RAA
Vinyl chloride	ND	0.050		mg/Kg	1	10/10/2012 11:09:51 AM
Xylenes, Total	ND	0.10		mg/Kg	1	10/10/2012 11:09:51 AM
Surr: 1,2-Dichloroethane-d4	91.3	70-130		%REC	1	10/10/2012 11:09:51 AM
Surr: 4-Bromofluorobenzene	72.3	70-130		%REC	1	10/10/2012 11:09:51 AM
Surr: Dibromofluoromethane	93.5	70-130		%REC	1	10/10/2012 11:09:51 AM
Surr: Toluene-d8	73.7	70-130		%REC	1	10/10/2012 11:09:51 AM

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2
RL Reporting Detection Limit

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210279

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-2 (10-11')

Project: SWMU NO.1

Collection Date: 10/2/2012 10:20:00 AM

Lab ID: 1210279-002

Matrix: SOIL

Received Date: 10/4/2012 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: JMP
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	10/7/2012 1:04:03 AM
Motor Oil Range Organics (MRO)	ND	52		mg/Kg	1	10/7/2012 1:04:03 AM
Surr: DNOP	88.0	77.6-140		%REC	1	10/7/2012 1:04:03 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	10/6/2012 3:55:52 AM
Surr: BFB	101	84-116		%REC	1	10/6/2012 3:55:52 AM
EPA METHOD 7471: MERCURY						Analyst: IDC
Mercury	ND	0.033		mg/kg	1	10/9/2012 10:25:42 AM
EPA METHOD 6010B: SOIL METALS						Analyst: ELS
Antimony	ND	5.0		mg/Kg	2	10/17/2012 10:31:47 AM
Arsenic	ND	5.0		mg/Kg	2	10/17/2012 10:31:47 AM
Barium	220	0.50		mg/Kg	5	10/17/2012 12:55:32 PM
Beryllium	0.74	0.30		mg/Kg	2	10/17/2012 10:31:47 AM
Cadmium	ND	0.20		mg/Kg	2	10/17/2012 10:31:47 AM
Chromium	6.0	0.60		mg/Kg	2	10/17/2012 10:31:47 AM
Cobalt	3.3	0.60		mg/Kg	2	10/17/2012 10:31:47 AM
Iron	11000	500		mg/Kg	500	10/17/2012 12:59:38 PM
Lead	3.9	0.50		mg/Kg	2	10/17/2012 10:31:47 AM
Manganese	310	1.0		mg/Kg	10	10/23/2012 6:42:27 PM
Nickel	5.6	1.0		mg/Kg	2	10/17/2012 10:31:47 AM
Selenium	ND	5.0		mg/Kg	2	10/23/2012 6:40:01 PM
Silver	ND	0.50		mg/Kg	2	10/17/2012 10:31:47 AM
Vanadium	12	5.0		mg/Kg	2	10/17/2012 10:31:47 AM
Zinc	13	5.0		mg/Kg	2	10/17/2012 10:31:47 AM
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Acenaphthene	ND	0.20		mg/Kg	1	10/9/2012 3:20:37 PM
Acenaphthylene	ND	0.20		mg/Kg	1	10/9/2012 3:20:37 PM
Aniline	ND	0.20		mg/Kg	1	10/9/2012 3:20:37 PM
Anthracene	ND	0.20		mg/Kg	1	10/9/2012 3:20:37 PM
Azobenzene	ND	0.20		mg/Kg	1	10/9/2012 3:20:37 PM
Benz(a)anthracene	ND	0.20		mg/Kg	1	10/9/2012 3:20:37 PM
Benzo(a)pyrene	ND	0.20		mg/Kg	1	10/9/2012 3:20:37 PM
Benzo(b)fluoranthene	ND	0.20		mg/Kg	1	10/9/2012 3:20:37 PM
Benzo(g,h,i)perylene	ND	0.20		mg/Kg	1	10/9/2012 3:20:37 PM
Benzo(k)fluoranthene	ND	0.20		mg/Kg	1	10/9/2012 3:20:37 PM
Benzoic acid	ND	0.50		mg/Kg	1	10/9/2012 3:20:37 PM
Benzyl alcohol	ND	0.20		mg/Kg	1	10/9/2012 3:20:37 PM
Bis(2-chloroethoxy)methane	ND	0.20		mg/Kg	1	10/9/2012 3:20:37 PM
Bis(2-chloroethyl)ether	ND	0.20		mg/Kg	1	10/9/2012 3:20:37 PM
Bis(2-chloroisopropyl)ether	ND	0.20		mg/Kg	1	10/9/2012 3:20:37 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210279

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-2 (10-11')

Project: SWMU NO.1

Collection Date: 10/2/2012 10:20:00 AM

Lab ID: 1210279-002

Matrix: SOIL

Received Date: 10/4/2012 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Bis(2-ethylhexyl)phthalate	ND	0.50		mg/Kg	1	10/9/2012 3:20:37 PM
4-Bromophenyl phenyl ether	ND	0.20		mg/Kg	1	10/9/2012 3:20:37 PM
Butyl benzyl phthalate	ND	0.20		mg/Kg	1	10/9/2012 3:20:37 PM
Carbazole	ND	0.20		mg/Kg	1	10/9/2012 3:20:37 PM
4-Chloro-3-methylphenol	ND	0.50		mg/Kg	1	10/9/2012 3:20:37 PM
4-Chloroaniline	ND	0.50		mg/Kg	1	10/9/2012 3:20:37 PM
2-Chloronaphthalene	ND	0.25		mg/Kg	1	10/9/2012 3:20:37 PM
2-Chlorophenol	ND	0.20		mg/Kg	1	10/9/2012 3:20:37 PM
4-Chlorophenyl phenyl ether	ND	0.20		mg/Kg	1	10/9/2012 3:20:37 PM
Chrysene	ND	0.20		mg/Kg	1	10/9/2012 3:20:37 PM
Di-n-butyl phthalate	ND	0.50		mg/Kg	1	10/9/2012 3:20:37 PM
Di-n-octyl phthalate	ND	0.25		mg/Kg	1	10/9/2012 3:20:37 PM
Dibenz(a,h)anthracene	ND	0.20		mg/Kg	1	10/9/2012 3:20:37 PM
Dibenzofuran	ND	0.20		mg/Kg	1	10/9/2012 3:20:37 PM
1,2-Dichlorobenzene	ND	0.20		mg/Kg	1	10/9/2012 3:20:37 PM
1,3-Dichlorobenzene	ND	0.20		mg/Kg	1	10/9/2012 3:20:37 PM
1,4-Dichlorobenzene	ND	0.20		mg/Kg	1	10/9/2012 3:20:37 PM
3,3'-Dichlorobenzidine	ND	0.25		mg/Kg	1	10/9/2012 3:20:37 PM
Diethyl phthalate	ND	0.20		mg/Kg	1	10/9/2012 3:20:37 PM
Dimethyl phthalate	ND	0.20		mg/Kg	1	10/9/2012 3:20:37 PM
2,4-Dichlorophenol	ND	0.40		mg/Kg	1	10/9/2012 3:20:37 PM
2,4-Dimethylphenol	ND	0.30		mg/Kg	1	10/9/2012 3:20:37 PM
4,6-Dinitro-2-methylphenol	ND	0.50		mg/Kg	1	10/9/2012 3:20:37 PM
2,4-Dinitrophenol	ND	0.40		mg/Kg	1	10/9/2012 3:20:37 PM
2,4-Dinitrotoluene	ND	0.50		mg/Kg	1	10/9/2012 3:20:37 PM
2,6-Dinitrotoluene	ND	0.50		mg/Kg	1	10/9/2012 3:20:37 PM
Fluoranthene	ND	0.20		mg/Kg	1	10/9/2012 3:20:37 PM
Fluorene	ND	0.20		mg/Kg	1	10/9/2012 3:20:37 PM
Hexachlorobenzene	ND	0.20		mg/Kg	1	10/9/2012 3:20:37 PM
Hexachlorobutadiene	ND	0.20		mg/Kg	1	10/9/2012 3:20:37 PM
Hexachlorocyclopentadiene	ND	0.20		mg/Kg	1	10/9/2012 3:20:37 PM
Hexachloroethane	ND	0.20		mg/Kg	1	10/9/2012 3:20:37 PM
Indeno(1,2,3-cd)pyrene	ND	0.20		mg/Kg	1	10/9/2012 3:20:37 PM
Isophorone	ND	0.50		mg/Kg	1	10/9/2012 3:20:37 PM
1-Methylnaphthalene	ND	0.20		mg/Kg	1	10/9/2012 3:20:37 PM
2-Methylnaphthalene	ND	0.20		mg/Kg	1	10/9/2012 3:20:37 PM
2-Methylphenol	ND	0.50		mg/Kg	1	10/9/2012 3:20:37 PM
3+4-Methylphenol	ND	0.20		mg/Kg	1	10/9/2012 3:20:37 PM
N-Nitrosodi-n-propylamine	ND	0.20		mg/Kg	1	10/9/2012 3:20:37 PM
N-Nitrosodiphenylamine	ND	0.20		mg/Kg	1	10/9/2012 3:20:37 PM
Naphthalene	ND	0.20		mg/Kg	1	10/9/2012 3:20:37 PM
2-Nitroaniline	ND	0.20		mg/Kg	1	10/9/2012 3:20:37 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210279

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-2 (10-11')

Project: SWMU NO.1

Collection Date: 10/2/2012 10:20:00 AM

Lab ID: 1210279-002

Matrix: SOIL

Received Date: 10/4/2012 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
3-Nitroaniline	ND	0.20		mg/Kg	1	10/9/2012 3:20:37 PM
4-Nitroaniline	ND	0.40		mg/Kg	1	10/9/2012 3:20:37 PM
Nitrobenzene	ND	0.50		mg/Kg	1	10/9/2012 3:20:37 PM
2-Nitrophenol	ND	0.20		mg/Kg	1	10/9/2012 3:20:37 PM
4-Nitrophenol	ND	0.25		mg/Kg	1	10/9/2012 3:20:37 PM
Pentachlorophenol	ND	0.40		mg/Kg	1	10/9/2012 3:20:37 PM
Phenanthrene	ND	0.20		mg/Kg	1	10/9/2012 3:20:37 PM
Phenol	ND	0.20		mg/Kg	1	10/9/2012 3:20:37 PM
Pyrene	ND	0.20		mg/Kg	1	10/9/2012 3:20:37 PM
Pyridine	ND	0.50		mg/Kg	1	10/9/2012 3:20:37 PM
1,2,4-Trichlorobenzene	ND	0.20		mg/Kg	1	10/9/2012 3:20:37 PM
2,4,5-Trichlorophenol	ND	0.20		mg/Kg	1	10/9/2012 3:20:37 PM
2,4,6-Trichlorophenol	ND	0.20		mg/Kg	1	10/9/2012 3:20:37 PM
Surr: 2,4,6-Tribromophenol	63.6	21.3-145		%REC	1	10/9/2012 3:20:37 PM
Surr: 2-Fluorobiphenyl	52.6	20-131		%REC	1	10/9/2012 3:20:37 PM
Surr: 2-Fluorophenol	56.4	11.9-130		%REC	1	10/9/2012 3:20:37 PM
Surr: 4-Terphenyl-d14	54.0	25.1-149		%REC	1	10/9/2012 3:20:37 PM
Surr: Nitrobenzene-d5	57.1	25.6-137		%REC	1	10/9/2012 3:20:37 PM
Surr: Phenol-d5	61.4	20.3-132		%REC	1	10/9/2012 3:20:37 PM
METHOD 8260B/5035LOW: VOLATILES						Analyst: RAA
Benzene	ND	0.00116		mg/Kg	1	10/8/2012 5:18:58 PM
Toluene	ND	0.00116		mg/Kg	1	10/8/2012 5:18:58 PM
Ethylbenzene	ND	0.00116		mg/Kg	1	10/8/2012 5:18:58 PM
Xylenes, Total	ND	0.00232		mg/Kg	1	10/8/2012 5:18:58 PM
Methyl tert-butyl ether (MTBE)	0.00148	0.00116		mg/Kg	1	10/8/2012 5:18:58 PM
1,2,4-Trimethylbenzene	ND	0.00116		mg/Kg	1	10/8/2012 5:18:58 PM
1,3,5-Trimethylbenzene	ND	0.00116		mg/Kg	1	10/8/2012 5:18:58 PM
1,2-Dichloroethane (EDC)	ND	0.00116		mg/Kg	1	10/8/2012 5:18:58 PM
1,2-Dibromoethane (EDB)	ND	0.00116		mg/Kg	1	10/8/2012 5:18:58 PM
Naphthalene	ND	0.00232		mg/Kg	1	10/8/2012 5:18:58 PM
1-Methylnaphthalene	ND	0.00463		mg/Kg	1	10/8/2012 5:18:58 PM
2-Methylnaphthalene	ND	0.00463		mg/Kg	1	10/8/2012 5:18:58 PM
Acetone	0.0135	0.0116		mg/Kg	1	10/8/2012 5:18:58 PM
Bromobenzene	ND	0.00116		mg/Kg	1	10/8/2012 5:18:58 PM
Bromodichloromethane	ND	0.00116		mg/Kg	1	10/8/2012 5:18:58 PM
Bromoform	ND	0.00116		mg/Kg	1	10/8/2012 5:18:58 PM
Bromomethane	ND	0.00116		mg/Kg	1	10/8/2012 5:18:58 PM
2-Butanone	ND	0.0116		mg/Kg	1	10/8/2012 5:18:58 PM
Carbon tetrachloride	ND	0.00116		mg/Kg	1	10/8/2012 5:18:58 PM
Chlorobenzene	ND	0.00116		mg/Kg	1	10/8/2012 5:18:58 PM
Chloroethane	ND	0.00116		mg/Kg	1	10/8/2012 5:18:58 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210279

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-2 (10-11')

Project: SWMU NO.1

Collection Date: 10/2/2012 10:20:00 AM

Lab ID: 1210279-002

Matrix: SOIL

Received Date: 10/4/2012 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
METHOD 8260B/5035LOW: VOLATILES						Analyst: RAA
Chloroform	ND	0.00116		mg/Kg	1	10/8/2012 5:18:58 PM
Chloromethane	ND	0.00116		mg/Kg	1	10/8/2012 5:18:58 PM
2-Chlorotoluene	ND	0.00116		mg/Kg	1	10/8/2012 5:18:58 PM
Carbon disulfide	ND	0.0116		mg/Kg	1	10/8/2012 5:18:58 PM
4-Chlorotoluene	ND	0.00116		mg/Kg	1	10/8/2012 5:18:58 PM
cis-1,2-DCE	ND	0.00116		mg/Kg	1	10/8/2012 5:18:58 PM
cis-1,3-Dichloropropene	ND	0.00116		mg/Kg	1	10/8/2012 5:18:58 PM
1,2-Dibromo-3-chloropropane	ND	0.00116		mg/Kg	1	10/8/2012 5:18:58 PM
Dibromochloromethane	ND	0.00116		mg/Kg	1	10/8/2012 5:18:58 PM
Dibromomethane	ND	0.00116		mg/Kg	1	10/8/2012 5:18:58 PM
1,2-Dichlorobenzene	ND	0.00116		mg/Kg	1	10/8/2012 5:18:58 PM
1,3-Dichlorobenzene	ND	0.00116		mg/Kg	1	10/8/2012 5:18:58 PM
1,4-Dichlorobenzene	ND	0.00116		mg/Kg	1	10/8/2012 5:18:58 PM
Dichlorodifluoromethane	ND	0.00116		mg/Kg	1	10/8/2012 5:18:58 PM
1,1-Dichloroethane	ND	0.00116		mg/Kg	1	10/8/2012 5:18:58 PM
1,1-Dichloroethene	ND	0.00116		mg/Kg	1	10/8/2012 5:18:58 PM
1,2-Dichloropropane	ND	0.00116		mg/Kg	1	10/8/2012 5:18:58 PM
1,3-Dichloropropane	ND	0.00116		mg/Kg	1	10/8/2012 5:18:58 PM
2,2-Dichloropropane	ND	0.00116		mg/Kg	1	10/8/2012 5:18:58 PM
1,1-Dichloropropene	ND	0.00116		mg/Kg	1	10/8/2012 5:18:58 PM
Hexachlorobutadiene	ND	0.00116		mg/Kg	1	10/8/2012 5:18:58 PM
Isopropylbenzene	ND	0.00116		mg/Kg	1	10/8/2012 5:18:58 PM
4-Isopropyltoluene	ND	0.00116		mg/Kg	1	10/8/2012 5:18:58 PM
Methylene chloride	ND	0.00347		mg/Kg	1	10/8/2012 5:18:58 PM
n-Butylbenzene	ND	0.00116		mg/Kg	1	10/8/2012 5:18:58 PM
2-Hexanone	ND	0.0116		mg/Kg	1	10/8/2012 5:18:58 PM
n-Propylbenzene	ND	0.00116		mg/Kg	1	10/8/2012 5:18:58 PM
sec-Butylbenzene	ND	0.00116		mg/Kg	1	10/8/2012 5:18:58 PM
Styrene	ND	0.00116		mg/Kg	1	10/8/2012 5:18:58 PM
4-Methyl-2-pentanone	ND	0.0116		mg/Kg	1	10/8/2012 5:18:58 PM
tert-Butylbenzene	ND	0.00116		mg/Kg	1	10/8/2012 5:18:58 PM
1,1,1,2-Tetrachloroethane	ND	0.00116		mg/Kg	1	10/8/2012 5:18:58 PM
1,1,2,2-Tetrachloroethane	ND	0.00116		mg/Kg	1	10/8/2012 5:18:58 PM
Tetrachloroethene (PCE)	ND	0.00116		mg/Kg	1	10/8/2012 5:18:58 PM
trans-1,2-DCE	ND	0.00116		mg/Kg	1	10/8/2012 5:18:58 PM
trans-1,3-Dichloropropene	ND	0.00116		mg/Kg	1	10/8/2012 5:18:58 PM
1,2,3-Trichlorobenzene	ND	0.00116		mg/Kg	1	10/8/2012 5:18:58 PM
1,2,4-Trichlorobenzene	ND	0.00116		mg/Kg	1	10/8/2012 5:18:58 PM
1,1,1-Trichloroethane	ND	0.00116		mg/Kg	1	10/8/2012 5:18:58 PM
1,1,2-Trichloroethane	ND	0.00116		mg/Kg	1	10/8/2012 5:18:58 PM
Trichloroethene (TCE)	ND	0.00116		mg/Kg	1	10/8/2012 5:18:58 PM
Trichlorofluoromethane	ND	0.00116		mg/Kg	1	10/8/2012 5:18:58 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210279

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-2 (10-11')

Project: SWMU NO.1

Collection Date: 10/2/2012 10:20:00 AM

Lab ID: 1210279-002

Matrix: SOIL

Received Date: 10/4/2012 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
METHOD 8260B/5035LOW: VOLATILES						Analyst: RAA
1,2,3-Trichloropropane	ND	0.00116		mg/Kg	1	10/8/2012 5:18:58 PM
Vinyl chloride	ND	0.00116		mg/Kg	1	10/8/2012 5:18:58 PM
Surr: 1,2-Dichloroethane-d4	97.6	70-130		%REC	1	10/8/2012 5:18:58 PM
Surr: 4-Bromofluorobenzene	96.0	70-130		%REC	1	10/8/2012 5:18:58 PM
Surr: Dibromofluoromethane	106	70-130		%REC	1	10/8/2012 5:18:58 PM
Surr: Toluene-d8	86.7	70-130		%REC	1	10/8/2012 5:18:58 PM

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2
RL Reporting Detection Limit

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210279

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-2 (14-16')

Project: SWMU NO.1

Collection Date: 10/2/2012 10:35:00 AM

Lab ID: 1210279-003

Matrix: SOIL

Received Date: 10/4/2012 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: JMP
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	10/7/2012 1:28:43 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	10/7/2012 1:28:43 AM
Surr: DNOP	92.2	77.6-140		%REC	1	10/7/2012 1:28:43 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	10/6/2012 4:24:34 AM
Surr: BFB	101	84-116		%REC	1	10/6/2012 4:24:34 AM
EPA METHOD 7471: MERCURY						Analyst: IDC
Mercury	ND	0.033		mg/kg	1	10/9/2012 10:27:28 AM
EPA METHOD 6010B: SOIL METALS						Analyst: ELS
Antimony	ND	5.0		mg/Kg	2	10/17/2012 10:36:49 AM
Arsenic	ND	5.0		mg/Kg	2	10/17/2012 10:36:49 AM
Barium	680	2.0		mg/Kg	20	10/23/2012 6:47:15 PM
Beryllium	0.58	0.30		mg/Kg	2	10/17/2012 10:36:49 AM
Cadmium	ND	0.20		mg/Kg	2	10/17/2012 10:36:49 AM
Chromium	6.3	0.60		mg/Kg	2	10/17/2012 10:36:49 AM
Cobalt	3.5	0.60		mg/Kg	2	10/17/2012 10:36:49 AM
Iron	12000	500		mg/Kg	500	10/17/2012 1:04:52 PM
Lead	3.5	0.50		mg/Kg	2	10/17/2012 10:36:49 AM
Manganese	360	1.0		mg/Kg	10	10/17/2012 1:02:29 PM
Nickel	5.7	1.0		mg/Kg	2	10/17/2012 10:36:49 AM
Selenium	ND	5.0		mg/Kg	2	10/23/2012 6:44:52 PM
Silver	ND	0.50		mg/Kg	2	10/17/2012 10:36:49 AM
Vanadium	13	5.0		mg/Kg	2	10/17/2012 10:36:49 AM
Zinc	13	5.0		mg/Kg	2	10/17/2012 10:36:49 AM
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Acenaphthene	ND	0.20		mg/Kg	1	10/9/2012 3:50:57 PM
Acenaphthylene	ND	0.20		mg/Kg	1	10/9/2012 3:50:57 PM
Aniline	ND	0.20		mg/Kg	1	10/9/2012 3:50:57 PM
Anthracene	ND	0.20		mg/Kg	1	10/9/2012 3:50:57 PM
Azobenzene	ND	0.20		mg/Kg	1	10/9/2012 3:50:57 PM
Benz(a)anthracene	ND	0.20		mg/Kg	1	10/9/2012 3:50:57 PM
Benzo(a)pyrene	ND	0.20		mg/Kg	1	10/9/2012 3:50:57 PM
Benzo(b)fluoranthene	ND	0.20		mg/Kg	1	10/9/2012 3:50:57 PM
Benzo(g,h,i)perylene	ND	0.20		mg/Kg	1	10/9/2012 3:50:57 PM
Benzo(k)fluoranthene	ND	0.20		mg/Kg	1	10/9/2012 3:50:57 PM
Benzoic acid	ND	0.50		mg/Kg	1	10/9/2012 3:50:57 PM
Benzyl alcohol	ND	0.20		mg/Kg	1	10/9/2012 3:50:57 PM
Bis(2-chloroethoxy)methane	ND	0.20		mg/Kg	1	10/9/2012 3:50:57 PM
Bis(2-chloroethyl)ether	ND	0.20		mg/Kg	1	10/9/2012 3:50:57 PM
Bis(2-chloroisopropyl)ether	ND	0.20		mg/Kg	1	10/9/2012 3:50:57 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210279

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-2 (14-16')

Project: SWMU NO.1

Collection Date: 10/2/2012 10:35:00 AM

Lab ID: 1210279-003

Matrix: SOIL

Received Date: 10/4/2012 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Bis(2-ethylhexyl)phthalate	ND	0.50		mg/Kg	1	10/9/2012 3:50:57 PM
4-Bromophenyl phenyl ether	ND	0.20		mg/Kg	1	10/9/2012 3:50:57 PM
Butyl benzyl phthalate	ND	0.20		mg/Kg	1	10/9/2012 3:50:57 PM
Carbazole	ND	0.20		mg/Kg	1	10/9/2012 3:50:57 PM
4-Chloro-3-methylphenol	ND	0.50		mg/Kg	1	10/9/2012 3:50:57 PM
4-Chloroaniline	ND	0.50		mg/Kg	1	10/9/2012 3:50:57 PM
2-Chloronaphthalene	ND	0.25		mg/Kg	1	10/9/2012 3:50:57 PM
2-Chlorophenol	ND	0.20		mg/Kg	1	10/9/2012 3:50:57 PM
4-Chlorophenyl phenyl ether	ND	0.20		mg/Kg	1	10/9/2012 3:50:57 PM
Chrysene	ND	0.20		mg/Kg	1	10/9/2012 3:50:57 PM
Di-n-butyl phthalate	ND	0.50		mg/Kg	1	10/9/2012 3:50:57 PM
Di-n-octyl phthalate	ND	0.25		mg/Kg	1	10/9/2012 3:50:57 PM
Dibenz(a,h)anthracene	ND	0.20		mg/Kg	1	10/9/2012 3:50:57 PM
Dibenzofuran	ND	0.20		mg/Kg	1	10/9/2012 3:50:57 PM
1,2-Dichlorobenzene	ND	0.20		mg/Kg	1	10/9/2012 3:50:57 PM
1,3-Dichlorobenzene	ND	0.20		mg/Kg	1	10/9/2012 3:50:57 PM
1,4-Dichlorobenzene	ND	0.20		mg/Kg	1	10/9/2012 3:50:57 PM
3,3'-Dichlorobenzidine	ND	0.25		mg/Kg	1	10/9/2012 3:50:57 PM
Diethyl phthalate	ND	0.20		mg/Kg	1	10/9/2012 3:50:57 PM
Dimethyl phthalate	ND	0.20		mg/Kg	1	10/9/2012 3:50:57 PM
2,4-Dichlorophenol	ND	0.40		mg/Kg	1	10/9/2012 3:50:57 PM
2,4-Dimethylphenol	ND	0.30		mg/Kg	1	10/9/2012 3:50:57 PM
4,6-Dinitro-2-methylphenol	ND	0.50		mg/Kg	1	10/9/2012 3:50:57 PM
2,4-Dinitrophenol	ND	0.40		mg/Kg	1	10/9/2012 3:50:57 PM
2,4-Dinitrotoluene	ND	0.50		mg/Kg	1	10/9/2012 3:50:57 PM
2,6-Dinitrotoluene	ND	0.50		mg/Kg	1	10/9/2012 3:50:57 PM
Fluoranthene	ND	0.20		mg/Kg	1	10/9/2012 3:50:57 PM
Fluorene	ND	0.20		mg/Kg	1	10/9/2012 3:50:57 PM
Hexachlorobenzene	ND	0.20		mg/Kg	1	10/9/2012 3:50:57 PM
Hexachlorobutadiene	ND	0.20		mg/Kg	1	10/9/2012 3:50:57 PM
Hexachlorocyclopentadiene	ND	0.20		mg/Kg	1	10/9/2012 3:50:57 PM
Hexachloroethane	ND	0.20		mg/Kg	1	10/9/2012 3:50:57 PM
Indeno(1,2,3-cd)pyrene	ND	0.20		mg/Kg	1	10/9/2012 3:50:57 PM
Isophorone	ND	0.50		mg/Kg	1	10/9/2012 3:50:57 PM
1-Methylnaphthalene	ND	0.20		mg/Kg	1	10/9/2012 3:50:57 PM
2-Methylnaphthalene	ND	0.20		mg/Kg	1	10/9/2012 3:50:57 PM
2-Methylphenol	ND	0.50		mg/Kg	1	10/9/2012 3:50:57 PM
3+4-Methylphenol	ND	0.20		mg/Kg	1	10/9/2012 3:50:57 PM
N-Nitrosodi-n-propylamine	ND	0.20		mg/Kg	1	10/9/2012 3:50:57 PM
N-Nitrosodiphenylamine	ND	0.20		mg/Kg	1	10/9/2012 3:50:57 PM
Naphthalene	ND	0.20		mg/Kg	1	10/9/2012 3:50:57 PM
2-Nitroaniline	ND	0.20		mg/Kg	1	10/9/2012 3:50:57 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210279

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-2 (14-16')

Project: SWMU NO.1

Collection Date: 10/2/2012 10:35:00 AM

Lab ID: 1210279-003

Matrix: SOIL

Received Date: 10/4/2012 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
3-Nitroaniline	ND	0.20		mg/Kg	1	10/9/2012 3:50:57 PM
4-Nitroaniline	ND	0.40		mg/Kg	1	10/9/2012 3:50:57 PM
Nitrobenzene	ND	0.50		mg/Kg	1	10/9/2012 3:50:57 PM
2-Nitrophenol	ND	0.20		mg/Kg	1	10/9/2012 3:50:57 PM
4-Nitrophenol	ND	0.25		mg/Kg	1	10/9/2012 3:50:57 PM
Pentachlorophenol	ND	0.40		mg/Kg	1	10/9/2012 3:50:57 PM
Phenanthrene	ND	0.20		mg/Kg	1	10/9/2012 3:50:57 PM
Phenol	ND	0.20		mg/Kg	1	10/9/2012 3:50:57 PM
Pyrene	ND	0.20		mg/Kg	1	10/9/2012 3:50:57 PM
Pyridine	ND	0.50		mg/Kg	1	10/9/2012 3:50:57 PM
1,2,4-Trichlorobenzene	ND	0.20		mg/Kg	1	10/9/2012 3:50:57 PM
2,4,5-Trichlorophenol	ND	0.20		mg/Kg	1	10/9/2012 3:50:57 PM
2,4,6-Trichlorophenol	ND	0.20		mg/Kg	1	10/9/2012 3:50:57 PM
Surr: 2,4,6-Tribromophenol	82.4	21.3-145		%REC	1	10/9/2012 3:50:57 PM
Surr: 2-Fluorobiphenyl	73.6	20-131		%REC	1	10/9/2012 3:50:57 PM
Surr: 2-Fluorophenol	82.2	11.9-130		%REC	1	10/9/2012 3:50:57 PM
Surr: 4-Terphenyl-d14	66.7	25.1-149		%REC	1	10/9/2012 3:50:57 PM
Surr: Nitrobenzene-d5	76.7	25.6-137		%REC	1	10/9/2012 3:50:57 PM
Surr: Phenol-d5	80.8	20.3-132		%REC	1	10/9/2012 3:50:57 PM
METHOD 8260B/5035LOW: VOLATILES						Analyst: RAA
Benzene	0.00194	0.00121		mg/Kg	1	10/8/2012 5:50:15 PM
Toluene	0.00151	0.00121		mg/Kg	1	10/8/2012 5:50:15 PM
Ethylbenzene	ND	0.00121		mg/Kg	1	10/8/2012 5:50:15 PM
Xylenes, Total	ND	0.00242		mg/Kg	1	10/8/2012 5:50:15 PM
Methyl tert-butyl ether (MTBE)	0.00518	0.00121		mg/Kg	1	10/8/2012 5:50:15 PM
1,2,4-Trimethylbenzene	ND	0.00121		mg/Kg	1	10/8/2012 5:50:15 PM
1,3,5-Trimethylbenzene	ND	0.00121		mg/Kg	1	10/8/2012 5:50:15 PM
1,2-Dichloroethane (EDC)	ND	0.00121		mg/Kg	1	10/8/2012 5:50:15 PM
1,2-Dibromoethane (EDB)	ND	0.00121		mg/Kg	1	10/8/2012 5:50:15 PM
Naphthalene	ND	0.00242		mg/Kg	1	10/8/2012 5:50:15 PM
1-Methylnaphthalene	ND	0.00484		mg/Kg	1	10/8/2012 5:50:15 PM
2-Methylnaphthalene	ND	0.00484		mg/Kg	1	10/8/2012 5:50:15 PM
Acetone	0.0158	0.0121		mg/Kg	1	10/8/2012 5:50:15 PM
Bromobenzene	ND	0.00121		mg/Kg	1	10/8/2012 5:50:15 PM
Bromodichloromethane	ND	0.00121		mg/Kg	1	10/8/2012 5:50:15 PM
Bromoform	ND	0.00121		mg/Kg	1	10/8/2012 5:50:15 PM
Bromomethane	ND	0.00121		mg/Kg	1	10/8/2012 5:50:15 PM
2-Butanone	ND	0.0121		mg/Kg	1	10/8/2012 5:50:15 PM
Carbon tetrachloride	ND	0.00121		mg/Kg	1	10/8/2012 5:50:15 PM
Chlorobenzene	ND	0.00121		mg/Kg	1	10/8/2012 5:50:15 PM
Chloroethane	ND	0.00121		mg/Kg	1	10/8/2012 5:50:15 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210279

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-2 (14-16')

Project: SWMU NO.1

Collection Date: 10/2/2012 10:35:00 AM

Lab ID: 1210279-003

Matrix: SOIL

Received Date: 10/4/2012 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
METHOD 8260B/5035LOW: VOLATILES						Analyst: RAA
Chloroform	ND	0.00121		mg/Kg	1	10/8/2012 5:50:15 PM
Chloromethane	ND	0.00121		mg/Kg	1	10/8/2012 5:50:15 PM
2-Chlorotoluene	ND	0.00121		mg/Kg	1	10/8/2012 5:50:15 PM
Carbon disulfide	ND	0.0121		mg/Kg	1	10/8/2012 5:50:15 PM
4-Chlorotoluene	ND	0.00121		mg/Kg	1	10/8/2012 5:50:15 PM
cis-1,2-DCE	ND	0.00121		mg/Kg	1	10/8/2012 5:50:15 PM
cis-1,3-Dichloropropene	ND	0.00121		mg/Kg	1	10/8/2012 5:50:15 PM
1,2-Dibromo-3-chloropropane	ND	0.00121		mg/Kg	1	10/8/2012 5:50:15 PM
Dibromochloromethane	ND	0.00121		mg/Kg	1	10/8/2012 5:50:15 PM
Dibromomethane	ND	0.00121		mg/Kg	1	10/8/2012 5:50:15 PM
1,2-Dichlorobenzene	ND	0.00121		mg/Kg	1	10/8/2012 5:50:15 PM
1,3-Dichlorobenzene	ND	0.00121		mg/Kg	1	10/8/2012 5:50:15 PM
1,4-Dichlorobenzene	ND	0.00121		mg/Kg	1	10/8/2012 5:50:15 PM
Dichlorodifluoromethane	ND	0.00121		mg/Kg	1	10/8/2012 5:50:15 PM
1,1-Dichloroethane	ND	0.00121		mg/Kg	1	10/8/2012 5:50:15 PM
1,1-Dichloroethene	ND	0.00121		mg/Kg	1	10/8/2012 5:50:15 PM
1,2-Dichloropropane	ND	0.00121		mg/Kg	1	10/8/2012 5:50:15 PM
1,3-Dichloropropane	ND	0.00121		mg/Kg	1	10/8/2012 5:50:15 PM
2,2-Dichloropropane	ND	0.00121		mg/Kg	1	10/8/2012 5:50:15 PM
1,1-Dichloropropene	ND	0.00121		mg/Kg	1	10/8/2012 5:50:15 PM
Hexachlorobutadiene	ND	0.00121		mg/Kg	1	10/8/2012 5:50:15 PM
Isopropylbenzene	ND	0.00121		mg/Kg	1	10/8/2012 5:50:15 PM
4-Isopropyltoluene	ND	0.00121		mg/Kg	1	10/8/2012 5:50:15 PM
Methylene chloride	ND	0.00363		mg/Kg	1	10/8/2012 5:50:15 PM
n-Butylbenzene	ND	0.00121		mg/Kg	1	10/8/2012 5:50:15 PM
2-Hexanone	ND	0.0121		mg/Kg	1	10/8/2012 5:50:15 PM
n-Propylbenzene	ND	0.00121		mg/Kg	1	10/8/2012 5:50:15 PM
sec-Butylbenzene	ND	0.00121		mg/Kg	1	10/8/2012 5:50:15 PM
Styrene	ND	0.00121		mg/Kg	1	10/8/2012 5:50:15 PM
4-Methyl-2-pentanone	ND	0.0121		mg/Kg	1	10/8/2012 5:50:15 PM
tert-Butylbenzene	ND	0.00121		mg/Kg	1	10/8/2012 5:50:15 PM
1,1,1,2-Tetrachloroethane	ND	0.00121		mg/Kg	1	10/8/2012 5:50:15 PM
1,1,2,2-Tetrachloroethane	ND	0.00121		mg/Kg	1	10/8/2012 5:50:15 PM
Tetrachloroethene (PCE)	ND	0.00121		mg/Kg	1	10/8/2012 5:50:15 PM
trans-1,2-DCE	ND	0.00121		mg/Kg	1	10/8/2012 5:50:15 PM
trans-1,3-Dichloropropene	ND	0.00121		mg/Kg	1	10/8/2012 5:50:15 PM
1,2,3-Trichlorobenzene	ND	0.00121		mg/Kg	1	10/8/2012 5:50:15 PM
1,2,4-Trichlorobenzene	ND	0.00121		mg/Kg	1	10/8/2012 5:50:15 PM
1,1,1-Trichloroethane	ND	0.00121		mg/Kg	1	10/8/2012 5:50:15 PM
1,1,2-Trichloroethane	ND	0.00121		mg/Kg	1	10/8/2012 5:50:15 PM
Trichloroethene (TCE)	ND	0.00121		mg/Kg	1	10/8/2012 5:50:15 PM
Trichlorofluoromethane	ND	0.00121		mg/Kg	1	10/8/2012 5:50:15 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210279

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-2 (14-16')

Project: SWMU NO.1

Collection Date: 10/2/2012 10:35:00 AM

Lab ID: 1210279-003

Matrix: SOIL

Received Date: 10/4/2012 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
METHOD 8260B/5035LOW: VOLATILES						Analyst: RAA
1,2,3-Trichloropropane	ND	0.00121		mg/Kg	1	10/8/2012 5:50:15 PM
Vinyl chloride	ND	0.00121		mg/Kg	1	10/8/2012 5:50:15 PM
Surr: 1,2-Dichloroethane-d4	103	70-130		%REC	1	10/8/2012 5:50:15 PM
Surr: 4-Bromofluorobenzene	93.7	70-130		%REC	1	10/8/2012 5:50:15 PM
Surr: Dibromofluoromethane	103	70-130		%REC	1	10/8/2012 5:50:15 PM
Surr: Toluene-d8	101	70-130		%REC	1	10/8/2012 5:50:15 PM

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2
RL Reporting Detection Limit

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210279

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-2 (17-17.25')

Project: SWMU NO.1

Collection Date: 10/2/2012 10:50:00 AM

Lab ID: 1210279-004

Matrix: SOIL

Received Date: 10/4/2012 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: JMP
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	10/7/2012 2:18:27 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	10/7/2012 2:18:27 AM
Surr: DNOP	91.6	77.6-140		%REC	1	10/7/2012 2:18:27 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	10/6/2012 4:53:17 AM
Surr: BFB	107	84-116		%REC	1	10/6/2012 4:53:17 AM
EPA METHOD 7471: MERCURY						Analyst: IDC
Mercury	ND	0.033		mg/kg	1	10/9/2012 10:29:13 AM
EPA METHOD 6010B: SOIL METALS						Analyst: JLF
Antimony	ND	5.0		mg/Kg	2	10/23/2012 6:49:38 PM
Arsenic	ND	5.0		mg/Kg	2	10/17/2012 10:54:32 AM
Barium	180	0.50		mg/Kg	5	10/17/2012 1:07:31 PM
Beryllium	0.74	0.30		mg/Kg	2	10/17/2012 10:54:32 AM
Cadmium	ND	0.20		mg/Kg	2	10/17/2012 10:54:32 AM
Chromium	6.9	0.60		mg/Kg	2	10/17/2012 10:54:32 AM
Cobalt	3.8	0.60		mg/Kg	2	10/17/2012 10:54:32 AM
Iron	12000	500		mg/Kg	500	10/17/2012 1:09:55 PM
Lead	4.8	0.50		mg/Kg	2	10/17/2012 10:54:32 AM
Manganese	280	1.0		mg/Kg	10	10/23/2012 6:52:01 PM
Nickel	6.7	1.0		mg/Kg	2	10/17/2012 10:54:32 AM
Selenium	ND	5.0		mg/Kg	2	10/23/2012 6:49:38 PM
Silver	ND	0.50		mg/Kg	2	10/17/2012 10:54:32 AM
Vanadium	12	5.0		mg/Kg	2	10/17/2012 10:54:32 AM
Zinc	13	5.0		mg/Kg	2	10/17/2012 10:54:32 AM
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Acenaphthene	ND	0.20		mg/Kg	1	10/9/2012 1:49:59 PM
Acenaphthylene	ND	0.20		mg/Kg	1	10/9/2012 1:49:59 PM
Aniline	ND	0.20		mg/Kg	1	10/9/2012 1:49:59 PM
Anthracene	ND	0.20		mg/Kg	1	10/9/2012 1:49:59 PM
Azobenzene	ND	0.20		mg/Kg	1	10/9/2012 1:49:59 PM
Benz(a)anthracene	ND	0.20		mg/Kg	1	10/9/2012 1:49:59 PM
Benzo(a)pyrene	ND	0.20		mg/Kg	1	10/9/2012 1:49:59 PM
Benzo(b)fluoranthene	ND	0.20		mg/Kg	1	10/9/2012 1:49:59 PM
Benzo(g,h,i)perylene	ND	0.20		mg/Kg	1	10/9/2012 1:49:59 PM
Benzo(k)fluoranthene	ND	0.20		mg/Kg	1	10/9/2012 1:49:59 PM
Benzoic acid	ND	0.50		mg/Kg	1	10/9/2012 1:49:59 PM
Benzyl alcohol	ND	0.20		mg/Kg	1	10/9/2012 1:49:59 PM
Bis(2-chloroethoxy)methane	ND	0.20		mg/Kg	1	10/9/2012 1:49:59 PM
Bis(2-chloroethyl)ether	ND	0.20		mg/Kg	1	10/9/2012 1:49:59 PM
Bis(2-chloroisopropyl)ether	ND	0.20		mg/Kg	1	10/9/2012 1:49:59 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210279

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-2 (17-17.25')

Project: SWMU NO.1

Collection Date: 10/2/2012 10:50:00 AM

Lab ID: 1210279-004

Matrix: SOIL

Received Date: 10/4/2012 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Bis(2-ethylhexyl)phthalate	ND	0.50		mg/Kg	1	10/9/2012 1:49:59 PM
4-Bromophenyl phenyl ether	ND	0.20		mg/Kg	1	10/9/2012 1:49:59 PM
Butyl benzyl phthalate	ND	0.20		mg/Kg	1	10/9/2012 1:49:59 PM
Carbazole	ND	0.20		mg/Kg	1	10/9/2012 1:49:59 PM
4-Chloro-3-methylphenol	ND	0.50		mg/Kg	1	10/9/2012 1:49:59 PM
4-Chloroaniline	ND	0.50		mg/Kg	1	10/9/2012 1:49:59 PM
2-Chloronaphthalene	ND	0.25		mg/Kg	1	10/9/2012 1:49:59 PM
2-Chlorophenol	ND	0.20		mg/Kg	1	10/9/2012 1:49:59 PM
4-Chlorophenyl phenyl ether	ND	0.20		mg/Kg	1	10/9/2012 1:49:59 PM
Chrysene	ND	0.20		mg/Kg	1	10/9/2012 1:49:59 PM
Di-n-butyl phthalate	ND	0.50		mg/Kg	1	10/9/2012 1:49:59 PM
Di-n-octyl phthalate	ND	0.25		mg/Kg	1	10/9/2012 1:49:59 PM
Dibenz(a,h)anthracene	ND	0.20		mg/Kg	1	10/9/2012 1:49:59 PM
Dibenzofuran	ND	0.20		mg/Kg	1	10/9/2012 1:49:59 PM
1,2-Dichlorobenzene	ND	0.20		mg/Kg	1	10/9/2012 1:49:59 PM
1,3-Dichlorobenzene	ND	0.20		mg/Kg	1	10/9/2012 1:49:59 PM
1,4-Dichlorobenzene	ND	0.20		mg/Kg	1	10/9/2012 1:49:59 PM
3,3'-Dichlorobenzidine	ND	0.25		mg/Kg	1	10/9/2012 1:49:59 PM
Diethyl phthalate	ND	0.20		mg/Kg	1	10/9/2012 1:49:59 PM
Dimethyl phthalate	ND	0.20		mg/Kg	1	10/9/2012 1:49:59 PM
2,4-Dichlorophenol	ND	0.40		mg/Kg	1	10/9/2012 1:49:59 PM
2,4-Dimethylphenol	ND	0.30		mg/Kg	1	10/9/2012 1:49:59 PM
4,6-Dinitro-2-methylphenol	ND	0.50		mg/Kg	1	10/9/2012 1:49:59 PM
2,4-Dinitrophenol	ND	0.40		mg/Kg	1	10/9/2012 1:49:59 PM
2,4-Dinitrotoluene	ND	0.50		mg/Kg	1	10/9/2012 1:49:59 PM
2,6-Dinitrotoluene	ND	0.50		mg/Kg	1	10/9/2012 1:49:59 PM
Fluoranthene	ND	0.20		mg/Kg	1	10/9/2012 1:49:59 PM
Fluorene	ND	0.20		mg/Kg	1	10/9/2012 1:49:59 PM
Hexachlorobenzene	ND	0.20		mg/Kg	1	10/9/2012 1:49:59 PM
Hexachlorobutadiene	ND	0.20		mg/Kg	1	10/9/2012 1:49:59 PM
Hexachlorocyclopentadiene	ND	0.20		mg/Kg	1	10/9/2012 1:49:59 PM
Hexachloroethane	ND	0.20		mg/Kg	1	10/9/2012 1:49:59 PM
Indeno(1,2,3-cd)pyrene	ND	0.20		mg/Kg	1	10/9/2012 1:49:59 PM
Isophorone	ND	0.50		mg/Kg	1	10/9/2012 1:49:59 PM
1-Methylnaphthalene	ND	0.20		mg/Kg	1	10/9/2012 1:49:59 PM
2-Methylnaphthalene	ND	0.20		mg/Kg	1	10/9/2012 1:49:59 PM
2-Methylphenol	ND	0.50		mg/Kg	1	10/9/2012 1:49:59 PM
3+4-Methylphenol	ND	0.20		mg/Kg	1	10/9/2012 1:49:59 PM
N-Nitrosodi-n-propylamine	ND	0.20		mg/Kg	1	10/9/2012 1:49:59 PM
N-Nitrosodiphenylamine	ND	0.20		mg/Kg	1	10/9/2012 1:49:59 PM
Naphthalene	ND	0.20		mg/Kg	1	10/9/2012 1:49:59 PM
2-Nitroaniline	ND	0.20		mg/Kg	1	10/9/2012 1:49:59 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210279

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-2 (17-17.25')

Project: SWMU NO.1

Collection Date: 10/2/2012 10:50:00 AM

Lab ID: 1210279-004

Matrix: SOIL

Received Date: 10/4/2012 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
3-Nitroaniline	ND	0.20		mg/Kg	1	10/9/2012 1:49:59 PM
4-Nitroaniline	ND	0.40		mg/Kg	1	10/9/2012 1:49:59 PM
Nitrobenzene	ND	0.50		mg/Kg	1	10/9/2012 1:49:59 PM
2-Nitrophenol	ND	0.20		mg/Kg	1	10/9/2012 1:49:59 PM
4-Nitrophenol	ND	0.25		mg/Kg	1	10/9/2012 1:49:59 PM
Pentachlorophenol	ND	0.40		mg/Kg	1	10/9/2012 1:49:59 PM
Phenanthrene	ND	0.20		mg/Kg	1	10/9/2012 1:49:59 PM
Phenol	ND	0.20		mg/Kg	1	10/9/2012 1:49:59 PM
Pyrene	ND	0.20		mg/Kg	1	10/9/2012 1:49:59 PM
Pyridine	ND	0.50		mg/Kg	1	10/9/2012 1:49:59 PM
1,2,4-Trichlorobenzene	ND	0.20		mg/Kg	1	10/9/2012 1:49:59 PM
2,4,5-Trichlorophenol	ND	0.20		mg/Kg	1	10/9/2012 1:49:59 PM
2,4,6-Trichlorophenol	ND	0.20		mg/Kg	1	10/9/2012 1:49:59 PM
Surr: 2,4,6-Tribromophenol	67.7	21.3-145		%REC	1	10/9/2012 1:49:59 PM
Surr: 2-Fluorobiphenyl	58.6	20-131		%REC	1	10/9/2012 1:49:59 PM
Surr: 2-Fluorophenol	58.9	11.9-130		%REC	1	10/9/2012 1:49:59 PM
Surr: 4-Terphenyl-d14	56.4	25.1-149		%REC	1	10/9/2012 1:49:59 PM
Surr: Nitrobenzene-d5	57.7	25.6-137		%REC	1	10/9/2012 1:49:59 PM
Surr: Phenol-d5	62.4	20.3-132		%REC	1	10/9/2012 1:49:59 PM
METHOD 8260B/5035LOW: VOLATILES						Analyst: RAA
Benzene	0.00139	0.00116		mg/Kg	1	10/8/2012 6:21:07 PM
Toluene	ND	0.00116		mg/Kg	1	10/8/2012 6:21:07 PM
Ethylbenzene	ND	0.00116		mg/Kg	1	10/8/2012 6:21:07 PM
Xylenes, Total	ND	0.00233		mg/Kg	1	10/8/2012 6:21:07 PM
Methyl tert-butyl ether (MTBE)	0.00412	0.00116		mg/Kg	1	10/8/2012 6:21:07 PM
1,2,4-Trimethylbenzene	ND	0.00116		mg/Kg	1	10/8/2012 6:21:07 PM
1,3,5-Trimethylbenzene	ND	0.00116		mg/Kg	1	10/8/2012 6:21:07 PM
1,2-Dichloroethane (EDC)	ND	0.00116		mg/Kg	1	10/8/2012 6:21:07 PM
1,2-Dibromoethane (EDB)	ND	0.00116		mg/Kg	1	10/8/2012 6:21:07 PM
Naphthalene	ND	0.00233		mg/Kg	1	10/8/2012 6:21:07 PM
1-Methylnaphthalene	ND	0.00466		mg/Kg	1	10/8/2012 6:21:07 PM
2-Methylnaphthalene	ND	0.00466		mg/Kg	1	10/8/2012 6:21:07 PM
Acetone	0.0877	0.0116		mg/Kg	1	10/8/2012 6:21:07 PM
Bromobenzene	ND	0.00116		mg/Kg	1	10/8/2012 6:21:07 PM
Bromodichloromethane	ND	0.00116		mg/Kg	1	10/8/2012 6:21:07 PM
Bromoform	ND	0.00116		mg/Kg	1	10/8/2012 6:21:07 PM
Bromomethane	ND	0.00116		mg/Kg	1	10/8/2012 6:21:07 PM
2-Butanone	ND	0.0116		mg/Kg	1	10/8/2012 6:21:07 PM
Carbon tetrachloride	ND	0.00116		mg/Kg	1	10/8/2012 6:21:07 PM
Chlorobenzene	ND	0.00116		mg/Kg	1	10/8/2012 6:21:07 PM
Chloroethane	ND	0.00116		mg/Kg	1	10/8/2012 6:21:07 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210279

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-2 (17-17.25')

Project: SWMU NO.1

Collection Date: 10/2/2012 10:50:00 AM

Lab ID: 1210279-004

Matrix: SOIL

Received Date: 10/4/2012 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
METHOD 8260B/5035LOW: VOLATILES						Analyst: RAA
Chloroform	ND	0.00116		mg/Kg	1	10/8/2012 6:21:07 PM
Chloromethane	ND	0.00116		mg/Kg	1	10/8/2012 6:21:07 PM
2-Chlorotoluene	ND	0.00116		mg/Kg	1	10/8/2012 6:21:07 PM
Carbon disulfide	ND	0.0116		mg/Kg	1	10/8/2012 6:21:07 PM
4-Chlorotoluene	ND	0.00116		mg/Kg	1	10/8/2012 6:21:07 PM
cis-1,2-DCE	ND	0.00116		mg/Kg	1	10/8/2012 6:21:07 PM
cis-1,3-Dichloropropene	ND	0.00116		mg/Kg	1	10/8/2012 6:21:07 PM
1,2-Dibromo-3-chloropropane	ND	0.00116		mg/Kg	1	10/8/2012 6:21:07 PM
Dibromochloromethane	ND	0.00116		mg/Kg	1	10/8/2012 6:21:07 PM
Dibromomethane	ND	0.00116		mg/Kg	1	10/8/2012 6:21:07 PM
1,2-Dichlorobenzene	ND	0.00116		mg/Kg	1	10/8/2012 6:21:07 PM
1,3-Dichlorobenzene	ND	0.00116		mg/Kg	1	10/8/2012 6:21:07 PM
1,4-Dichlorobenzene	ND	0.00116		mg/Kg	1	10/8/2012 6:21:07 PM
Dichlorodifluoromethane	ND	0.00116		mg/Kg	1	10/8/2012 6:21:07 PM
1,1-Dichloroethane	ND	0.00116		mg/Kg	1	10/8/2012 6:21:07 PM
1,1-Dichloroethene	ND	0.00116		mg/Kg	1	10/8/2012 6:21:07 PM
1,2-Dichloropropane	ND	0.00116		mg/Kg	1	10/8/2012 6:21:07 PM
1,3-Dichloropropane	ND	0.00116		mg/Kg	1	10/8/2012 6:21:07 PM
2,2-Dichloropropane	ND	0.00116		mg/Kg	1	10/8/2012 6:21:07 PM
1,1-Dichloropropene	ND	0.00116		mg/Kg	1	10/8/2012 6:21:07 PM
Hexachlorobutadiene	ND	0.00116		mg/Kg	1	10/8/2012 6:21:07 PM
Isopropylbenzene	ND	0.00116		mg/Kg	1	10/8/2012 6:21:07 PM
4-Isopropyltoluene	ND	0.00116		mg/Kg	1	10/8/2012 6:21:07 PM
Methylene chloride	ND	0.00349		mg/Kg	1	10/8/2012 6:21:07 PM
n-Butylbenzene	ND	0.00116		mg/Kg	1	10/8/2012 6:21:07 PM
2-Hexanone	ND	0.0116		mg/Kg	1	10/8/2012 6:21:07 PM
n-Propylbenzene	ND	0.00116		mg/Kg	1	10/8/2012 6:21:07 PM
sec-Butylbenzene	ND	0.00116		mg/Kg	1	10/8/2012 6:21:07 PM
Styrene	ND	0.00116		mg/Kg	1	10/8/2012 6:21:07 PM
4-Methyl-2-pentanone	ND	0.0116		mg/Kg	1	10/8/2012 6:21:07 PM
tert-Butylbenzene	ND	0.00116		mg/Kg	1	10/8/2012 6:21:07 PM
1,1,1,2-Tetrachloroethane	ND	0.00116		mg/Kg	1	10/8/2012 6:21:07 PM
1,1,2,2-Tetrachloroethane	ND	0.00116		mg/Kg	1	10/8/2012 6:21:07 PM
Tetrachloroethene (PCE)	ND	0.00116		mg/Kg	1	10/8/2012 6:21:07 PM
trans-1,2-DCE	ND	0.00116		mg/Kg	1	10/8/2012 6:21:07 PM
trans-1,3-Dichloropropene	ND	0.00116		mg/Kg	1	10/8/2012 6:21:07 PM
1,2,3-Trichlorobenzene	ND	0.00116		mg/Kg	1	10/8/2012 6:21:07 PM
1,2,4-Trichlorobenzene	ND	0.00116		mg/Kg	1	10/8/2012 6:21:07 PM
1,1,1-Trichloroethane	ND	0.00116		mg/Kg	1	10/8/2012 6:21:07 PM
1,1,2-Trichloroethane	ND	0.00116		mg/Kg	1	10/8/2012 6:21:07 PM
Trichloroethene (TCE)	ND	0.00116		mg/Kg	1	10/8/2012 6:21:07 PM
Trichlorofluoromethane	ND	0.00116		mg/Kg	1	10/8/2012 6:21:07 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210279

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-2 (17-17.25')

Project: SWMU NO.1

Collection Date: 10/2/2012 10:50:00 AM

Lab ID: 1210279-004

Matrix: SOIL

Received Date: 10/4/2012 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
METHOD 8260B/5035LOW: VOLATILES						Analyst: RAA
1,2,3-Trichloropropane	ND	0.00116		mg/Kg	1	10/8/2012 6:21:07 PM
Vinyl chloride	ND	0.00116		mg/Kg	1	10/8/2012 6:21:07 PM
Surr: 1,2-Dichloroethane-d4	101	70-130		%REC	1	10/8/2012 6:21:07 PM
Surr: 4-Bromofluorobenzene	88.6	70-130		%REC	1	10/8/2012 6:21:07 PM
Surr: Dibromofluoromethane	108	70-130		%REC	1	10/8/2012 6:21:07 PM
Surr: Toluene-d8	102	70-130		%REC	1	10/8/2012 6:21:07 PM

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2
RL Reporting Detection Limit

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210279

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-2 (19.5-20')

Project: SWMU NO.1

Collection Date: 10/2/2012 11:05:00 AM

Lab ID: 1210279-005

Matrix: SOIL

Received Date: 10/4/2012 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: JMP
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	10/7/2012 2:43:18 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	10/7/2012 2:43:18 AM
Surr: DNOP	96.4	77.6-140		%REC	1	10/7/2012 2:43:18 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	10/6/2012 5:21:59 AM
Surr: BFB	103	84-116		%REC	1	10/6/2012 5:21:59 AM
EPA METHOD 7471: MERCURY						Analyst: IDC
Mercury	ND	0.033		mg/kg	1	10/9/2012 10:45:02 AM
EPA METHOD 6010B: SOIL METALS						Analyst: JLF
Antimony	ND	5.0		mg/Kg	2	10/23/2012 7:01:34 PM
Arsenic	ND	5.0		mg/Kg	2	10/17/2012 10:59:42 AM
Barium	1300	5.0		mg/Kg	50	10/17/2012 1:23:06 PM
Beryllium	0.77	0.30		mg/Kg	2	10/17/2012 10:59:42 AM
Cadmium	ND	0.20		mg/Kg	2	10/17/2012 10:59:42 AM
Chromium	12	0.60		mg/Kg	2	10/17/2012 10:59:42 AM
Cobalt	11	0.60		mg/Kg	2	10/17/2012 10:59:42 AM
Iron	17000	500		mg/Kg	500	10/17/2012 1:25:32 PM
Lead	3.9	0.50		mg/Kg	2	10/17/2012 10:59:42 AM
Manganese	1200	5.0		mg/Kg	50	10/17/2012 1:23:06 PM
Nickel	16	1.0		mg/Kg	2	10/17/2012 10:59:42 AM
Selenium	ND	5.0		mg/Kg	2	10/23/2012 7:01:34 PM
Silver	ND	0.50		mg/Kg	2	10/17/2012 10:59:42 AM
Vanadium	14	5.0		mg/Kg	2	10/17/2012 10:59:42 AM
Zinc	30	5.0		mg/Kg	2	10/17/2012 10:59:42 AM
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Acenaphthene	ND	0.20		mg/Kg	1	10/9/2012 4:21:18 PM
Acenaphthylene	ND	0.20		mg/Kg	1	10/9/2012 4:21:18 PM
Aniline	ND	0.20		mg/Kg	1	10/9/2012 4:21:18 PM
Anthracene	ND	0.20		mg/Kg	1	10/9/2012 4:21:18 PM
Azobenzene	ND	0.20		mg/Kg	1	10/9/2012 4:21:18 PM
Benz(a)anthracene	ND	0.20		mg/Kg	1	10/9/2012 4:21:18 PM
Benzo(a)pyrene	ND	0.20		mg/Kg	1	10/9/2012 4:21:18 PM
Benzo(b)fluoranthene	ND	0.20		mg/Kg	1	10/9/2012 4:21:18 PM
Benzo(g,h,i)perylene	ND	0.20		mg/Kg	1	10/9/2012 4:21:18 PM
Benzo(k)fluoranthene	ND	0.20		mg/Kg	1	10/9/2012 4:21:18 PM
Benzoic acid	ND	0.50		mg/Kg	1	10/9/2012 4:21:18 PM
Benzyl alcohol	ND	0.20		mg/Kg	1	10/9/2012 4:21:18 PM
Bis(2-chloroethoxy)methane	ND	0.20		mg/Kg	1	10/9/2012 4:21:18 PM
Bis(2-chloroethyl)ether	ND	0.20		mg/Kg	1	10/9/2012 4:21:18 PM
Bis(2-chloroisopropyl)ether	ND	0.20		mg/Kg	1	10/9/2012 4:21:18 PM

Qualifiers:

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- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210279

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-2 (19.5-20')

Project: SWMU NO.1

Collection Date: 10/2/2012 11:05:00 AM

Lab ID: 1210279-005

Matrix: SOIL

Received Date: 10/4/2012 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Bis(2-ethylhexyl)phthalate	ND	0.50		mg/Kg	1	10/9/2012 4:21:18 PM
4-Bromophenyl phenyl ether	ND	0.20		mg/Kg	1	10/9/2012 4:21:18 PM
Butyl benzyl phthalate	ND	0.20		mg/Kg	1	10/9/2012 4:21:18 PM
Carbazole	ND	0.20		mg/Kg	1	10/9/2012 4:21:18 PM
4-Chloro-3-methylphenol	ND	0.50		mg/Kg	1	10/9/2012 4:21:18 PM
4-Chloroaniline	ND	0.50		mg/Kg	1	10/9/2012 4:21:18 PM
2-Chloronaphthalene	ND	0.25		mg/Kg	1	10/9/2012 4:21:18 PM
2-Chlorophenol	ND	0.20		mg/Kg	1	10/9/2012 4:21:18 PM
4-Chlorophenyl phenyl ether	ND	0.20		mg/Kg	1	10/9/2012 4:21:18 PM
Chrysene	ND	0.20		mg/Kg	1	10/9/2012 4:21:18 PM
Di-n-butyl phthalate	ND	0.50		mg/Kg	1	10/9/2012 4:21:18 PM
Di-n-octyl phthalate	ND	0.25		mg/Kg	1	10/9/2012 4:21:18 PM
Dibenz(a,h)anthracene	ND	0.20		mg/Kg	1	10/9/2012 4:21:18 PM
Dibenzofuran	ND	0.20		mg/Kg	1	10/9/2012 4:21:18 PM
1,2-Dichlorobenzene	ND	0.20		mg/Kg	1	10/9/2012 4:21:18 PM
1,3-Dichlorobenzene	ND	0.20		mg/Kg	1	10/9/2012 4:21:18 PM
1,4-Dichlorobenzene	ND	0.20		mg/Kg	1	10/9/2012 4:21:18 PM
3,3'-Dichlorobenzidine	ND	0.25		mg/Kg	1	10/9/2012 4:21:18 PM
Diethyl phthalate	ND	0.20		mg/Kg	1	10/9/2012 4:21:18 PM
Dimethyl phthalate	ND	0.20		mg/Kg	1	10/9/2012 4:21:18 PM
2,4-Dichlorophenol	ND	0.40		mg/Kg	1	10/9/2012 4:21:18 PM
2,4-Dimethylphenol	ND	0.30		mg/Kg	1	10/9/2012 4:21:18 PM
4,6-Dinitro-2-methylphenol	ND	0.50		mg/Kg	1	10/9/2012 4:21:18 PM
2,4-Dinitrophenol	ND	0.40		mg/Kg	1	10/9/2012 4:21:18 PM
2,4-Dinitrotoluene	ND	0.50		mg/Kg	1	10/9/2012 4:21:18 PM
2,6-Dinitrotoluene	ND	0.50		mg/Kg	1	10/9/2012 4:21:18 PM
Fluoranthene	ND	0.20		mg/Kg	1	10/9/2012 4:21:18 PM
Fluorene	ND	0.20		mg/Kg	1	10/9/2012 4:21:18 PM
Hexachlorobenzene	ND	0.20		mg/Kg	1	10/9/2012 4:21:18 PM
Hexachlorobutadiene	ND	0.20		mg/Kg	1	10/9/2012 4:21:18 PM
Hexachlorocyclopentadiene	ND	0.20		mg/Kg	1	10/9/2012 4:21:18 PM
Hexachloroethane	ND	0.20		mg/Kg	1	10/9/2012 4:21:18 PM
Indeno(1,2,3-cd)pyrene	ND	0.20		mg/Kg	1	10/9/2012 4:21:18 PM
Isophorone	ND	0.50		mg/Kg	1	10/9/2012 4:21:18 PM
1-Methylnaphthalene	ND	0.20		mg/Kg	1	10/9/2012 4:21:18 PM
2-Methylnaphthalene	ND	0.20		mg/Kg	1	10/9/2012 4:21:18 PM
2-Methylphenol	ND	0.50		mg/Kg	1	10/9/2012 4:21:18 PM
3+4-Methylphenol	ND	0.20		mg/Kg	1	10/9/2012 4:21:18 PM
N-Nitrosodi-n-propylamine	ND	0.20		mg/Kg	1	10/9/2012 4:21:18 PM
N-Nitrosodiphenylamine	ND	0.20		mg/Kg	1	10/9/2012 4:21:18 PM
Naphthalene	ND	0.20		mg/Kg	1	10/9/2012 4:21:18 PM
2-Nitroaniline	ND	0.20		mg/Kg	1	10/9/2012 4:21:18 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210279

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-2 (19.5-20')

Project: SWMU NO.1

Collection Date: 10/2/2012 11:05:00 AM

Lab ID: 1210279-005

Matrix: SOIL

Received Date: 10/4/2012 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
3-Nitroaniline	ND	0.20		mg/Kg	1	10/9/2012 4:21:18 PM
4-Nitroaniline	ND	0.40		mg/Kg	1	10/9/2012 4:21:18 PM
Nitrobenzene	ND	0.50		mg/Kg	1	10/9/2012 4:21:18 PM
2-Nitrophenol	ND	0.20		mg/Kg	1	10/9/2012 4:21:18 PM
4-Nitrophenol	ND	0.25		mg/Kg	1	10/9/2012 4:21:18 PM
Pentachlorophenol	ND	0.40		mg/Kg	1	10/9/2012 4:21:18 PM
Phenanthrene	ND	0.20		mg/Kg	1	10/9/2012 4:21:18 PM
Phenol	ND	0.20		mg/Kg	1	10/9/2012 4:21:18 PM
Pyrene	ND	0.20		mg/Kg	1	10/9/2012 4:21:18 PM
Pyridine	ND	0.50		mg/Kg	1	10/9/2012 4:21:18 PM
1,2,4-Trichlorobenzene	ND	0.20		mg/Kg	1	10/9/2012 4:21:18 PM
2,4,5-Trichlorophenol	ND	0.20		mg/Kg	1	10/9/2012 4:21:18 PM
2,4,6-Trichlorophenol	ND	0.20		mg/Kg	1	10/9/2012 4:21:18 PM
Surr: 2,4,6-Tribromophenol	51.4	21.3-145		%REC	1	10/9/2012 4:21:18 PM
Surr: 2-Fluorobiphenyl	45.6	20-131		%REC	1	10/9/2012 4:21:18 PM
Surr: 2-Fluorophenol	50.5	11.9-130		%REC	1	10/9/2012 4:21:18 PM
Surr: 4-Terphenyl-d14	46.4	25.1-149		%REC	1	10/9/2012 4:21:18 PM
Surr: Nitrobenzene-d5	44.5	25.6-137		%REC	1	10/9/2012 4:21:18 PM
Surr: Phenol-d5	53.8	20.3-132		%REC	1	10/9/2012 4:21:18 PM
METHOD 8260B/5035LOW: VOLATILES						Analyst: RAA
Benzene	0.00395	0.00104		mg/Kg	1	10/8/2012 6:51:59 PM
Toluene	0.00333	0.00104		mg/Kg	1	10/8/2012 6:51:59 PM
Ethylbenzene	ND	0.00104		mg/Kg	1	10/8/2012 6:51:59 PM
Xylenes, Total	0.00212	0.00208		mg/Kg	1	10/8/2012 6:51:59 PM
Methyl tert-butyl ether (MTBE)	ND	0.00104		mg/Kg	1	10/8/2012 6:51:59 PM
1,2,4-Trimethylbenzene	ND	0.00104		mg/Kg	1	10/8/2012 6:51:59 PM
1,3,5-Trimethylbenzene	ND	0.00104		mg/Kg	1	10/8/2012 6:51:59 PM
1,2-Dichloroethane (EDC)	ND	0.00104		mg/Kg	1	10/8/2012 6:51:59 PM
1,2-Dibromoethane (EDB)	ND	0.00104		mg/Kg	1	10/8/2012 6:51:59 PM
Naphthalene	ND	0.00208		mg/Kg	1	10/8/2012 6:51:59 PM
1-Methylnaphthalene	ND	0.00416		mg/Kg	1	10/8/2012 6:51:59 PM
2-Methylnaphthalene	ND	0.00416		mg/Kg	1	10/8/2012 6:51:59 PM
Acetone	0.0127	0.0104		mg/Kg	1	10/8/2012 6:51:59 PM
Bromobenzene	ND	0.00104		mg/Kg	1	10/8/2012 6:51:59 PM
Bromodichloromethane	ND	0.00104		mg/Kg	1	10/8/2012 6:51:59 PM
Bromoform	ND	0.00104		mg/Kg	1	10/8/2012 6:51:59 PM
Bromomethane	ND	0.00104		mg/Kg	1	10/8/2012 6:51:59 PM
2-Butanone	ND	0.0104		mg/Kg	1	10/8/2012 6:51:59 PM
Carbon tetrachloride	ND	0.00104		mg/Kg	1	10/8/2012 6:51:59 PM
Chlorobenzene	ND	0.00104		mg/Kg	1	10/8/2012 6:51:59 PM
Chloroethane	ND	0.00104		mg/Kg	1	10/8/2012 6:51:59 PM

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- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210279

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-2 (19.5-20')

Project: SWMU NO.1

Collection Date: 10/2/2012 11:05:00 AM

Lab ID: 1210279-005

Matrix: SOIL

Received Date: 10/4/2012 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
METHOD 8260B/5035LOW: VOLATILES						Analyst: RAA
Chloroform	ND	0.00104		mg/Kg	1	10/8/2012 6:51:59 PM
Chloromethane	ND	0.00104		mg/Kg	1	10/8/2012 6:51:59 PM
2-Chlorotoluene	ND	0.00104		mg/Kg	1	10/8/2012 6:51:59 PM
Carbon disulfide	ND	0.0104		mg/Kg	1	10/8/2012 6:51:59 PM
4-Chlorotoluene	ND	0.00104		mg/Kg	1	10/8/2012 6:51:59 PM
cis-1,2-DCE	ND	0.00104		mg/Kg	1	10/8/2012 6:51:59 PM
cis-1,3-Dichloropropene	ND	0.00104		mg/Kg	1	10/8/2012 6:51:59 PM
1,2-Dibromo-3-chloropropane	ND	0.00104		mg/Kg	1	10/8/2012 6:51:59 PM
Dibromochloromethane	ND	0.00104		mg/Kg	1	10/8/2012 6:51:59 PM
Dibromomethane	ND	0.00104		mg/Kg	1	10/8/2012 6:51:59 PM
1,2-Dichlorobenzene	ND	0.00104		mg/Kg	1	10/8/2012 6:51:59 PM
1,3-Dichlorobenzene	ND	0.00104		mg/Kg	1	10/8/2012 6:51:59 PM
1,4-Dichlorobenzene	ND	0.00104		mg/Kg	1	10/8/2012 6:51:59 PM
Dichlorodifluoromethane	ND	0.00104		mg/Kg	1	10/8/2012 6:51:59 PM
1,1-Dichloroethane	ND	0.00104		mg/Kg	1	10/8/2012 6:51:59 PM
1,1-Dichloroethene	ND	0.00104		mg/Kg	1	10/8/2012 6:51:59 PM
1,2-Dichloropropane	ND	0.00104		mg/Kg	1	10/8/2012 6:51:59 PM
1,3-Dichloropropane	ND	0.00104		mg/Kg	1	10/8/2012 6:51:59 PM
2,2-Dichloropropane	ND	0.00104		mg/Kg	1	10/8/2012 6:51:59 PM
1,1-Dichloropropene	ND	0.00104		mg/Kg	1	10/8/2012 6:51:59 PM
Hexachlorobutadiene	ND	0.00104		mg/Kg	1	10/8/2012 6:51:59 PM
Isopropylbenzene	ND	0.00104		mg/Kg	1	10/8/2012 6:51:59 PM
4-Isopropyltoluene	ND	0.00104		mg/Kg	1	10/8/2012 6:51:59 PM
Methylene chloride	ND	0.00312		mg/Kg	1	10/8/2012 6:51:59 PM
n-Butylbenzene	ND	0.00104		mg/Kg	1	10/8/2012 6:51:59 PM
2-Hexanone	ND	0.0104		mg/Kg	1	10/8/2012 6:51:59 PM
n-Propylbenzene	ND	0.00104		mg/Kg	1	10/8/2012 6:51:59 PM
sec-Butylbenzene	ND	0.00104		mg/Kg	1	10/8/2012 6:51:59 PM
Styrene	ND	0.00104		mg/Kg	1	10/8/2012 6:51:59 PM
4-Methyl-2-pentanone	ND	0.0104		mg/Kg	1	10/8/2012 6:51:59 PM
tert-Butylbenzene	ND	0.00104		mg/Kg	1	10/8/2012 6:51:59 PM
1,1,1,2-Tetrachloroethane	ND	0.00104		mg/Kg	1	10/8/2012 6:51:59 PM
1,1,2,2-Tetrachloroethane	ND	0.00104		mg/Kg	1	10/8/2012 6:51:59 PM
Tetrachloroethene (PCE)	ND	0.00104		mg/Kg	1	10/8/2012 6:51:59 PM
trans-1,2-DCE	ND	0.00104		mg/Kg	1	10/8/2012 6:51:59 PM
trans-1,3-Dichloropropene	ND	0.00104		mg/Kg	1	10/8/2012 6:51:59 PM
1,2,3-Trichlorobenzene	ND	0.00104		mg/Kg	1	10/8/2012 6:51:59 PM
1,2,4-Trichlorobenzene	ND	0.00104		mg/Kg	1	10/8/2012 6:51:59 PM
1,1,1-Trichloroethane	ND	0.00104		mg/Kg	1	10/8/2012 6:51:59 PM
1,1,2-Trichloroethane	ND	0.00104		mg/Kg	1	10/8/2012 6:51:59 PM
Trichloroethene (TCE)	ND	0.00104		mg/Kg	1	10/8/2012 6:51:59 PM
Trichlorofluoromethane	ND	0.00104		mg/Kg	1	10/8/2012 6:51:59 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210279

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-2 (19.5-20')

Project: SWMU NO.1

Collection Date: 10/2/2012 11:05:00 AM

Lab ID: 1210279-005

Matrix: SOIL

Received Date: 10/4/2012 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
METHOD 8260B/5035LOW: VOLATILES						Analyst: RAA
1,2,3-Trichloropropane	ND	0.00104		mg/Kg	1	10/8/2012 6:51:59 PM
Vinyl chloride	ND	0.00104		mg/Kg	1	10/8/2012 6:51:59 PM
Surr: 1,2-Dichloroethane-d4	97.4	70-130		%REC	1	10/8/2012 6:51:59 PM
Surr: 4-Bromofluorobenzene	100	70-130		%REC	1	10/8/2012 6:51:59 PM
Surr: Dibromofluoromethane	93.8	70-130		%REC	1	10/8/2012 6:51:59 PM
Surr: Toluene-d8	92.9	70-130		%REC	1	10/8/2012 6:51:59 PM

Qualifiers:

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E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2
RL Reporting Detection Limit

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210279

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-2 GW

Project: SWMU NO.1

Collection Date: 10/2/2012 1:45:00 PM

Lab ID: 1210279-006

Matrix: AQUEOUS

Received Date: 10/4/2012 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: JMP
Diesel Range Organics (DRO)	ND	2.0		mg/L	1	10/8/2012 11:04:25 AM
Motor Oil Range Organics (MRO)	ND	10		mg/L	1	10/8/2012 11:04:25 AM
Surr: DNOP	117	79.5-166		%REC	1	10/8/2012 11:04:25 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	0.71	0.25		mg/L	5	10/5/2012 5:49:08 PM
Surr: BFB	106	69.8-119		%REC	5	10/5/2012 5:49:08 PM
EPA METHOD 300.0: ANIONS						Analyst: JRR
Fluoride	3.0	1.0		mg/L	10	10/4/2012 4:02:29 PM
Chloride	1600	100		mg/L	200	10/11/2012 12:55:50 AM
Sulfate	550	25		mg/L	50	10/4/2012 4:14:53 PM
EPA METHOD 200.7: METALS						Analyst: ELS
Barium	56	0.20	*	mg/L	20	10/12/2012 9:19:00 AM
Beryllium	0.21	0.050	*	mg/L	5	10/10/2012 8:05:38 PM
Cadmium	ND	0.050		mg/L	5	10/10/2012 8:05:38 PM
Chromium	0.31	0.15	*	mg/L	5	10/12/2012 9:15:42 AM
Cobalt	0.53	0.15		mg/L	5	10/10/2012 8:05:38 PM
Iron	140	5.0	*	mg/L	50	10/12/2012 10:14:03 AM
Manganese	95	0.20	*	mg/L	20	10/12/2012 9:19:00 AM
Nickel	0.95	0.25	*	mg/L	5	10/10/2012 8:05:38 PM
Silver	ND	0.12		mg/L	5	10/10/2012 8:05:38 PM
Vanadium	ND	1.2		mg/L	5	10/10/2012 8:05:38 PM
Zinc	1.1	0.25		mg/L	5	10/12/2012 9:15:42 AM
EPA 200.8: METALS						Analyst: DBD
Antimony	ND	0.012		mg/L	2.5	10/15/2012 5:42:26 PM
Arsenic	0.063	0.012	*	mg/L	2.5	10/15/2012 5:42:26 PM
Lead	1.7	0.050	*	mg/L	10	10/16/2012 6:06:18 PM
Selenium	0.059	0.050	*	mg/L	10	10/16/2012 6:06:18 PM
EPA METHOD 245.1: MERCURY						Analyst: JLF
Mercury	0.00027	0.00020		mg/L	1	10/12/2012 5:11:45 PM
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Acenaphthene	ND	10		µg/L	1	10/8/2012 6:59:51 PM
Acenaphthylene	ND	10		µg/L	1	10/8/2012 6:59:51 PM
Aniline	ND	10		µg/L	1	10/8/2012 6:59:51 PM
Anthracene	ND	10		µg/L	1	10/8/2012 6:59:51 PM
Azobenzene	ND	10		µg/L	1	10/8/2012 6:59:51 PM
Benz(a)anthracene	ND	10		µg/L	1	10/8/2012 6:59:51 PM
Benzo(a)pyrene	ND	10		µg/L	1	10/8/2012 6:59:51 PM
Benzo(b)fluoranthene	ND	10		µg/L	1	10/8/2012 6:59:51 PM
Benzo(g,h,i)perylene	ND	10		µg/L	1	10/8/2012 6:59:51 PM

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Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210279

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-2 GW

Project: SWMU NO.1

Collection Date: 10/2/2012 1:45:00 PM

Lab ID: 1210279-006

Matrix: AQUEOUS

Received Date: 10/4/2012 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Benzo(k)fluoranthene	ND	10		µg/L	1	10/8/2012 6:59:51 PM
Benzoic acid	ND	20		µg/L	1	10/8/2012 6:59:51 PM
Benzyl alcohol	ND	10		µg/L	1	10/8/2012 6:59:51 PM
Bis(2-chloroethoxy)methane	ND	10		µg/L	1	10/8/2012 6:59:51 PM
Bis(2-chloroethyl)ether	ND	10		µg/L	1	10/8/2012 6:59:51 PM
Bis(2-chloroisopropyl)ether	ND	10		µg/L	1	10/8/2012 6:59:51 PM
Bis(2-ethylhexyl)phthalate	ND	10		µg/L	1	10/8/2012 6:59:51 PM
4-Bromophenyl phenyl ether	ND	10		µg/L	1	10/8/2012 6:59:51 PM
Butyl benzyl phthalate	ND	10		µg/L	1	10/8/2012 6:59:51 PM
Carbazole	ND	10		µg/L	1	10/8/2012 6:59:51 PM
4-Chloro-3-methylphenol	ND	10		µg/L	1	10/8/2012 6:59:51 PM
4-Chloroaniline	ND	10		µg/L	1	10/8/2012 6:59:51 PM
2-Chloronaphthalene	ND	10		µg/L	1	10/8/2012 6:59:51 PM
2-Chlorophenol	ND	10		µg/L	1	10/8/2012 6:59:51 PM
4-Chlorophenyl phenyl ether	ND	10		µg/L	1	10/8/2012 6:59:51 PM
Chrysene	ND	10		µg/L	1	10/8/2012 6:59:51 PM
Di-n-butyl phthalate	ND	10		µg/L	1	10/8/2012 6:59:51 PM
Di-n-octyl phthalate	ND	10		µg/L	1	10/8/2012 6:59:51 PM
Dibenz(a,h)anthracene	ND	10		µg/L	1	10/8/2012 6:59:51 PM
Dibenzofuran	ND	10		µg/L	1	10/8/2012 6:59:51 PM
1,2-Dichlorobenzene	ND	10		µg/L	1	10/8/2012 6:59:51 PM
1,3-Dichlorobenzene	ND	10		µg/L	1	10/8/2012 6:59:51 PM
1,4-Dichlorobenzene	ND	10		µg/L	1	10/8/2012 6:59:51 PM
3,3'-Dichlorobenzidine	ND	10		µg/L	1	10/8/2012 6:59:51 PM
Diethyl phthalate	ND	10		µg/L	1	10/8/2012 6:59:51 PM
Dimethyl phthalate	ND	10		µg/L	1	10/8/2012 6:59:51 PM
2,4-Dichlorophenol	ND	20		µg/L	1	10/8/2012 6:59:51 PM
2,4-Dimethylphenol	26	10		µg/L	1	10/8/2012 6:59:51 PM
4,6-Dinitro-2-methylphenol	ND	20		µg/L	1	10/8/2012 6:59:51 PM
2,4-Dinitrophenol	ND	20		µg/L	1	10/8/2012 6:59:51 PM
2,4-Dinitrotoluene	ND	10		µg/L	1	10/8/2012 6:59:51 PM
2,6-Dinitrotoluene	ND	10		µg/L	1	10/8/2012 6:59:51 PM
Fluoranthene	ND	10		µg/L	1	10/8/2012 6:59:51 PM
Fluorene	ND	10		µg/L	1	10/8/2012 6:59:51 PM
Hexachlorobenzene	ND	10		µg/L	1	10/8/2012 6:59:51 PM
Hexachlorobutadiene	ND	10		µg/L	1	10/8/2012 6:59:51 PM
Hexachlorocyclopentadiene	ND	10		µg/L	1	10/8/2012 6:59:51 PM
Hexachloroethane	ND	10		µg/L	1	10/8/2012 6:59:51 PM
Indeno(1,2,3-cd)pyrene	ND	10		µg/L	1	10/8/2012 6:59:51 PM
Isophorone	ND	10		µg/L	1	10/8/2012 6:59:51 PM
1-Methylnaphthalene	ND	10		µg/L	1	10/8/2012 6:59:51 PM
2-Methylnaphthalene	ND	10		µg/L	1	10/8/2012 6:59:51 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
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- H Holding times for preparation or analysis exceeded
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Analytical Report

Lab Order 1210279

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-2 GW

Project: SWMU NO.1

Collection Date: 10/2/2012 1:45:00 PM

Lab ID: 1210279-006

Matrix: AQUEOUS

Received Date: 10/4/2012 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
2-Methylphenol	ND	10		µg/L	1	10/8/2012 6:59:51 PM
3+4-Methylphenol	ND	10		µg/L	1	10/8/2012 6:59:51 PM
N-Nitrosodi-n-propylamine	ND	10		µg/L	1	10/8/2012 6:59:51 PM
N-Nitrosodimethylamine	ND	10		µg/L	1	10/8/2012 6:59:51 PM
N-Nitrosodiphenylamine	ND	10		µg/L	1	10/8/2012 6:59:51 PM
Naphthalene	ND	10		µg/L	1	10/8/2012 6:59:51 PM
2-Nitroaniline	ND	10		µg/L	1	10/8/2012 6:59:51 PM
3-Nitroaniline	ND	10		µg/L	1	10/8/2012 6:59:51 PM
4-Nitroaniline	ND	10		µg/L	1	10/8/2012 6:59:51 PM
Nitrobenzene	ND	10		µg/L	1	10/8/2012 6:59:51 PM
2-Nitrophenol	ND	10		µg/L	1	10/8/2012 6:59:51 PM
4-Nitrophenol	ND	10		µg/L	1	10/8/2012 6:59:51 PM
Pentachlorophenol	ND	20		µg/L	1	10/8/2012 6:59:51 PM
Phenanthrene	ND	10		µg/L	1	10/8/2012 6:59:51 PM
Phenol	ND	10		µg/L	1	10/8/2012 6:59:51 PM
Pyrene	ND	10		µg/L	1	10/8/2012 6:59:51 PM
Pyridine	ND	10		µg/L	1	10/8/2012 6:59:51 PM
1,2,4-Trichlorobenzene	ND	10		µg/L	1	10/8/2012 6:59:51 PM
2,4,5-Trichlorophenol	ND	10		µg/L	1	10/8/2012 6:59:51 PM
2,4,6-Trichlorophenol	ND	10		µg/L	1	10/8/2012 6:59:51 PM
Surr: 2,4,6-Tribromophenol	68.0	44.2-126		%REC	1	10/8/2012 6:59:51 PM
Surr: 2-Fluorobiphenyl	61.1	37-114		%REC	1	10/8/2012 6:59:51 PM
Surr: 2-Fluorophenol	49.4	23.4-98		%REC	1	10/8/2012 6:59:51 PM
Surr: 4-Terphenyl-d14	52.7	41.3-116		%REC	1	10/8/2012 6:59:51 PM
Surr: Nitrobenzene-d5	71.8	39.5-118		%REC	1	10/8/2012 6:59:51 PM
Surr: Phenol-d5	44.9	20.9-95.9		%REC	1	10/8/2012 6:59:51 PM
EPA METHOD 8260B: VOLATILES						Analyst: JDJ
Benzene	17	2.0		µg/L	2	10/4/2012 9:52:56 PM
Toluene	4.0	2.0		µg/L	2	10/4/2012 9:52:56 PM
Ethylbenzene	4.7	2.0		µg/L	2	10/4/2012 9:52:56 PM
Methyl tert-butyl ether (MTBE)	43	2.0		µg/L	2	10/4/2012 9:52:56 PM
1,2,4-Trimethylbenzene	10	2.0		µg/L	2	10/4/2012 9:52:56 PM
1,3,5-Trimethylbenzene	ND	2.0		µg/L	2	10/4/2012 9:52:56 PM
1,2-Dichloroethane (EDC)	ND	2.0		µg/L	2	10/4/2012 9:52:56 PM
1,2-Dibromoethane (EDB)	ND	2.0		µg/L	2	10/4/2012 9:52:56 PM
Naphthalene	ND	4.0		µg/L	2	10/4/2012 9:52:56 PM
1-Methylnaphthalene	ND	8.0		µg/L	2	10/4/2012 9:52:56 PM
2-Methylnaphthalene	ND	8.0		µg/L	2	10/4/2012 9:52:56 PM
Acetone	27	20		µg/L	2	10/4/2012 9:52:56 PM
Bromobenzene	ND	2.0		µg/L	2	10/4/2012 9:52:56 PM
Bromodichloromethane	ND	2.0		µg/L	2	10/4/2012 9:52:56 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210279

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-2 GW

Project: SWMU NO.1

Collection Date: 10/2/2012 1:45:00 PM

Lab ID: 1210279-006

Matrix: AQUEOUS

Received Date: 10/4/2012 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: JDJ
Bromoform	ND	2.0		µg/L	2	10/4/2012 9:52:56 PM
Bromomethane	ND	6.0		µg/L	2	10/4/2012 9:52:56 PM
2-Butanone	ND	20		µg/L	2	10/4/2012 9:52:56 PM
Carbon disulfide	ND	20		µg/L	2	10/4/2012 9:52:56 PM
Carbon Tetrachloride	ND	2.0		µg/L	2	10/4/2012 9:52:56 PM
Chlorobenzene	ND	2.0		µg/L	2	10/4/2012 9:52:56 PM
Chloroethane	ND	4.0		µg/L	2	10/4/2012 9:52:56 PM
Chloroform	ND	2.0		µg/L	2	10/4/2012 9:52:56 PM
Chloromethane	ND	6.0		µg/L	2	10/4/2012 9:52:56 PM
2-Chlorotoluene	ND	2.0		µg/L	2	10/4/2012 9:52:56 PM
4-Chlorotoluene	ND	2.0		µg/L	2	10/4/2012 9:52:56 PM
cis-1,2-DCE	ND	2.0		µg/L	2	10/4/2012 9:52:56 PM
cis-1,3-Dichloropropene	ND	2.0		µg/L	2	10/4/2012 9:52:56 PM
1,2-Dibromo-3-chloropropane	ND	4.0		µg/L	2	10/4/2012 9:52:56 PM
Dibromochloromethane	ND	2.0		µg/L	2	10/4/2012 9:52:56 PM
Dibromomethane	ND	2.0		µg/L	2	10/4/2012 9:52:56 PM
1,2-Dichlorobenzene	ND	2.0		µg/L	2	10/4/2012 9:52:56 PM
1,3-Dichlorobenzene	ND	2.0		µg/L	2	10/4/2012 9:52:56 PM
1,4-Dichlorobenzene	ND	2.0		µg/L	2	10/4/2012 9:52:56 PM
Dichlorodifluoromethane	ND	2.0		µg/L	2	10/4/2012 9:52:56 PM
1,1-Dichloroethane	ND	2.0		µg/L	2	10/4/2012 9:52:56 PM
1,1-Dichloroethene	ND	2.0		µg/L	2	10/4/2012 9:52:56 PM
1,2-Dichloropropane	ND	2.0		µg/L	2	10/4/2012 9:52:56 PM
1,3-Dichloropropane	ND	2.0		µg/L	2	10/4/2012 9:52:56 PM
2,2-Dichloropropane	ND	4.0		µg/L	2	10/4/2012 9:52:56 PM
1,1-Dichloropropene	ND	2.0		µg/L	2	10/4/2012 9:52:56 PM
Hexachlorobutadiene	ND	2.0		µg/L	2	10/4/2012 9:52:56 PM
2-Hexanone	ND	20		µg/L	2	10/4/2012 9:52:56 PM
Isopropylbenzene	ND	2.0		µg/L	2	10/4/2012 9:52:56 PM
4-Isopropyltoluene	ND	2.0		µg/L	2	10/4/2012 9:52:56 PM
4-Methyl-2-pentanone	ND	20		µg/L	2	10/4/2012 9:52:56 PM
Methylene Chloride	ND	6.0		µg/L	2	10/4/2012 9:52:56 PM
n-Butylbenzene	ND	6.0		µg/L	2	10/4/2012 9:52:56 PM
n-Propylbenzene	2.7	2.0		µg/L	2	10/4/2012 9:52:56 PM
sec-Butylbenzene	ND	2.0		µg/L	2	10/4/2012 9:52:56 PM
Styrene	ND	2.0		µg/L	2	10/4/2012 9:52:56 PM
tert-Butylbenzene	ND	2.0		µg/L	2	10/4/2012 9:52:56 PM
1,1,1,2-Tetrachloroethane	ND	2.0		µg/L	2	10/4/2012 9:52:56 PM
1,1,2,2-Tetrachloroethane	ND	4.0		µg/L	2	10/4/2012 9:52:56 PM
Tetrachloroethene (PCE)	ND	2.0		µg/L	2	10/4/2012 9:52:56 PM
trans-1,2-DCE	ND	2.0		µg/L	2	10/4/2012 9:52:56 PM
trans-1,3-Dichloropropene	ND	2.0		µg/L	2	10/4/2012 9:52:56 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210279

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-2 GW

Project: SWMU NO.1

Collection Date: 10/2/2012 1:45:00 PM

Lab ID: 1210279-006

Matrix: AQUEOUS

Received Date: 10/4/2012 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: JDJ
1,2,3-Trichlorobenzene	ND	2.0		µg/L	2	10/4/2012 9:52:56 PM
1,2,4-Trichlorobenzene	ND	2.0		µg/L	2	10/4/2012 9:52:56 PM
1,1,1-Trichloroethane	ND	2.0		µg/L	2	10/4/2012 9:52:56 PM
1,1,2-Trichloroethane	ND	2.0		µg/L	2	10/4/2012 9:52:56 PM
Trichloroethene (TCE)	ND	2.0		µg/L	2	10/4/2012 9:52:56 PM
Trichlorofluoromethane	ND	2.0		µg/L	2	10/4/2012 9:52:56 PM
1,2,3-Trichloropropane	ND	4.0		µg/L	2	10/4/2012 9:52:56 PM
Vinyl chloride	ND	2.0		µg/L	2	10/4/2012 9:52:56 PM
Xylenes, Total	20	3.0		µg/L	2	10/4/2012 9:52:56 PM
Surr: 1,2-Dichloroethane-d4	97.2	70-130		%REC	2	10/4/2012 9:52:56 PM
Surr: 4-Bromofluorobenzene	108	70-130		%REC	2	10/4/2012 9:52:56 PM
Surr: Dibromofluoromethane	94.8	70-130		%REC	2	10/4/2012 9:52:56 PM
Surr: Toluene-d8	100	70-130		%REC	2	10/4/2012 9:52:56 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210279

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: TRIP BLANK

Project: SWMU NO.1

Collection Date:

Lab ID: 1210279-007

Matrix: TRIP BLANK

Received Date: 10/4/2012 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: JDJ
Benzene	ND	1.0		µg/L	1	10/4/2012 10:51:26 PM
Toluene	ND	1.0		µg/L	1	10/4/2012 10:51:26 PM
Ethylbenzene	ND	1.0		µg/L	1	10/4/2012 10:51:26 PM
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	10/4/2012 10:51:26 PM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	10/4/2012 10:51:26 PM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	10/4/2012 10:51:26 PM
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	10/4/2012 10:51:26 PM
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	10/4/2012 10:51:26 PM
Naphthalene	ND	2.0		µg/L	1	10/4/2012 10:51:26 PM
1-Methylnaphthalene	ND	4.0		µg/L	1	10/4/2012 10:51:26 PM
2-Methylnaphthalene	ND	4.0		µg/L	1	10/4/2012 10:51:26 PM
Acetone	ND	10		µg/L	1	10/4/2012 10:51:26 PM
Bromobenzene	ND	1.0		µg/L	1	10/4/2012 10:51:26 PM
Bromodichloromethane	ND	1.0		µg/L	1	10/4/2012 10:51:26 PM
Bromoform	ND	1.0		µg/L	1	10/4/2012 10:51:26 PM
Bromomethane	ND	3.0		µg/L	1	10/4/2012 10:51:26 PM
2-Butanone	ND	10		µg/L	1	10/4/2012 10:51:26 PM
Carbon disulfide	ND	10		µg/L	1	10/4/2012 10:51:26 PM
Carbon Tetrachloride	ND	1.0		µg/L	1	10/4/2012 10:51:26 PM
Chlorobenzene	ND	1.0		µg/L	1	10/4/2012 10:51:26 PM
Chloroethane	ND	2.0		µg/L	1	10/4/2012 10:51:26 PM
Chloroform	ND	1.0		µg/L	1	10/4/2012 10:51:26 PM
Chloromethane	ND	3.0		µg/L	1	10/4/2012 10:51:26 PM
2-Chlorotoluene	ND	1.0		µg/L	1	10/4/2012 10:51:26 PM
4-Chlorotoluene	ND	1.0		µg/L	1	10/4/2012 10:51:26 PM
cis-1,2-DCE	ND	1.0		µg/L	1	10/4/2012 10:51:26 PM
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	10/4/2012 10:51:26 PM
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	10/4/2012 10:51:26 PM
Dibromochloromethane	ND	1.0		µg/L	1	10/4/2012 10:51:26 PM
Dibromomethane	ND	1.0		µg/L	1	10/4/2012 10:51:26 PM
1,2-Dichlorobenzene	ND	1.0		µg/L	1	10/4/2012 10:51:26 PM
1,3-Dichlorobenzene	ND	1.0		µg/L	1	10/4/2012 10:51:26 PM
1,4-Dichlorobenzene	ND	1.0		µg/L	1	10/4/2012 10:51:26 PM
Dichlorodifluoromethane	ND	1.0		µg/L	1	10/4/2012 10:51:26 PM
1,1-Dichloroethane	ND	1.0		µg/L	1	10/4/2012 10:51:26 PM
1,1-Dichloroethene	ND	1.0		µg/L	1	10/4/2012 10:51:26 PM
1,2-Dichloropropane	ND	1.0		µg/L	1	10/4/2012 10:51:26 PM
1,3-Dichloropropane	ND	1.0		µg/L	1	10/4/2012 10:51:26 PM
2,2-Dichloropropane	ND	2.0		µg/L	1	10/4/2012 10:51:26 PM
1,1-Dichloropropene	ND	1.0		µg/L	1	10/4/2012 10:51:26 PM
Hexachlorobutadiene	ND	1.0		µg/L	1	10/4/2012 10:51:26 PM
2-Hexanone	ND	10		µg/L	1	10/4/2012 10:51:26 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210279

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: TRIP BLANK

Project: SWMU NO.1

Collection Date:

Lab ID: 1210279-007

Matrix: TRIP BLANK

Received Date: 10/4/2012 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: JDJ
Isopropylbenzene	ND	1.0		µg/L	1	10/4/2012 10:51:26 PM
4-Isopropyltoluene	ND	1.0		µg/L	1	10/4/2012 10:51:26 PM
4-Methyl-2-pentanone	ND	10		µg/L	1	10/4/2012 10:51:26 PM
Methylene Chloride	ND	3.0		µg/L	1	10/4/2012 10:51:26 PM
n-Butylbenzene	ND	3.0		µg/L	1	10/4/2012 10:51:26 PM
n-Propylbenzene	ND	1.0		µg/L	1	10/4/2012 10:51:26 PM
sec-Butylbenzene	ND	1.0		µg/L	1	10/4/2012 10:51:26 PM
Styrene	ND	1.0		µg/L	1	10/4/2012 10:51:26 PM
tert-Butylbenzene	ND	1.0		µg/L	1	10/4/2012 10:51:26 PM
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	10/4/2012 10:51:26 PM
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	10/4/2012 10:51:26 PM
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	10/4/2012 10:51:26 PM
trans-1,2-DCE	ND	1.0		µg/L	1	10/4/2012 10:51:26 PM
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	10/4/2012 10:51:26 PM
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	10/4/2012 10:51:26 PM
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	10/4/2012 10:51:26 PM
1,1,1-Trichloroethane	ND	1.0		µg/L	1	10/4/2012 10:51:26 PM
1,1,2-Trichloroethane	ND	1.0		µg/L	1	10/4/2012 10:51:26 PM
Trichloroethene (TCE)	ND	1.0		µg/L	1	10/4/2012 10:51:26 PM
Trichlorofluoromethane	ND	1.0		µg/L	1	10/4/2012 10:51:26 PM
1,2,3-Trichloropropane	ND	2.0		µg/L	1	10/4/2012 10:51:26 PM
Vinyl chloride	ND	1.0		µg/L	1	10/4/2012 10:51:26 PM
Xylenes, Total	ND	1.5		µg/L	1	10/4/2012 10:51:26 PM
Surr: 1,2-Dichloroethane-d4	91.6	70-130		%REC	1	10/4/2012 10:51:26 PM
Surr: 4-Bromofluorobenzene	106	70-130		%REC	1	10/4/2012 10:51:26 PM
Surr: Dibromofluoromethane	103	70-130		%REC	1	10/4/2012 10:51:26 PM
Surr: Toluene-d8	99.4	70-130		%REC	1	10/4/2012 10:51:26 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210279

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-3 (2-4')

Project: SWMU NO.1

Collection Date: 10/2/2012 4:20:00 PM

Lab ID: 1210279-008

Matrix: SOIL

Received Date: 10/4/2012 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: JMP
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	10/7/2012 3:08:09 AM
Motor Oil Range Organics (MRO)	ND	51		mg/Kg	1	10/7/2012 3:08:09 AM
Surr: DNOP	98.5	77.6-140		%REC	1	10/7/2012 3:08:09 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	10/5/2012 12:06:14 PM
Surr: BFB	99.4	84-116		%REC	1	10/5/2012 12:06:14 PM
EPA METHOD 7471: MERCURY						Analyst: IDC
Mercury	ND	0.033		mg/kg	1	10/9/2012 10:46:48 AM
EPA METHOD 6010B: SOIL METALS						Analyst: JLF
Antimony	ND	2.5		mg/Kg	1	10/23/2012 7:04:15 PM
Arsenic	ND	50		mg/Kg	20	10/17/2012 1:28:13 PM
Barium	770	2.0		mg/Kg	20	10/17/2012 1:28:13 PM
Beryllium	0.39	0.15		mg/Kg	1	10/17/2012 11:02:17 AM
Cadmium	ND	0.10		mg/Kg	1	10/17/2012 11:02:17 AM
Chromium	3.8	0.30		mg/Kg	1	10/17/2012 11:02:17 AM
Cobalt	2.4	0.30		mg/Kg	1	10/17/2012 11:02:17 AM
Iron	4800	200		mg/Kg	200	10/23/2012 7:09:43 PM
Lead	ND	0.25		mg/Kg	1	10/17/2012 11:02:17 AM
Manganese	340	2.0		mg/Kg	20	10/17/2012 1:28:13 PM
Nickel	3.8	0.50		mg/Kg	1	10/17/2012 11:02:17 AM
Selenium	ND	2.5		mg/Kg	1	10/23/2012 7:04:15 PM
Silver	ND	0.25		mg/Kg	1	10/17/2012 11:02:17 AM
Vanadium	11	2.5		mg/Kg	1	10/17/2012 11:02:17 AM
Zinc	9.1	2.5		mg/Kg	1	10/17/2012 11:02:17 AM
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Acenaphthene	ND	0.20		mg/Kg	1	10/9/2012 4:51:45 PM
Acenaphthylene	ND	0.20		mg/Kg	1	10/9/2012 4:51:45 PM
Aniline	ND	0.20		mg/Kg	1	10/9/2012 4:51:45 PM
Anthracene	ND	0.20		mg/Kg	1	10/9/2012 4:51:45 PM
Azobenzene	ND	0.20		mg/Kg	1	10/9/2012 4:51:45 PM
Benz(a)anthracene	ND	0.20		mg/Kg	1	10/9/2012 4:51:45 PM
Benzo(a)pyrene	ND	0.20		mg/Kg	1	10/9/2012 4:51:45 PM
Benzo(b)fluoranthene	ND	0.20		mg/Kg	1	10/9/2012 4:51:45 PM
Benzo(g,h,i)perylene	ND	0.20		mg/Kg	1	10/9/2012 4:51:45 PM
Benzo(k)fluoranthene	ND	0.20		mg/Kg	1	10/9/2012 4:51:45 PM
Benzoic acid	ND	0.50		mg/Kg	1	10/9/2012 4:51:45 PM
Benzyl alcohol	ND	0.20		mg/Kg	1	10/9/2012 4:51:45 PM
Bis(2-chloroethoxy)methane	ND	0.20		mg/Kg	1	10/9/2012 4:51:45 PM
Bis(2-chloroethyl)ether	ND	0.20		mg/Kg	1	10/9/2012 4:51:45 PM
Bis(2-chloroisopropyl)ether	ND	0.20		mg/Kg	1	10/9/2012 4:51:45 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210279

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-3 (2-4')

Project: SWMU NO.1

Collection Date: 10/2/2012 4:20:00 PM

Lab ID: 1210279-008

Matrix: SOIL

Received Date: 10/4/2012 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Bis(2-ethylhexyl)phthalate	ND	0.50		mg/Kg	1	10/9/2012 4:51:45 PM
4-Bromophenyl phenyl ether	ND	0.20		mg/Kg	1	10/9/2012 4:51:45 PM
Butyl benzyl phthalate	ND	0.20		mg/Kg	1	10/9/2012 4:51:45 PM
Carbazole	ND	0.20		mg/Kg	1	10/9/2012 4:51:45 PM
4-Chloro-3-methylphenol	ND	0.50		mg/Kg	1	10/9/2012 4:51:45 PM
4-Chloroaniline	ND	0.50		mg/Kg	1	10/9/2012 4:51:45 PM
2-Chloronaphthalene	ND	0.25		mg/Kg	1	10/9/2012 4:51:45 PM
2-Chlorophenol	ND	0.20		mg/Kg	1	10/9/2012 4:51:45 PM
4-Chlorophenyl phenyl ether	ND	0.20		mg/Kg	1	10/9/2012 4:51:45 PM
Chrysene	ND	0.20		mg/Kg	1	10/9/2012 4:51:45 PM
Di-n-butyl phthalate	ND	0.50		mg/Kg	1	10/9/2012 4:51:45 PM
Di-n-octyl phthalate	ND	0.25		mg/Kg	1	10/9/2012 4:51:45 PM
Dibenz(a,h)anthracene	ND	0.20		mg/Kg	1	10/9/2012 4:51:45 PM
Dibenzofuran	ND	0.20		mg/Kg	1	10/9/2012 4:51:45 PM
1,2-Dichlorobenzene	ND	0.20		mg/Kg	1	10/9/2012 4:51:45 PM
1,3-Dichlorobenzene	ND	0.20		mg/Kg	1	10/9/2012 4:51:45 PM
1,4-Dichlorobenzene	ND	0.20		mg/Kg	1	10/9/2012 4:51:45 PM
3,3'-Dichlorobenzidine	ND	0.25		mg/Kg	1	10/9/2012 4:51:45 PM
Diethyl phthalate	ND	0.20		mg/Kg	1	10/9/2012 4:51:45 PM
Dimethyl phthalate	ND	0.20		mg/Kg	1	10/9/2012 4:51:45 PM
2,4-Dichlorophenol	ND	0.40		mg/Kg	1	10/9/2012 4:51:45 PM
2,4-Dimethylphenol	ND	0.30		mg/Kg	1	10/9/2012 4:51:45 PM
4,6-Dinitro-2-methylphenol	ND	0.50		mg/Kg	1	10/9/2012 4:51:45 PM
2,4-Dinitrophenol	ND	0.40		mg/Kg	1	10/9/2012 4:51:45 PM
2,4-Dinitrotoluene	ND	0.50		mg/Kg	1	10/9/2012 4:51:45 PM
2,6-Dinitrotoluene	ND	0.50		mg/Kg	1	10/9/2012 4:51:45 PM
Fluoranthene	ND	0.20		mg/Kg	1	10/9/2012 4:51:45 PM
Fluorene	ND	0.20		mg/Kg	1	10/9/2012 4:51:45 PM
Hexachlorobenzene	ND	0.20		mg/Kg	1	10/9/2012 4:51:45 PM
Hexachlorobutadiene	ND	0.20		mg/Kg	1	10/9/2012 4:51:45 PM
Hexachlorocyclopentadiene	ND	0.20		mg/Kg	1	10/9/2012 4:51:45 PM
Hexachloroethane	ND	0.20		mg/Kg	1	10/9/2012 4:51:45 PM
Indeno(1,2,3-cd)pyrene	ND	0.20		mg/Kg	1	10/9/2012 4:51:45 PM
Isophorone	ND	0.50		mg/Kg	1	10/9/2012 4:51:45 PM
1-Methylnaphthalene	ND	0.20		mg/Kg	1	10/9/2012 4:51:45 PM
2-Methylnaphthalene	ND	0.20		mg/Kg	1	10/9/2012 4:51:45 PM
2-Methylphenol	ND	0.50		mg/Kg	1	10/9/2012 4:51:45 PM
3+4-Methylphenol	ND	0.20		mg/Kg	1	10/9/2012 4:51:45 PM
N-Nitrosodi-n-propylamine	ND	0.20		mg/Kg	1	10/9/2012 4:51:45 PM
N-Nitrosodiphenylamine	ND	0.20		mg/Kg	1	10/9/2012 4:51:45 PM
Naphthalene	ND	0.20		mg/Kg	1	10/9/2012 4:51:45 PM
2-Nitroaniline	ND	0.20		mg/Kg	1	10/9/2012 4:51:45 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210279

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-3 (2-4")

Project: SWMU NO.1

Collection Date: 10/2/2012 4:20:00 PM

Lab ID: 1210279-008

Matrix: SOIL

Received Date: 10/4/2012 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
3-Nitroaniline	ND	0.20		mg/Kg	1	10/9/2012 4:51:45 PM
4-Nitroaniline	ND	0.40		mg/Kg	1	10/9/2012 4:51:45 PM
Nitrobenzene	ND	0.50		mg/Kg	1	10/9/2012 4:51:45 PM
2-Nitrophenol	ND	0.20		mg/Kg	1	10/9/2012 4:51:45 PM
4-Nitrophenol	ND	0.25		mg/Kg	1	10/9/2012 4:51:45 PM
Pentachlorophenol	ND	0.40		mg/Kg	1	10/9/2012 4:51:45 PM
Phenanthrene	ND	0.20		mg/Kg	1	10/9/2012 4:51:45 PM
Phenol	ND	0.20		mg/Kg	1	10/9/2012 4:51:45 PM
Pyrene	ND	0.20		mg/Kg	1	10/9/2012 4:51:45 PM
Pyridine	ND	0.50		mg/Kg	1	10/9/2012 4:51:45 PM
1,2,4-Trichlorobenzene	ND	0.20		mg/Kg	1	10/9/2012 4:51:45 PM
2,4,5-Trichlorophenol	ND	0.20		mg/Kg	1	10/9/2012 4:51:45 PM
2,4,6-Trichlorophenol	ND	0.20		mg/Kg	1	10/9/2012 4:51:45 PM
Surr: 2,4,6-Tribromophenol	75.8	21.3-145		%REC	1	10/9/2012 4:51:45 PM
Surr: 2-Fluorobiphenyl	74.5	20-131		%REC	1	10/9/2012 4:51:45 PM
Surr: 2-Fluorophenol	83.5	11.9-130		%REC	1	10/9/2012 4:51:45 PM
Surr: 4-Terphenyl-d14	65.9	25.1-149		%REC	1	10/9/2012 4:51:45 PM
Surr: Nitrobenzene-d5	79.2	25.6-137		%REC	1	10/9/2012 4:51:45 PM
Surr: Phenol-d5	83.3	20.3-132		%REC	1	10/9/2012 4:51:45 PM
METHOD 8260B/5035LOW: VOLATILES						Analyst: RAA
Benzene	ND	0.00105		mg/Kg	1	10/8/2012 7:22:49 PM
Toluene	0.00187	0.00105		mg/Kg	1	10/8/2012 7:22:49 PM
Ethylbenzene	ND	0.00105		mg/Kg	1	10/8/2012 7:22:49 PM
Xylenes, Total	ND	0.00209		mg/Kg	1	10/8/2012 7:22:49 PM
Methyl tert-butyl ether (MTBE)	ND	0.00105		mg/Kg	1	10/8/2012 7:22:49 PM
1,2,4-Trimethylbenzene	0.00128	0.00105		mg/Kg	1	10/8/2012 7:22:49 PM
1,3,5-Trimethylbenzene	ND	0.00105		mg/Kg	1	10/8/2012 7:22:49 PM
1,2-Dichloroethane (EDC)	ND	0.00105		mg/Kg	1	10/8/2012 7:22:49 PM
1,2-Dibromoethane (EDB)	ND	0.00105		mg/Kg	1	10/8/2012 7:22:49 PM
Naphthalene	ND	0.00209		mg/Kg	1	10/8/2012 7:22:49 PM
1-Methylnaphthalene	ND	0.00419		mg/Kg	1	10/8/2012 7:22:49 PM
2-Methylnaphthalene	ND	0.00419		mg/Kg	1	10/8/2012 7:22:49 PM
Acetone	0.0418	0.0105		mg/Kg	1	10/8/2012 7:22:49 PM
Bromobenzene	ND	0.00105		mg/Kg	1	10/8/2012 7:22:49 PM
Bromodichloromethane	ND	0.00105		mg/Kg	1	10/8/2012 7:22:49 PM
Bromoform	ND	0.00105		mg/Kg	1	10/8/2012 7:22:49 PM
Bromomethane	ND	0.00105		mg/Kg	1	10/8/2012 7:22:49 PM
2-Butanone	ND	0.0105		mg/Kg	1	10/8/2012 7:22:49 PM
Carbon tetrachloride	ND	0.00105		mg/Kg	1	10/8/2012 7:22:49 PM
Chlorobenzene	ND	0.00105		mg/Kg	1	10/8/2012 7:22:49 PM
Chloroethane	ND	0.00105		mg/Kg	1	10/8/2012 7:22:49 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210279

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-3 (2-4')

Project: SWMU NO.1

Collection Date: 10/2/2012 4:20:00 PM

Lab ID: 1210279-008

Matrix: SOIL

Received Date: 10/4/2012 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
METHOD 8260B/5035LOW: VOLATILES						Analyst: RAA
Chloroform	ND	0.00105		mg/Kg	1	10/8/2012 7:22:49 PM
Chloromethane	ND	0.00105		mg/Kg	1	10/8/2012 7:22:49 PM
2-Chlorotoluene	ND	0.00105		mg/Kg	1	10/8/2012 7:22:49 PM
Carbon disulfide	ND	0.0105		mg/Kg	1	10/8/2012 7:22:49 PM
4-Chlorotoluene	ND	0.00105		mg/Kg	1	10/8/2012 7:22:49 PM
cis-1,2-DCE	ND	0.00105		mg/Kg	1	10/8/2012 7:22:49 PM
cis-1,3-Dichloropropene	ND	0.00105		mg/Kg	1	10/8/2012 7:22:49 PM
1,2-Dibromo-3-chloropropane	ND	0.00105		mg/Kg	1	10/8/2012 7:22:49 PM
Dibromochloromethane	ND	0.00105		mg/Kg	1	10/8/2012 7:22:49 PM
Dibromomethane	ND	0.00105		mg/Kg	1	10/8/2012 7:22:49 PM
1,2-Dichlorobenzene	ND	0.00105		mg/Kg	1	10/8/2012 7:22:49 PM
1,3-Dichlorobenzene	ND	0.00105		mg/Kg	1	10/8/2012 7:22:49 PM
1,4-Dichlorobenzene	ND	0.00105		mg/Kg	1	10/8/2012 7:22:49 PM
Dichlorodifluoromethane	ND	0.00105		mg/Kg	1	10/8/2012 7:22:49 PM
1,1-Dichloroethane	ND	0.00105		mg/Kg	1	10/8/2012 7:22:49 PM
1,1-Dichloroethene	ND	0.00105		mg/Kg	1	10/8/2012 7:22:49 PM
1,2-Dichloropropane	ND	0.00105		mg/Kg	1	10/8/2012 7:22:49 PM
1,3-Dichloropropane	ND	0.00105		mg/Kg	1	10/8/2012 7:22:49 PM
2,2-Dichloropropane	ND	0.00105		mg/Kg	1	10/8/2012 7:22:49 PM
1,1-Dichloropropene	ND	0.00105		mg/Kg	1	10/8/2012 7:22:49 PM
Hexachlorobutadiene	ND	0.00105		mg/Kg	1	10/8/2012 7:22:49 PM
Isopropylbenzene	ND	0.00105		mg/Kg	1	10/8/2012 7:22:49 PM
4-Isopropyltoluene	ND	0.00105		mg/Kg	1	10/8/2012 7:22:49 PM
Methylene chloride	ND	0.00314		mg/Kg	1	10/8/2012 7:22:49 PM
n-Butylbenzene	ND	0.00105		mg/Kg	1	10/8/2012 7:22:49 PM
2-Hexanone	ND	0.0105		mg/Kg	1	10/8/2012 7:22:49 PM
n-Propylbenzene	ND	0.00105		mg/Kg	1	10/8/2012 7:22:49 PM
sec-Butylbenzene	ND	0.00105		mg/Kg	1	10/8/2012 7:22:49 PM
Styrene	ND	0.00105		mg/Kg	1	10/8/2012 7:22:49 PM
4-Methyl-2-pentanone	ND	0.0105		mg/Kg	1	10/8/2012 7:22:49 PM
tert-Butylbenzene	ND	0.00105		mg/Kg	1	10/8/2012 7:22:49 PM
1,1,1,2-Tetrachloroethane	ND	0.00105		mg/Kg	1	10/8/2012 7:22:49 PM
1,1,2,2-Tetrachloroethane	ND	0.00105		mg/Kg	1	10/8/2012 7:22:49 PM
Tetrachloroethene (PCE)	ND	0.00105		mg/Kg	1	10/8/2012 7:22:49 PM
trans-1,2-DCE	ND	0.00105		mg/Kg	1	10/8/2012 7:22:49 PM
trans-1,3-Dichloropropene	ND	0.00105		mg/Kg	1	10/8/2012 7:22:49 PM
1,2,3-Trichlorobenzene	ND	0.00105		mg/Kg	1	10/8/2012 7:22:49 PM
1,2,4-Trichlorobenzene	ND	0.00105		mg/Kg	1	10/8/2012 7:22:49 PM
1,1,1-Trichloroethane	ND	0.00105		mg/Kg	1	10/8/2012 7:22:49 PM
1,1,2-Trichloroethane	ND	0.00105		mg/Kg	1	10/8/2012 7:22:49 PM
Trichloroethene (TCE)	ND	0.00105		mg/Kg	1	10/8/2012 7:22:49 PM
Trichlorofluoromethane	ND	0.00105		mg/Kg	1	10/8/2012 7:22:49 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210279

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-3 (2-4')

Project: SWMU NO.1

Collection Date: 10/2/2012 4:20:00 PM

Lab ID: 1210279-008

Matrix: SOIL

Received Date: 10/4/2012 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
METHOD 8260B/5035LOW: VOLATILES						Analyst: RAA
1,2,3-Trichloropropane	ND	0.00105		mg/Kg	1	10/8/2012 7:22:49 PM
Vinyl chloride	ND	0.00105		mg/Kg	1	10/8/2012 7:22:49 PM
Surr: 1,2-Dichloroethane-d4	102	70-130		%REC	1	10/8/2012 7:22:49 PM
Surr: 4-Bromofluorobenzene	97.2	70-130		%REC	1	10/8/2012 7:22:49 PM
Surr: Dibromofluoromethane	104	70-130		%REC	1	10/8/2012 7:22:49 PM
Surr: Toluene-d8	98.3	70-130		%REC	1	10/8/2012 7:22:49 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210279

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-3 (10-11')

Project: SWMU NO.1

Collection Date: 10/2/2012 4:35:00 PM

Lab ID: 1210279-009

Matrix: SOIL

Received Date: 10/4/2012 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: JMP
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	10/7/2012 3:32:59 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	10/7/2012 3:32:59 AM
Surr: DNOP	96.0	77.6-140		%REC	1	10/7/2012 3:32:59 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	10/6/2012 5:50:42 AM
Surr: BFB	106	84-116		%REC	1	10/6/2012 5:50:42 AM
EPA METHOD 7471: MERCURY						Analyst: IDC
Mercury	ND	0.033		mg/kg	1	10/9/2012 10:55:48 AM
EPA METHOD 6010B: SOIL METALS						Analyst: JLF
Antimony	ND	5.0		mg/Kg	2	10/23/2012 7:12:19 PM
Arsenic	ND	5.0		mg/Kg	2	10/17/2012 11:09:52 AM
Barium	220	0.50		mg/Kg	5	10/17/2012 1:34:59 PM
Beryllium	0.72	0.30		mg/Kg	2	10/17/2012 11:09:52 AM
Cadmium	ND	0.20		mg/Kg	2	10/17/2012 11:09:52 AM
Chromium	7.6	0.60		mg/Kg	2	10/17/2012 11:09:52 AM
Cobalt	3.6	0.60		mg/Kg	2	10/17/2012 11:09:52 AM
Iron	11000	500		mg/Kg	500	10/17/2012 1:37:26 PM
Lead	3.4	0.50		mg/Kg	2	10/17/2012 11:09:52 AM
Manganese	420	1.0		mg/Kg	10	10/23/2012 7:14:46 PM
Nickel	5.7	1.0		mg/Kg	2	10/17/2012 11:09:52 AM
Selenium	ND	5.0		mg/Kg	2	10/23/2012 7:12:19 PM
Silver	ND	0.50		mg/Kg	2	10/17/2012 11:09:52 AM
Vanadium	15	5.0		mg/Kg	2	10/17/2012 11:09:52 AM
Zinc	11	5.0		mg/Kg	2	10/17/2012 11:09:52 AM
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Acenaphthene	ND	0.20		mg/Kg	1	10/9/2012 2:20:03 PM
Acenaphthylene	ND	0.20		mg/Kg	1	10/9/2012 2:20:03 PM
Aniline	ND	0.20		mg/Kg	1	10/9/2012 2:20:03 PM
Anthracene	ND	0.20		mg/Kg	1	10/9/2012 2:20:03 PM
Azobenzene	ND	0.20		mg/Kg	1	10/9/2012 2:20:03 PM
Benz(a)anthracene	ND	0.20		mg/Kg	1	10/9/2012 2:20:03 PM
Benzo(a)pyrene	ND	0.20		mg/Kg	1	10/9/2012 2:20:03 PM
Benzo(b)fluoranthene	ND	0.20		mg/Kg	1	10/9/2012 2:20:03 PM
Benzo(g,h,i)perylene	ND	0.20		mg/Kg	1	10/9/2012 2:20:03 PM
Benzo(k)fluoranthene	ND	0.20		mg/Kg	1	10/9/2012 2:20:03 PM
Benzoic acid	ND	0.51		mg/Kg	1	10/9/2012 2:20:03 PM
Benzyl alcohol	ND	0.20		mg/Kg	1	10/9/2012 2:20:03 PM
Bis(2-chloroethoxy)methane	ND	0.20		mg/Kg	1	10/9/2012 2:20:03 PM
Bis(2-chloroethyl)ether	ND	0.20		mg/Kg	1	10/9/2012 2:20:03 PM
Bis(2-chloroisopropyl)ether	ND	0.20		mg/Kg	1	10/9/2012 2:20:03 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210279

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-3 (10-11')

Project: SWMU NO.1

Collection Date: 10/2/2012 4:35:00 PM

Lab ID: 1210279-009

Matrix: SOIL

Received Date: 10/4/2012 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Bis(2-ethylhexyl)phthalate	ND	0.51		mg/Kg	1	10/9/2012 2:20:03 PM
4-Bromophenyl phenyl ether	ND	0.20		mg/Kg	1	10/9/2012 2:20:03 PM
Butyl benzyl phthalate	ND	0.20		mg/Kg	1	10/9/2012 2:20:03 PM
Carbazole	ND	0.20		mg/Kg	1	10/9/2012 2:20:03 PM
4-Chloro-3-methylphenol	ND	0.51		mg/Kg	1	10/9/2012 2:20:03 PM
4-Chloroaniline	ND	0.51		mg/Kg	1	10/9/2012 2:20:03 PM
2-Chloronaphthalene	ND	0.25		mg/Kg	1	10/9/2012 2:20:03 PM
2-Chlorophenol	ND	0.20		mg/Kg	1	10/9/2012 2:20:03 PM
4-Chlorophenyl phenyl ether	ND	0.20		mg/Kg	1	10/9/2012 2:20:03 PM
Chrysene	ND	0.20		mg/Kg	1	10/9/2012 2:20:03 PM
Di-n-butyl phthalate	ND	0.51		mg/Kg	1	10/9/2012 2:20:03 PM
Di-n-octyl phthalate	ND	0.25		mg/Kg	1	10/9/2012 2:20:03 PM
Dibenz(a,h)anthracene	ND	0.20		mg/Kg	1	10/9/2012 2:20:03 PM
Dibenzofuran	ND	0.20		mg/Kg	1	10/9/2012 2:20:03 PM
1,2-Dichlorobenzene	ND	0.20		mg/Kg	1	10/9/2012 2:20:03 PM
1,3-Dichlorobenzene	ND	0.20		mg/Kg	1	10/9/2012 2:20:03 PM
1,4-Dichlorobenzene	ND	0.20		mg/Kg	1	10/9/2012 2:20:03 PM
3,3'-Dichlorobenzidine	ND	0.25		mg/Kg	1	10/9/2012 2:20:03 PM
Diethyl phthalate	ND	0.20		mg/Kg	1	10/9/2012 2:20:03 PM
Dimethyl phthalate	ND	0.20		mg/Kg	1	10/9/2012 2:20:03 PM
2,4-Dichlorophenol	ND	0.41		mg/Kg	1	10/9/2012 2:20:03 PM
2,4-Dimethylphenol	ND	0.31		mg/Kg	1	10/9/2012 2:20:03 PM
4,6-Dinitro-2-methylphenol	ND	0.51		mg/Kg	1	10/9/2012 2:20:03 PM
2,4-Dinitrophenol	ND	0.41		mg/Kg	1	10/9/2012 2:20:03 PM
2,4-Dinitrotoluene	ND	0.51		mg/Kg	1	10/9/2012 2:20:03 PM
2,6-Dinitrotoluene	ND	0.51		mg/Kg	1	10/9/2012 2:20:03 PM
Fluoranthene	ND	0.20		mg/Kg	1	10/9/2012 2:20:03 PM
Fluorene	ND	0.20		mg/Kg	1	10/9/2012 2:20:03 PM
Hexachlorobenzene	ND	0.20		mg/Kg	1	10/9/2012 2:20:03 PM
Hexachlorobutadiene	ND	0.20		mg/Kg	1	10/9/2012 2:20:03 PM
Hexachlorocyclopentadiene	ND	0.20		mg/Kg	1	10/9/2012 2:20:03 PM
Hexachloroethane	ND	0.20		mg/Kg	1	10/9/2012 2:20:03 PM
Indeno(1,2,3-cd)pyrene	ND	0.20		mg/Kg	1	10/9/2012 2:20:03 PM
Isophorone	ND	0.51		mg/Kg	1	10/9/2012 2:20:03 PM
1-Methylnaphthalene	ND	0.20		mg/Kg	1	10/9/2012 2:20:03 PM
2-Methylnaphthalene	ND	0.20		mg/Kg	1	10/9/2012 2:20:03 PM
2-Methylphenol	ND	0.51		mg/Kg	1	10/9/2012 2:20:03 PM
3+4-Methylphenol	ND	0.20		mg/Kg	1	10/9/2012 2:20:03 PM
N-Nitrosodi-n-propylamine	ND	0.20		mg/Kg	1	10/9/2012 2:20:03 PM
N-Nitrosodiphenylamine	ND	0.20		mg/Kg	1	10/9/2012 2:20:03 PM
Naphthalene	ND	0.20		mg/Kg	1	10/9/2012 2:20:03 PM
2-Nitroaniline	ND	0.20		mg/Kg	1	10/9/2012 2:20:03 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210279

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-3 (10-11')

Project: SWMU NO.1

Collection Date: 10/2/2012 4:35:00 PM

Lab ID: 1210279-009

Matrix: SOIL

Received Date: 10/4/2012 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
3-Nitroaniline	ND	0.20		mg/Kg	1	10/9/2012 2:20:03 PM
4-Nitroaniline	ND	0.41		mg/Kg	1	10/9/2012 2:20:03 PM
Nitrobenzene	ND	0.51		mg/Kg	1	10/9/2012 2:20:03 PM
2-Nitrophenol	ND	0.20		mg/Kg	1	10/9/2012 2:20:03 PM
4-Nitrophenol	ND	0.25		mg/Kg	1	10/9/2012 2:20:03 PM
Pentachlorophenol	ND	0.41		mg/Kg	1	10/9/2012 2:20:03 PM
Phenanthrene	ND	0.20		mg/Kg	1	10/9/2012 2:20:03 PM
Phenol	ND	0.20		mg/Kg	1	10/9/2012 2:20:03 PM
Pyrene	ND	0.20		mg/Kg	1	10/9/2012 2:20:03 PM
Pyridine	ND	0.51		mg/Kg	1	10/9/2012 2:20:03 PM
1,2,4-Trichlorobenzene	ND	0.20		mg/Kg	1	10/9/2012 2:20:03 PM
2,4,5-Trichlorophenol	ND	0.20		mg/Kg	1	10/9/2012 2:20:03 PM
2,4,6-Trichlorophenol	ND	0.20		mg/Kg	1	10/9/2012 2:20:03 PM
Surr: 2,4,6-Tribromophenol	86.8	21.3-145		%REC	1	10/9/2012 2:20:03 PM
Surr: 2-Fluorobiphenyl	81.7	20-131		%REC	1	10/9/2012 2:20:03 PM
Surr: 2-Fluorophenol	85.3	11.9-130		%REC	1	10/9/2012 2:20:03 PM
Surr: 4-Terphenyl-d14	71.9	25.1-149		%REC	1	10/9/2012 2:20:03 PM
Surr: Nitrobenzene-d5	79.7	25.6-137		%REC	1	10/9/2012 2:20:03 PM
Surr: Phenol-d5	84.0	20.3-132		%REC	1	10/9/2012 2:20:03 PM
METHOD 8260B/5035LOW: VOLATILES						Analyst: RAA
Benzene	ND	0.00123		mg/Kg	1	10/8/2012 7:53:36 PM
Toluene	ND	0.00123		mg/Kg	1	10/8/2012 7:53:36 PM
Ethylbenzene	ND	0.00123		mg/Kg	1	10/8/2012 7:53:36 PM
Xylenes, Total	ND	0.00246		mg/Kg	1	10/8/2012 7:53:36 PM
Methyl tert-butyl ether (MTBE)	ND	0.00123		mg/Kg	1	10/8/2012 7:53:36 PM
1,2,4-Trimethylbenzene	ND	0.00123		mg/Kg	1	10/8/2012 7:53:36 PM
1,3,5-Trimethylbenzene	ND	0.00123		mg/Kg	1	10/8/2012 7:53:36 PM
1,2-Dichloroethane (EDC)	ND	0.00123		mg/Kg	1	10/8/2012 7:53:36 PM
1,2-Dibromoethane (EDB)	ND	0.00123		mg/Kg	1	10/8/2012 7:53:36 PM
Naphthalene	ND	0.00246		mg/Kg	1	10/8/2012 7:53:36 PM
1-Methylnaphthalene	ND	0.00492		mg/Kg	1	10/8/2012 7:53:36 PM
2-Methylnaphthalene	ND	0.00492		mg/Kg	1	10/8/2012 7:53:36 PM
Acetone	0.0190	0.0123		mg/Kg	1	10/8/2012 7:53:36 PM
Bromobenzene	ND	0.00123		mg/Kg	1	10/8/2012 7:53:36 PM
Bromodichloromethane	ND	0.00123		mg/Kg	1	10/8/2012 7:53:36 PM
Bromoform	ND	0.00123		mg/Kg	1	10/8/2012 7:53:36 PM
Bromomethane	ND	0.00123		mg/Kg	1	10/8/2012 7:53:36 PM
2-Butanone	ND	0.0123		mg/Kg	1	10/8/2012 7:53:36 PM
Carbon tetrachloride	ND	0.00123		mg/Kg	1	10/8/2012 7:53:36 PM
Chlorobenzene	ND	0.00123		mg/Kg	1	10/8/2012 7:53:36 PM
Chloroethane	ND	0.00123		mg/Kg	1	10/8/2012 7:53:36 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210279

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-3 (10-11')

Project: SWMU NO.1

Collection Date: 10/2/2012 4:35:00 PM

Lab ID: 1210279-009

Matrix: SOIL

Received Date: 10/4/2012 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
METHOD 8260B/5035LOW: VOLATILES						Analyst: RAA
Chloroform	ND	0.00123		mg/Kg	1	10/8/2012 7:53:36 PM
Chloromethane	ND	0.00123		mg/Kg	1	10/8/2012 7:53:36 PM
2-Chlorotoluene	ND	0.00123		mg/Kg	1	10/8/2012 7:53:36 PM
Carbon disulfide	ND	0.0123		mg/Kg	1	10/8/2012 7:53:36 PM
4-Chlorotoluene	ND	0.00123		mg/Kg	1	10/8/2012 7:53:36 PM
cis-1,2-DCE	ND	0.00123		mg/Kg	1	10/8/2012 7:53:36 PM
cis-1,3-Dichloropropene	ND	0.00123		mg/Kg	1	10/8/2012 7:53:36 PM
1,2-Dibromo-3-chloropropane	ND	0.00123		mg/Kg	1	10/8/2012 7:53:36 PM
Dibromochloromethane	ND	0.00123		mg/Kg	1	10/8/2012 7:53:36 PM
Dibromomethane	ND	0.00123		mg/Kg	1	10/8/2012 7:53:36 PM
1,2-Dichlorobenzene	ND	0.00123		mg/Kg	1	10/8/2012 7:53:36 PM
1,3-Dichlorobenzene	ND	0.00123		mg/Kg	1	10/8/2012 7:53:36 PM
1,4-Dichlorobenzene	ND	0.00123		mg/Kg	1	10/8/2012 7:53:36 PM
Dichlorodifluoromethane	ND	0.00123		mg/Kg	1	10/8/2012 7:53:36 PM
1,1-Dichloroethane	ND	0.00123		mg/Kg	1	10/8/2012 7:53:36 PM
1,1-Dichloroethene	ND	0.00123		mg/Kg	1	10/8/2012 7:53:36 PM
1,2-Dichloropropane	ND	0.00123		mg/Kg	1	10/8/2012 7:53:36 PM
1,3-Dichloropropane	ND	0.00123		mg/Kg	1	10/8/2012 7:53:36 PM
2,2-Dichloropropane	ND	0.00123		mg/Kg	1	10/8/2012 7:53:36 PM
1,1-Dichloropropene	ND	0.00123		mg/Kg	1	10/8/2012 7:53:36 PM
Hexachlorobutadiene	ND	0.00123		mg/Kg	1	10/8/2012 7:53:36 PM
Isopropylbenzene	ND	0.00123		mg/Kg	1	10/8/2012 7:53:36 PM
4-Isopropyltoluene	ND	0.00123		mg/Kg	1	10/8/2012 7:53:36 PM
Methylene chloride	ND	0.00369		mg/Kg	1	10/8/2012 7:53:36 PM
n-Butylbenzene	ND	0.00123		mg/Kg	1	10/8/2012 7:53:36 PM
2-Hexanone	ND	0.0123		mg/Kg	1	10/8/2012 7:53:36 PM
n-Propylbenzene	ND	0.00123		mg/Kg	1	10/8/2012 7:53:36 PM
sec-Butylbenzene	ND	0.00123		mg/Kg	1	10/8/2012 7:53:36 PM
Styrene	ND	0.00123		mg/Kg	1	10/8/2012 7:53:36 PM
4-Methyl-2-pentanone	ND	0.0123		mg/Kg	1	10/8/2012 7:53:36 PM
tert-Butylbenzene	ND	0.00123		mg/Kg	1	10/8/2012 7:53:36 PM
1,1,1,2-Tetrachloroethane	ND	0.00123		mg/Kg	1	10/8/2012 7:53:36 PM
1,1,2,2-Tetrachloroethane	ND	0.00123		mg/Kg	1	10/8/2012 7:53:36 PM
Tetrachloroethene (PCE)	ND	0.00123		mg/Kg	1	10/8/2012 7:53:36 PM
trans-1,2-DCE	ND	0.00123		mg/Kg	1	10/8/2012 7:53:36 PM
trans-1,3-Dichloropropene	ND	0.00123		mg/Kg	1	10/8/2012 7:53:36 PM
1,2,3-Trichlorobenzene	ND	0.00123		mg/Kg	1	10/8/2012 7:53:36 PM
1,2,4-Trichlorobenzene	ND	0.00123		mg/Kg	1	10/8/2012 7:53:36 PM
1,1,1-Trichloroethane	ND	0.00123		mg/Kg	1	10/8/2012 7:53:36 PM
1,1,2-Trichloroethane	ND	0.00123		mg/Kg	1	10/8/2012 7:53:36 PM
Trichloroethene (TCE)	ND	0.00123		mg/Kg	1	10/8/2012 7:53:36 PM
Trichlorofluoromethane	ND	0.00123		mg/Kg	1	10/8/2012 7:53:36 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210279

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-3 (10-11')

Project: SWMU NO.1

Collection Date: 10/2/2012 4:35:00 PM

Lab ID: 1210279-009

Matrix: SOIL

Received Date: 10/4/2012 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
METHOD 8260B/5035LOW: VOLATILES						Analyst: RAA
1,2,3-Trichloropropane	ND	0.00123		mg/Kg	1	10/8/2012 7:53:36 PM
Vinyl chloride	ND	0.00123		mg/Kg	1	10/8/2012 7:53:36 PM
Surr: 1,2-Dichloroethane-d4	99.2	70-130		%REC	1	10/8/2012 7:53:36 PM
Surr: 4-Bromofluorobenzene	88.1	70-130		%REC	1	10/8/2012 7:53:36 PM
Surr: Dibromofluoromethane	100	70-130		%REC	1	10/8/2012 7:53:36 PM
Surr: Toluene-d8	92.4	70-130		%REC	1	10/8/2012 7:53:36 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210279

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-3 (11-11.25')

Project: SWMU NO.1

Collection Date: 10/2/2012 4:50:00 PM

Lab ID: 1210279-010

Matrix: SOIL

Received Date: 10/4/2012 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: JMP
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	10/7/2012 3:57:50 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	10/7/2012 3:57:50 AM
Surr: DNOP	94.7	77.6-140		%REC	1	10/7/2012 3:57:50 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	10/5/2012 12:35:00 PM
Surr: BFB	99.5	84-116		%REC	1	10/5/2012 12:35:00 PM
EPA METHOD 7471: MERCURY						Analyst: IDC
Mercury	ND	0.033		mg/kg	1	10/9/2012 10:57:38 AM
EPA METHOD 6010B: SOIL METALS						Analyst: JLF
Antimony	ND	5.0		mg/Kg	2	10/23/2012 7:17:10 PM
Arsenic	ND	5.0		mg/Kg	2	10/17/2012 11:16:34 AM
Barium	110	0.50		mg/Kg	5	10/17/2012 1:40:18 PM
Beryllium	0.63	0.30		mg/Kg	2	10/17/2012 11:16:34 AM
Cadmium	ND	0.20		mg/Kg	2	10/17/2012 11:16:34 AM
Chromium	4.8	0.60		mg/Kg	2	10/17/2012 11:16:34 AM
Cobalt	3.2	0.60		mg/Kg	2	10/17/2012 11:16:34 AM
Iron	10000	500		mg/Kg	500	10/17/2012 1:42:41 PM
Lead	4.0	0.50		mg/Kg	2	10/17/2012 11:16:34 AM
Manganese	380	1.0		mg/Kg	10	10/23/2012 7:19:37 PM
Nickel	5.0	1.0		mg/Kg	2	10/17/2012 11:16:34 AM
Selenium	ND	5.0		mg/Kg	2	10/23/2012 7:17:10 PM
Silver	ND	0.50		mg/Kg	2	10/17/2012 11:16:34 AM
Vanadium	10	5.0		mg/Kg	2	10/17/2012 11:16:34 AM
Zinc	10	5.0		mg/Kg	2	10/17/2012 11:16:34 AM
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Acenaphthene	ND	0.20		mg/Kg	1	10/9/2012 2:50:19 PM
Acenaphthylene	ND	0.20		mg/Kg	1	10/9/2012 2:50:19 PM
Aniline	ND	0.20		mg/Kg	1	10/9/2012 2:50:19 PM
Anthracene	ND	0.20		mg/Kg	1	10/9/2012 2:50:19 PM
Azobenzene	ND	0.20		mg/Kg	1	10/9/2012 2:50:19 PM
Benz(a)anthracene	ND	0.20		mg/Kg	1	10/9/2012 2:50:19 PM
Benzo(a)pyrene	ND	0.20		mg/Kg	1	10/9/2012 2:50:19 PM
Benzo(b)fluoranthene	ND	0.20		mg/Kg	1	10/9/2012 2:50:19 PM
Benzo(g,h,i)perylene	ND	0.20		mg/Kg	1	10/9/2012 2:50:19 PM
Benzo(k)fluoranthene	ND	0.20		mg/Kg	1	10/9/2012 2:50:19 PM
Benzoic acid	ND	0.50		mg/Kg	1	10/9/2012 2:50:19 PM
Benzyl alcohol	ND	0.20		mg/Kg	1	10/9/2012 2:50:19 PM
Bis(2-chloroethoxy)methane	ND	0.20		mg/Kg	1	10/9/2012 2:50:19 PM
Bis(2-chloroethyl)ether	ND	0.20		mg/Kg	1	10/9/2012 2:50:19 PM
Bis(2-chloroisopropyl)ether	ND	0.20		mg/Kg	1	10/9/2012 2:50:19 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210279

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-3 (11-11.25')

Project: SWMU NO.1

Collection Date: 10/2/2012 4:50:00 PM

Lab ID: 1210279-010

Matrix: SOIL

Received Date: 10/4/2012 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Bis(2-ethylhexyl)phthalate	ND	0.50		mg/Kg	1	10/9/2012 2:50:19 PM
4-Bromophenyl phenyl ether	ND	0.20		mg/Kg	1	10/9/2012 2:50:19 PM
Butyl benzyl phthalate	ND	0.20		mg/Kg	1	10/9/2012 2:50:19 PM
Carbazole	ND	0.20		mg/Kg	1	10/9/2012 2:50:19 PM
4-Chloro-3-methylphenol	ND	0.50		mg/Kg	1	10/9/2012 2:50:19 PM
4-Chloroaniline	ND	0.50		mg/Kg	1	10/9/2012 2:50:19 PM
2-Chloronaphthalene	ND	0.25		mg/Kg	1	10/9/2012 2:50:19 PM
2-Chlorophenol	ND	0.20		mg/Kg	1	10/9/2012 2:50:19 PM
4-Chlorophenyl phenyl ether	ND	0.20		mg/Kg	1	10/9/2012 2:50:19 PM
Chrysene	ND	0.20		mg/Kg	1	10/9/2012 2:50:19 PM
Di-n-butyl phthalate	ND	0.50		mg/Kg	1	10/9/2012 2:50:19 PM
Di-n-octyl phthalate	ND	0.25		mg/Kg	1	10/9/2012 2:50:19 PM
Dibenz(a,h)anthracene	ND	0.20		mg/Kg	1	10/9/2012 2:50:19 PM
Dibenzofuran	ND	0.20		mg/Kg	1	10/9/2012 2:50:19 PM
1,2-Dichlorobenzene	ND	0.20		mg/Kg	1	10/9/2012 2:50:19 PM
1,3-Dichlorobenzene	ND	0.20		mg/Kg	1	10/9/2012 2:50:19 PM
1,4-Dichlorobenzene	ND	0.20		mg/Kg	1	10/9/2012 2:50:19 PM
3,3'-Dichlorobenzidine	ND	0.25		mg/Kg	1	10/9/2012 2:50:19 PM
Diethyl phthalate	ND	0.20		mg/Kg	1	10/9/2012 2:50:19 PM
Dimethyl phthalate	ND	0.20		mg/Kg	1	10/9/2012 2:50:19 PM
2,4-Dichlorophenol	ND	0.40		mg/Kg	1	10/9/2012 2:50:19 PM
2,4-Dimethylphenol	ND	0.30		mg/Kg	1	10/9/2012 2:50:19 PM
4,6-Dinitro-2-methylphenol	ND	0.50		mg/Kg	1	10/9/2012 2:50:19 PM
2,4-Dinitrophenol	ND	0.40		mg/Kg	1	10/9/2012 2:50:19 PM
2,4-Dinitrotoluene	ND	0.50		mg/Kg	1	10/9/2012 2:50:19 PM
2,6-Dinitrotoluene	ND	0.50		mg/Kg	1	10/9/2012 2:50:19 PM
Fluoranthene	ND	0.20		mg/Kg	1	10/9/2012 2:50:19 PM
Fluorene	ND	0.20		mg/Kg	1	10/9/2012 2:50:19 PM
Hexachlorobenzene	ND	0.20		mg/Kg	1	10/9/2012 2:50:19 PM
Hexachlorobutadiene	ND	0.20		mg/Kg	1	10/9/2012 2:50:19 PM
Hexachlorocyclopentadiene	ND	0.20		mg/Kg	1	10/9/2012 2:50:19 PM
Hexachloroethane	ND	0.20		mg/Kg	1	10/9/2012 2:50:19 PM
Indeno(1,2,3-cd)pyrene	ND	0.20		mg/Kg	1	10/9/2012 2:50:19 PM
Isophorone	ND	0.50		mg/Kg	1	10/9/2012 2:50:19 PM
1-Methylnaphthalene	ND	0.20		mg/Kg	1	10/9/2012 2:50:19 PM
2-Methylnaphthalene	ND	0.20		mg/Kg	1	10/9/2012 2:50:19 PM
2-Methylphenol	ND	0.50		mg/Kg	1	10/9/2012 2:50:19 PM
3+4-Methylphenol	ND	0.20		mg/Kg	1	10/9/2012 2:50:19 PM
N-Nitrosodi-n-propylamine	ND	0.20		mg/Kg	1	10/9/2012 2:50:19 PM
N-Nitrosodiphenylamine	ND	0.20		mg/Kg	1	10/9/2012 2:50:19 PM
Naphthalene	ND	0.20		mg/Kg	1	10/9/2012 2:50:19 PM
2-Nitroaniline	ND	0.20		mg/Kg	1	10/9/2012 2:50:19 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210279

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-3 (11-11.25')

Project: SWMU NO.1

Collection Date: 10/2/2012 4:50:00 PM

Lab ID: 1210279-010

Matrix: SOIL

Received Date: 10/4/2012 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
3-Nitroaniline	ND	0.20		mg/Kg	1	10/9/2012 2:50:19 PM
4-Nitroaniline	ND	0.40		mg/Kg	1	10/9/2012 2:50:19 PM
Nitrobenzene	ND	0.50		mg/Kg	1	10/9/2012 2:50:19 PM
2-Nitrophenol	ND	0.20		mg/Kg	1	10/9/2012 2:50:19 PM
4-Nitrophenol	ND	0.25		mg/Kg	1	10/9/2012 2:50:19 PM
Pentachlorophenol	ND	0.40		mg/Kg	1	10/9/2012 2:50:19 PM
Phenanthrene	ND	0.20		mg/Kg	1	10/9/2012 2:50:19 PM
Phenol	ND	0.20		mg/Kg	1	10/9/2012 2:50:19 PM
Pyrene	ND	0.20		mg/Kg	1	10/9/2012 2:50:19 PM
Pyridine	ND	0.50		mg/Kg	1	10/9/2012 2:50:19 PM
1,2,4-Trichlorobenzene	ND	0.20		mg/Kg	1	10/9/2012 2:50:19 PM
2,4,5-Trichlorophenol	ND	0.20		mg/Kg	1	10/9/2012 2:50:19 PM
2,4,6-Trichlorophenol	ND	0.20		mg/Kg	1	10/9/2012 2:50:19 PM
Surr: 2,4,6-Tribromophenol	83.8	21.3-145		%REC	1	10/9/2012 2:50:19 PM
Surr: 2-Fluorobiphenyl	76.6	20-131		%REC	1	10/9/2012 2:50:19 PM
Surr: 2-Fluorophenol	73.1	11.9-130		%REC	1	10/9/2012 2:50:19 PM
Surr: 4-Terphenyl-d14	66.9	25.1-149		%REC	1	10/9/2012 2:50:19 PM
Surr: Nitrobenzene-d5	73.7	25.6-137		%REC	1	10/9/2012 2:50:19 PM
Surr: Phenol-d5	77.1	20.3-132		%REC	1	10/9/2012 2:50:19 PM
METHOD 8260B/5035LOW: VOLATILES						Analyst: RAA
Benzene	ND	0.00108		mg/Kg	1	10/8/2012 8:24:25 PM
Toluene	ND	0.00108		mg/Kg	1	10/8/2012 8:24:25 PM
Ethylbenzene	ND	0.00108		mg/Kg	1	10/8/2012 8:24:25 PM
Xylenes, Total	ND	0.00217		mg/Kg	1	10/8/2012 8:24:25 PM
Methyl tert-butyl ether (MTBE)	0.00115	0.00108		mg/Kg	1	10/8/2012 8:24:25 PM
1,2,4-Trimethylbenzene	ND	0.00108		mg/Kg	1	10/8/2012 8:24:25 PM
1,3,5-Trimethylbenzene	ND	0.00108		mg/Kg	1	10/8/2012 8:24:25 PM
1,2-Dichloroethane (EDC)	ND	0.00108		mg/Kg	1	10/8/2012 8:24:25 PM
1,2-Dibromoethane (EDB)	ND	0.00108		mg/Kg	1	10/8/2012 8:24:25 PM
Naphthalene	ND	0.00217		mg/Kg	1	10/8/2012 8:24:25 PM
1-Methylnaphthalene	ND	0.00434		mg/Kg	1	10/8/2012 8:24:25 PM
2-Methylnaphthalene	ND	0.00434		mg/Kg	1	10/8/2012 8:24:25 PM
Acetone	0.0469	0.0108		mg/Kg	1	10/8/2012 8:24:25 PM
Bromobenzene	ND	0.00108		mg/Kg	1	10/8/2012 8:24:25 PM
Bromodichloromethane	ND	0.00108		mg/Kg	1	10/8/2012 8:24:25 PM
Bromoform	ND	0.00108		mg/Kg	1	10/8/2012 8:24:25 PM
Bromomethane	ND	0.00108		mg/Kg	1	10/8/2012 8:24:25 PM
2-Butanone	ND	0.0108		mg/Kg	1	10/8/2012 8:24:25 PM
Carbon tetrachloride	ND	0.00108		mg/Kg	1	10/8/2012 8:24:25 PM
Chlorobenzene	ND	0.00108		mg/Kg	1	10/8/2012 8:24:25 PM
Chloroethane	ND	0.00108		mg/Kg	1	10/8/2012 8:24:25 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210279

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-3 (11-11.25')

Project: SWMU NO.1

Collection Date: 10/2/2012 4:50:00 PM

Lab ID: 1210279-010

Matrix: SOIL

Received Date: 10/4/2012 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
METHOD 8260B/5035LOW: VOLATILES						Analyst: RAA
Chloroform	ND	0.00108		mg/Kg	1	10/8/2012 8:24:25 PM
Chloromethane	ND	0.00108		mg/Kg	1	10/8/2012 8:24:25 PM
2-Chlorotoluene	ND	0.00108		mg/Kg	1	10/8/2012 8:24:25 PM
Carbon disulfide	ND	0.0108		mg/Kg	1	10/8/2012 8:24:25 PM
4-Chlorotoluene	ND	0.00108		mg/Kg	1	10/8/2012 8:24:25 PM
cis-1,2-DCE	ND	0.00108		mg/Kg	1	10/8/2012 8:24:25 PM
cis-1,3-Dichloropropene	ND	0.00108		mg/Kg	1	10/8/2012 8:24:25 PM
1,2-Dibromo-3-chloropropane	ND	0.00108		mg/Kg	1	10/8/2012 8:24:25 PM
Dibromochloromethane	ND	0.00108		mg/Kg	1	10/8/2012 8:24:25 PM
Dibromomethane	ND	0.00108		mg/Kg	1	10/8/2012 8:24:25 PM
1,2-Dichlorobenzene	ND	0.00108		mg/Kg	1	10/8/2012 8:24:25 PM
1,3-Dichlorobenzene	ND	0.00108		mg/Kg	1	10/8/2012 8:24:25 PM
1,4-Dichlorobenzene	ND	0.00108		mg/Kg	1	10/8/2012 8:24:25 PM
Dichlorodifluoromethane	ND	0.00108		mg/Kg	1	10/8/2012 8:24:25 PM
1,1-Dichloroethane	ND	0.00108		mg/Kg	1	10/8/2012 8:24:25 PM
1,1-Dichloroethene	ND	0.00108		mg/Kg	1	10/8/2012 8:24:25 PM
1,2-Dichloropropane	ND	0.00108		mg/Kg	1	10/8/2012 8:24:25 PM
1,3-Dichloropropane	ND	0.00108		mg/Kg	1	10/8/2012 8:24:25 PM
2,2-Dichloropropane	ND	0.00108		mg/Kg	1	10/8/2012 8:24:25 PM
1,1-Dichloropropene	ND	0.00108		mg/Kg	1	10/8/2012 8:24:25 PM
Hexachlorobutadiene	ND	0.00108		mg/Kg	1	10/8/2012 8:24:25 PM
Isopropylbenzene	ND	0.00108		mg/Kg	1	10/8/2012 8:24:25 PM
4-Isopropyltoluene	ND	0.00108		mg/Kg	1	10/8/2012 8:24:25 PM
Methylene chloride	ND	0.00325		mg/Kg	1	10/8/2012 8:24:25 PM
n-Butylbenzene	ND	0.00108		mg/Kg	1	10/8/2012 8:24:25 PM
2-Hexanone	ND	0.0108		mg/Kg	1	10/8/2012 8:24:25 PM
n-Propylbenzene	ND	0.00108		mg/Kg	1	10/8/2012 8:24:25 PM
sec-Butylbenzene	ND	0.00108		mg/Kg	1	10/8/2012 8:24:25 PM
Styrene	ND	0.00108		mg/Kg	1	10/8/2012 8:24:25 PM
4-Methyl-2-pentanone	ND	0.0108		mg/Kg	1	10/8/2012 8:24:25 PM
tert-Butylbenzene	ND	0.00108		mg/Kg	1	10/8/2012 8:24:25 PM
1,1,1,2-Tetrachloroethane	ND	0.00108		mg/Kg	1	10/8/2012 8:24:25 PM
1,1,2,2-Tetrachloroethane	ND	0.00108		mg/Kg	1	10/8/2012 8:24:25 PM
Tetrachloroethene (PCE)	ND	0.00108		mg/Kg	1	10/8/2012 8:24:25 PM
trans-1,2-DCE	ND	0.00108		mg/Kg	1	10/8/2012 8:24:25 PM
trans-1,3-Dichloropropene	ND	0.00108		mg/Kg	1	10/8/2012 8:24:25 PM
1,2,3-Trichlorobenzene	ND	0.00108		mg/Kg	1	10/8/2012 8:24:25 PM
1,2,4-Trichlorobenzene	ND	0.00108		mg/Kg	1	10/8/2012 8:24:25 PM
1,1,1-Trichloroethane	ND	0.00108		mg/Kg	1	10/8/2012 8:24:25 PM
1,1,2-Trichloroethane	ND	0.00108		mg/Kg	1	10/8/2012 8:24:25 PM
Trichloroethene (TCE)	ND	0.00108		mg/Kg	1	10/8/2012 8:24:25 PM
Trichlorofluoromethane	ND	0.00108		mg/Kg	1	10/8/2012 8:24:25 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210279

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-3 (11-11.25')

Project: SWMU NO.1

Collection Date: 10/2/2012 4:50:00 PM

Lab ID: 1210279-010

Matrix: SOIL

Received Date: 10/4/2012 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
METHOD 8260B/5035LOW: VOLATILES						Analyst: RAA
1,2,3-Trichloropropane	ND	0.00108		mg/Kg	1	10/8/2012 8:24:25 PM
Vinyl chloride	ND	0.00108		mg/Kg	1	10/8/2012 8:24:25 PM
Surr: 1,2-Dichloroethane-d4	100	70-130		%REC	1	10/8/2012 8:24:25 PM
Surr: 4-Bromofluorobenzene	89.2	70-130		%REC	1	10/8/2012 8:24:25 PM
Surr: Dibromofluoromethane	104	70-130		%REC	1	10/8/2012 8:24:25 PM
Surr: Toluene-d8	89.1	70-130		%REC	1	10/8/2012 8:24:25 PM

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- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210279

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-3 (18.5-19.5')

Project: SWMU NO.1

Collection Date: 10/2/2012 5:10:00 PM

Lab ID: 1210279-011

Matrix: SOIL

Received Date: 10/4/2012 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: JMP
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	10/7/2012 4:22:29 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	10/7/2012 4:22:29 AM
Surr: DNOP	96.0	77.6-140		%REC	1	10/7/2012 4:22:29 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	10/6/2012 2:54:09 AM
Surr: BFB	124	84-116	S	%REC	1	10/6/2012 2:54:09 AM
EPA METHOD 7471: MERCURY						Analyst: IDC
Mercury	ND	0.033		mg/kg	1	10/9/2012 10:59:26 AM
EPA METHOD 6010B: SOIL METALS						Analyst: JLF
Antimony	ND	5.0		mg/Kg	2	10/23/2012 7:22:03 PM
Arsenic	ND	5.0		mg/Kg	2	10/17/2012 11:32:55 AM
Barium	270	1.0		mg/Kg	10	10/17/2012 1:45:34 PM
Beryllium	0.79	0.30		mg/Kg	2	10/17/2012 11:32:55 AM
Cadmium	ND	0.20		mg/Kg	2	10/17/2012 11:32:55 AM
Chromium	9.3	0.60		mg/Kg	2	10/17/2012 11:32:55 AM
Cobalt	5.4	0.60		mg/Kg	2	10/17/2012 11:32:55 AM
Iron	16000	500		mg/Kg	500	10/17/2012 1:48:00 PM
Lead	4.8	0.50		mg/Kg	2	10/17/2012 11:32:55 AM
Manganese	510	2.0		mg/Kg	20	10/23/2012 7:24:33 PM
Nickel	10	1.0		mg/Kg	2	10/17/2012 11:32:55 AM
Selenium	ND	5.0		mg/Kg	2	10/23/2012 7:22:03 PM
Silver	ND	0.50		mg/Kg	2	10/17/2012 11:32:55 AM
Vanadium	11	5.0		mg/Kg	2	10/17/2012 11:32:55 AM
Zinc	15	5.0		mg/Kg	2	10/17/2012 11:32:55 AM
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Acenaphthene	ND	0.20		mg/Kg	1	10/9/2012 5:22:05 PM
Acenaphthylene	ND	0.20		mg/Kg	1	10/9/2012 5:22:05 PM
Aniline	ND	0.20		mg/Kg	1	10/9/2012 5:22:05 PM
Anthracene	ND	0.20		mg/Kg	1	10/9/2012 5:22:05 PM
Azobenzene	ND	0.20		mg/Kg	1	10/9/2012 5:22:05 PM
Benz(a)anthracene	ND	0.20		mg/Kg	1	10/9/2012 5:22:05 PM
Benzo(a)pyrene	ND	0.20		mg/Kg	1	10/9/2012 5:22:05 PM
Benzo(b)fluoranthene	ND	0.20		mg/Kg	1	10/9/2012 5:22:05 PM
Benzo(g,h,i)perylene	ND	0.20		mg/Kg	1	10/9/2012 5:22:05 PM
Benzo(k)fluoranthene	ND	0.20		mg/Kg	1	10/9/2012 5:22:05 PM
Benzoic acid	ND	0.49		mg/Kg	1	10/9/2012 5:22:05 PM
Benzyl alcohol	ND	0.20		mg/Kg	1	10/9/2012 5:22:05 PM
Bis(2-chloroethoxy)methane	ND	0.20		mg/Kg	1	10/9/2012 5:22:05 PM
Bis(2-chloroethyl)ether	ND	0.20		mg/Kg	1	10/9/2012 5:22:05 PM
Bis(2-chloroisopropyl)ether	ND	0.20		mg/Kg	1	10/9/2012 5:22:05 PM

Qualifiers:

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- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210279

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-3 (18.5-19.5')

Project: SWMU NO.1

Collection Date: 10/2/2012 5:10:00 PM

Lab ID: 1210279-011

Matrix: SOIL

Received Date: 10/4/2012 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Bis(2-ethylhexyl)phthalate	ND	0.49		mg/Kg	1	10/9/2012 5:22:05 PM
4-Bromophenyl phenyl ether	ND	0.20		mg/Kg	1	10/9/2012 5:22:05 PM
Butyl benzyl phthalate	ND	0.20		mg/Kg	1	10/9/2012 5:22:05 PM
Carbazole	ND	0.20		mg/Kg	1	10/9/2012 5:22:05 PM
4-Chloro-3-methylphenol	ND	0.49		mg/Kg	1	10/9/2012 5:22:05 PM
4-Chloroaniline	ND	0.49		mg/Kg	1	10/9/2012 5:22:05 PM
2-Chloronaphthalene	ND	0.25		mg/Kg	1	10/9/2012 5:22:05 PM
2-Chlorophenol	ND	0.20		mg/Kg	1	10/9/2012 5:22:05 PM
4-Chlorophenyl phenyl ether	ND	0.20		mg/Kg	1	10/9/2012 5:22:05 PM
Chrysene	ND	0.20		mg/Kg	1	10/9/2012 5:22:05 PM
Di-n-butyl phthalate	ND	0.49		mg/Kg	1	10/9/2012 5:22:05 PM
Di-n-octyl phthalate	ND	0.25		mg/Kg	1	10/9/2012 5:22:05 PM
Dibenz(a,h)anthracene	ND	0.20		mg/Kg	1	10/9/2012 5:22:05 PM
Dibenzofuran	ND	0.20		mg/Kg	1	10/9/2012 5:22:05 PM
1,2-Dichlorobenzene	ND	0.20		mg/Kg	1	10/9/2012 5:22:05 PM
1,3-Dichlorobenzene	ND	0.20		mg/Kg	1	10/9/2012 5:22:05 PM
1,4-Dichlorobenzene	ND	0.20		mg/Kg	1	10/9/2012 5:22:05 PM
3,3'-Dichlorobenzidine	ND	0.25		mg/Kg	1	10/9/2012 5:22:05 PM
Diethyl phthalate	ND	0.20		mg/Kg	1	10/9/2012 5:22:05 PM
Dimethyl phthalate	ND	0.20		mg/Kg	1	10/9/2012 5:22:05 PM
2,4-Dichlorophenol	ND	0.40		mg/Kg	1	10/9/2012 5:22:05 PM
2,4-Dimethylphenol	ND	0.30		mg/Kg	1	10/9/2012 5:22:05 PM
4,6-Dinitro-2-methylphenol	ND	0.49		mg/Kg	1	10/9/2012 5:22:05 PM
2,4-Dinitrophenol	ND	0.40		mg/Kg	1	10/9/2012 5:22:05 PM
2,4-Dinitrotoluene	ND	0.49		mg/Kg	1	10/9/2012 5:22:05 PM
2,6-Dinitrotoluene	ND	0.49		mg/Kg	1	10/9/2012 5:22:05 PM
Fluoranthene	ND	0.20		mg/Kg	1	10/9/2012 5:22:05 PM
Fluorene	ND	0.20		mg/Kg	1	10/9/2012 5:22:05 PM
Hexachlorobenzene	ND	0.20		mg/Kg	1	10/9/2012 5:22:05 PM
Hexachlorobutadiene	ND	0.20		mg/Kg	1	10/9/2012 5:22:05 PM
Hexachlorocyclopentadiene	ND	0.20		mg/Kg	1	10/9/2012 5:22:05 PM
Hexachloroethane	ND	0.20		mg/Kg	1	10/9/2012 5:22:05 PM
Indeno(1,2,3-cd)pyrene	ND	0.20		mg/Kg	1	10/9/2012 5:22:05 PM
Isophorone	ND	0.49		mg/Kg	1	10/9/2012 5:22:05 PM
1-Methylnaphthalene	ND	0.20		mg/Kg	1	10/9/2012 5:22:05 PM
2-Methylnaphthalene	ND	0.20		mg/Kg	1	10/9/2012 5:22:05 PM
2-Methylphenol	ND	0.49		mg/Kg	1	10/9/2012 5:22:05 PM
3+4-Methylphenol	ND	0.20		mg/Kg	1	10/9/2012 5:22:05 PM
N-Nitrosodi-n-propylamine	ND	0.20		mg/Kg	1	10/9/2012 5:22:05 PM
N-Nitrosodiphenylamine	ND	0.20		mg/Kg	1	10/9/2012 5:22:05 PM
Naphthalene	ND	0.20		mg/Kg	1	10/9/2012 5:22:05 PM
2-Nitroaniline	ND	0.20		mg/Kg	1	10/9/2012 5:22:05 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210279

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-3 (18.5-19.5')

Project: SWMU NO.1

Collection Date: 10/2/2012 5:10:00 PM

Lab ID: 1210279-011

Matrix: SOIL

Received Date: 10/4/2012 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
3-Nitroaniline	ND	0.20		mg/Kg	1	10/9/2012 5:22:05 PM
4-Nitroaniline	ND	0.40		mg/Kg	1	10/9/2012 5:22:05 PM
Nitrobenzene	ND	0.49		mg/Kg	1	10/9/2012 5:22:05 PM
2-Nitrophenol	ND	0.20		mg/Kg	1	10/9/2012 5:22:05 PM
4-Nitrophenol	ND	0.25		mg/Kg	1	10/9/2012 5:22:05 PM
Pentachlorophenol	ND	0.40		mg/Kg	1	10/9/2012 5:22:05 PM
Phenanthrene	ND	0.20		mg/Kg	1	10/9/2012 5:22:05 PM
Phenol	ND	0.20		mg/Kg	1	10/9/2012 5:22:05 PM
Pyrene	ND	0.20		mg/Kg	1	10/9/2012 5:22:05 PM
Pyridine	ND	0.49		mg/Kg	1	10/9/2012 5:22:05 PM
1,2,4-Trichlorobenzene	ND	0.20		mg/Kg	1	10/9/2012 5:22:05 PM
2,4,5-Trichlorophenol	ND	0.20		mg/Kg	1	10/9/2012 5:22:05 PM
2,4,6-Trichlorophenol	ND	0.20		mg/Kg	1	10/9/2012 5:22:05 PM
Surr: 2,4,6-Tribromophenol	74.8	21.3-145		%REC	1	10/9/2012 5:22:05 PM
Surr: 2-Fluorobiphenyl	70.5	20-131		%REC	1	10/9/2012 5:22:05 PM
Surr: 2-Fluorophenol	72.6	11.9-130		%REC	1	10/9/2012 5:22:05 PM
Surr: 4-Terphenyl-d14	70.5	25.1-149		%REC	1	10/9/2012 5:22:05 PM
Surr: Nitrobenzene-d5	72.2	25.6-137		%REC	1	10/9/2012 5:22:05 PM
Surr: Phenol-d5	76.1	20.3-132		%REC	1	10/9/2012 5:22:05 PM
METHOD 8260B/5035LOW: VOLATILES						Analyst: RAA
Benzene	0.00269	0.00129		mg/Kg	1	10/8/2012 8:55:09 PM
Toluene	0.00164	0.00129		mg/Kg	1	10/8/2012 8:55:09 PM
Ethylbenzene	ND	0.00129		mg/Kg	1	10/8/2012 8:55:09 PM
Xylenes, Total	ND	0.00258		mg/Kg	1	10/8/2012 8:55:09 PM
Methyl tert-butyl ether (MTBE)	0.00256	0.00129		mg/Kg	1	10/8/2012 8:55:09 PM
1,2,4-Trimethylbenzene	ND	0.00129		mg/Kg	1	10/8/2012 8:55:09 PM
1,3,5-Trimethylbenzene	ND	0.00129		mg/Kg	1	10/8/2012 8:55:09 PM
1,2-Dichloroethane (EDC)	ND	0.00129		mg/Kg	1	10/8/2012 8:55:09 PM
1,2-Dibromoethane (EDB)	ND	0.00129		mg/Kg	1	10/8/2012 8:55:09 PM
Naphthalene	ND	0.00258		mg/Kg	1	10/8/2012 8:55:09 PM
1-Methylnaphthalene	ND	0.00517		mg/Kg	1	10/8/2012 8:55:09 PM
2-Methylnaphthalene	ND	0.00517		mg/Kg	1	10/8/2012 8:55:09 PM
Acetone	ND	0.0129		mg/Kg	1	10/8/2012 8:55:09 PM
Bromobenzene	ND	0.00129		mg/Kg	1	10/8/2012 8:55:09 PM
Bromodichloromethane	ND	0.00129		mg/Kg	1	10/8/2012 8:55:09 PM
Bromoform	ND	0.00129		mg/Kg	1	10/8/2012 8:55:09 PM
Bromomethane	ND	0.00129		mg/Kg	1	10/8/2012 8:55:09 PM
2-Butanone	ND	0.0129		mg/Kg	1	10/8/2012 8:55:09 PM
Carbon tetrachloride	ND	0.00129		mg/Kg	1	10/8/2012 8:55:09 PM
Chlorobenzene	ND	0.00129		mg/Kg	1	10/8/2012 8:55:09 PM
Chloroethane	ND	0.00129		mg/Kg	1	10/8/2012 8:55:09 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210279

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-3 (18.5-19.5')

Project: SWMU NO.1

Collection Date: 10/2/2012 5:10:00 PM

Lab ID: 1210279-011

Matrix: SOIL

Received Date: 10/4/2012 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
METHOD 8260B/5035LOW: VOLATILES						Analyst: RAA
Chloroform	ND	0.00129		mg/Kg	1	10/8/2012 8:55:09 PM
Chloromethane	ND	0.00129		mg/Kg	1	10/8/2012 8:55:09 PM
2-Chlorotoluene	ND	0.00129		mg/Kg	1	10/8/2012 8:55:09 PM
Carbon disulfide	ND	0.0129		mg/Kg	1	10/8/2012 8:55:09 PM
4-Chlorotoluene	ND	0.00129		mg/Kg	1	10/8/2012 8:55:09 PM
cis-1,2-DCE	ND	0.00129		mg/Kg	1	10/8/2012 8:55:09 PM
cis-1,3-Dichloropropene	ND	0.00129		mg/Kg	1	10/8/2012 8:55:09 PM
1,2-Dibromo-3-chloropropane	ND	0.00129		mg/Kg	1	10/8/2012 8:55:09 PM
Dibromochloromethane	ND	0.00129		mg/Kg	1	10/8/2012 8:55:09 PM
Dibromomethane	ND	0.00129		mg/Kg	1	10/8/2012 8:55:09 PM
1,2-Dichlorobenzene	ND	0.00129		mg/Kg	1	10/8/2012 8:55:09 PM
1,3-Dichlorobenzene	ND	0.00129		mg/Kg	1	10/8/2012 8:55:09 PM
1,4-Dichlorobenzene	ND	0.00129		mg/Kg	1	10/8/2012 8:55:09 PM
Dichlorodifluoromethane	ND	0.00129		mg/Kg	1	10/8/2012 8:55:09 PM
1,1-Dichloroethane	ND	0.00129		mg/Kg	1	10/8/2012 8:55:09 PM
1,1-Dichloroethene	ND	0.00129		mg/Kg	1	10/8/2012 8:55:09 PM
1,2-Dichloropropane	ND	0.00129		mg/Kg	1	10/8/2012 8:55:09 PM
1,3-Dichloropropane	ND	0.00129		mg/Kg	1	10/8/2012 8:55:09 PM
2,2-Dichloropropane	ND	0.00129		mg/Kg	1	10/8/2012 8:55:09 PM
1,1-Dichloropropene	ND	0.00129		mg/Kg	1	10/8/2012 8:55:09 PM
Hexachlorobutadiene	ND	0.00129		mg/Kg	1	10/8/2012 8:55:09 PM
Isopropylbenzene	ND	0.00129		mg/Kg	1	10/8/2012 8:55:09 PM
4-Isopropyltoluene	ND	0.00129		mg/Kg	1	10/8/2012 8:55:09 PM
Methylene chloride	ND	0.00388		mg/Kg	1	10/8/2012 8:55:09 PM
n-Butylbenzene	ND	0.00129		mg/Kg	1	10/8/2012 8:55:09 PM
2-Hexanone	ND	0.0129		mg/Kg	1	10/8/2012 8:55:09 PM
n-Propylbenzene	ND	0.00129		mg/Kg	1	10/8/2012 8:55:09 PM
sec-Butylbenzene	ND	0.00129		mg/Kg	1	10/8/2012 8:55:09 PM
Styrene	ND	0.00129		mg/Kg	1	10/8/2012 8:55:09 PM
4-Methyl-2-pentanone	ND	0.0129		mg/Kg	1	10/8/2012 8:55:09 PM
tert-Butylbenzene	ND	0.00129		mg/Kg	1	10/8/2012 8:55:09 PM
1,1,1,2-Tetrachloroethane	ND	0.00129		mg/Kg	1	10/8/2012 8:55:09 PM
1,1,2,2-Tetrachloroethane	ND	0.00129		mg/Kg	1	10/8/2012 8:55:09 PM
Tetrachloroethene (PCE)	ND	0.00129		mg/Kg	1	10/8/2012 8:55:09 PM
trans-1,2-DCE	ND	0.00129		mg/Kg	1	10/8/2012 8:55:09 PM
trans-1,3-Dichloropropene	ND	0.00129		mg/Kg	1	10/8/2012 8:55:09 PM
1,2,3-Trichlorobenzene	ND	0.00129		mg/Kg	1	10/8/2012 8:55:09 PM
1,2,4-Trichlorobenzene	ND	0.00129		mg/Kg	1	10/8/2012 8:55:09 PM
1,1,1-Trichloroethane	ND	0.00129		mg/Kg	1	10/8/2012 8:55:09 PM
1,1,2-Trichloroethane	ND	0.00129		mg/Kg	1	10/8/2012 8:55:09 PM
Trichloroethene (TCE)	ND	0.00129		mg/Kg	1	10/8/2012 8:55:09 PM
Trichlorofluoromethane	ND	0.00129		mg/Kg	1	10/8/2012 8:55:09 PM

Qualifiers:

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- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210279

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-3 (18.5-19.5')

Project: SWMU NO.1

Collection Date: 10/2/2012 5:10:00 PM

Lab ID: 1210279-011

Matrix: SOIL

Received Date: 10/4/2012 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
METHOD 8260B/5035LOW: VOLATILES						Analyst: RAA
1,2,3-Trichloropropane	ND	0.00129		mg/Kg	1	10/8/2012 8:55:09 PM
Vinyl chloride	ND	0.00129		mg/Kg	1	10/8/2012 8:55:09 PM
Surr: 1,2-Dichloroethane-d4	100	70-130		%REC	1	10/8/2012 8:55:09 PM
Surr: 4-Bromofluorobenzene	92.0	70-130		%REC	1	10/8/2012 8:55:09 PM
Surr: Dibromofluoromethane	103	70-130		%REC	1	10/8/2012 8:55:09 PM
Surr: Toluene-d8	88.3	70-130		%REC	1	10/8/2012 8:55:09 PM

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- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
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- ND Not Detected at the Reporting Limit
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Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210279

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-3 (19.5-20')

Project: SWMU NO.1

Collection Date: 10/2/2012 5:25:00 PM

Lab ID: 1210279-012

Matrix: SOIL

Received Date: 10/4/2012 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: JMP
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	10/7/2012 4:47:05 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	10/7/2012 4:47:05 AM
Surr: DNOP	96.2	77.6-140		%REC	1	10/7/2012 4:47:05 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	10/6/2012 4:55:02 AM
Surr: BFB	110	84-116		%REC	1	10/6/2012 4:55:02 AM
EPA METHOD 7471: MERCURY						Analyst: IDC
Mercury	ND	0.033		mg/kg	1	10/9/2012 11:01:18 AM
EPA METHOD 6010B: SOIL METALS						Analyst: JLF
Antimony	ND	5.0		mg/Kg	2	10/23/2012 7:26:58 PM
Arsenic	ND	5.0		mg/Kg	2	10/17/2012 11:38:08 AM
Barium	400	1.0		mg/Kg	10	10/17/2012 2:00:57 PM
Beryllium	0.83	0.30		mg/Kg	2	10/17/2012 11:38:08 AM
Cadmium	ND	0.20		mg/Kg	2	10/17/2012 11:38:08 AM
Chromium	10	0.60		mg/Kg	2	10/17/2012 11:38:08 AM
Cobalt	5.7	0.60		mg/Kg	2	10/17/2012 11:38:08 AM
Iron	16000	500		mg/Kg	500	10/17/2012 2:05:01 PM
Lead	2.8	0.50		mg/Kg	2	10/17/2012 11:38:08 AM
Manganese	610	2.0		mg/Kg	20	10/23/2012 7:36:44 PM
Nickel	12	1.0		mg/Kg	2	10/17/2012 11:38:08 AM
Selenium	ND	5.0		mg/Kg	2	10/23/2012 7:26:58 PM
Silver	ND	0.50		mg/Kg	2	10/17/2012 11:38:08 AM
Vanadium	10	5.0		mg/Kg	2	10/17/2012 11:38:08 AM
Zinc	16	5.0		mg/Kg	2	10/17/2012 11:38:08 AM
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Acenaphthene	ND	0.20		mg/Kg	1	10/9/2012 5:52:19 PM
Acenaphthylene	ND	0.20		mg/Kg	1	10/9/2012 5:52:19 PM
Aniline	ND	0.20		mg/Kg	1	10/9/2012 5:52:19 PM
Anthracene	ND	0.20		mg/Kg	1	10/9/2012 5:52:19 PM
Azobenzene	ND	0.20		mg/Kg	1	10/9/2012 5:52:19 PM
Benz(a)anthracene	ND	0.20		mg/Kg	1	10/9/2012 5:52:19 PM
Benzo(a)pyrene	ND	0.20		mg/Kg	1	10/9/2012 5:52:19 PM
Benzo(b)fluoranthene	ND	0.20		mg/Kg	1	10/9/2012 5:52:19 PM
Benzo(g,h,i)perylene	ND	0.20		mg/Kg	1	10/9/2012 5:52:19 PM
Benzo(k)fluoranthene	ND	0.20		mg/Kg	1	10/9/2012 5:52:19 PM
Benzoic acid	ND	0.50		mg/Kg	1	10/9/2012 5:52:19 PM
Benzyl alcohol	ND	0.20		mg/Kg	1	10/9/2012 5:52:19 PM
Bis(2-chloroethoxy)methane	ND	0.20		mg/Kg	1	10/9/2012 5:52:19 PM
Bis(2-chloroethyl)ether	ND	0.20		mg/Kg	1	10/9/2012 5:52:19 PM
Bis(2-chloroisopropyl)ether	ND	0.20		mg/Kg	1	10/9/2012 5:52:19 PM

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- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210279

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-3 (19.5-20')

Project: SWMU NO.1

Collection Date: 10/2/2012 5:25:00 PM

Lab ID: 1210279-012

Matrix: SOIL

Received Date: 10/4/2012 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Bis(2-ethylhexyl)phthalate	ND	0.50		mg/Kg	1	10/9/2012 5:52:19 PM
4-Bromophenyl phenyl ether	ND	0.20		mg/Kg	1	10/9/2012 5:52:19 PM
Butyl benzyl phthalate	ND	0.20		mg/Kg	1	10/9/2012 5:52:19 PM
Carbazole	ND	0.20		mg/Kg	1	10/9/2012 5:52:19 PM
4-Chloro-3-methylphenol	ND	0.50		mg/Kg	1	10/9/2012 5:52:19 PM
4-Chloroaniline	ND	0.50		mg/Kg	1	10/9/2012 5:52:19 PM
2-Chloronaphthalene	ND	0.25		mg/Kg	1	10/9/2012 5:52:19 PM
2-Chlorophenol	ND	0.20		mg/Kg	1	10/9/2012 5:52:19 PM
4-Chlorophenyl phenyl ether	ND	0.20		mg/Kg	1	10/9/2012 5:52:19 PM
Chrysene	ND	0.20		mg/Kg	1	10/9/2012 5:52:19 PM
Di-n-butyl phthalate	ND	0.50		mg/Kg	1	10/9/2012 5:52:19 PM
Di-n-octyl phthalate	ND	0.25		mg/Kg	1	10/9/2012 5:52:19 PM
Dibenz(a,h)anthracene	ND	0.20		mg/Kg	1	10/9/2012 5:52:19 PM
Dibenzofuran	ND	0.20		mg/Kg	1	10/9/2012 5:52:19 PM
1,2-Dichlorobenzene	ND	0.20		mg/Kg	1	10/9/2012 5:52:19 PM
1,3-Dichlorobenzene	ND	0.20		mg/Kg	1	10/9/2012 5:52:19 PM
1,4-Dichlorobenzene	ND	0.20		mg/Kg	1	10/9/2012 5:52:19 PM
3,3'-Dichlorobenzidine	ND	0.25		mg/Kg	1	10/9/2012 5:52:19 PM
Diethyl phthalate	ND	0.20		mg/Kg	1	10/9/2012 5:52:19 PM
Dimethyl phthalate	ND	0.20		mg/Kg	1	10/9/2012 5:52:19 PM
2,4-Dichlorophenol	ND	0.40		mg/Kg	1	10/9/2012 5:52:19 PM
2,4-Dimethylphenol	ND	0.30		mg/Kg	1	10/9/2012 5:52:19 PM
4,6-Dinitro-2-methylphenol	ND	0.50		mg/Kg	1	10/9/2012 5:52:19 PM
2,4-Dinitrophenol	ND	0.40		mg/Kg	1	10/9/2012 5:52:19 PM
2,4-Dinitrotoluene	ND	0.50		mg/Kg	1	10/9/2012 5:52:19 PM
2,6-Dinitrotoluene	ND	0.50		mg/Kg	1	10/9/2012 5:52:19 PM
Fluoranthene	ND	0.20		mg/Kg	1	10/9/2012 5:52:19 PM
Fluorene	ND	0.20		mg/Kg	1	10/9/2012 5:52:19 PM
Hexachlorobenzene	ND	0.20		mg/Kg	1	10/9/2012 5:52:19 PM
Hexachlorobutadiene	ND	0.20		mg/Kg	1	10/9/2012 5:52:19 PM
Hexachlorocyclopentadiene	ND	0.20		mg/Kg	1	10/9/2012 5:52:19 PM
Hexachloroethane	ND	0.20		mg/Kg	1	10/9/2012 5:52:19 PM
Indeno(1,2,3-cd)pyrene	ND	0.20		mg/Kg	1	10/9/2012 5:52:19 PM
Isophorone	ND	0.50		mg/Kg	1	10/9/2012 5:52:19 PM
1-Methylnaphthalene	ND	0.20		mg/Kg	1	10/9/2012 5:52:19 PM
2-Methylnaphthalene	ND	0.20		mg/Kg	1	10/9/2012 5:52:19 PM
2-Methylphenol	ND	0.50		mg/Kg	1	10/9/2012 5:52:19 PM
3+4-Methylphenol	ND	0.20		mg/Kg	1	10/9/2012 5:52:19 PM
N-Nitrosodi-n-propylamine	ND	0.20		mg/Kg	1	10/9/2012 5:52:19 PM
N-Nitrosodiphenylamine	ND	0.20		mg/Kg	1	10/9/2012 5:52:19 PM
Naphthalene	ND	0.20		mg/Kg	1	10/9/2012 5:52:19 PM
2-Nitroaniline	ND	0.20		mg/Kg	1	10/9/2012 5:52:19 PM

Qualifiers:

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- P Sample pH greater than 2
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- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
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Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210279

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-3 (19.5-20')

Project: SWMU NO.1

Collection Date: 10/2/2012 5:25:00 PM

Lab ID: 1210279-012

Matrix: SOIL

Received Date: 10/4/2012 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
3-Nitroaniline	ND	0.20		mg/Kg	1	10/9/2012 5:52:19 PM
4-Nitroaniline	ND	0.40		mg/Kg	1	10/9/2012 5:52:19 PM
Nitrobenzene	ND	0.50		mg/Kg	1	10/9/2012 5:52:19 PM
2-Nitrophenol	ND	0.20		mg/Kg	1	10/9/2012 5:52:19 PM
4-Nitrophenol	ND	0.25		mg/Kg	1	10/9/2012 5:52:19 PM
Pentachlorophenol	ND	0.40		mg/Kg	1	10/9/2012 5:52:19 PM
Phenanthrene	ND	0.20		mg/Kg	1	10/9/2012 5:52:19 PM
Phenol	ND	0.20		mg/Kg	1	10/9/2012 5:52:19 PM
Pyrene	ND	0.20		mg/Kg	1	10/9/2012 5:52:19 PM
Pyridine	ND	0.50		mg/Kg	1	10/9/2012 5:52:19 PM
1,2,4-Trichlorobenzene	ND	0.20		mg/Kg	1	10/9/2012 5:52:19 PM
2,4,5-Trichlorophenol	ND	0.20		mg/Kg	1	10/9/2012 5:52:19 PM
2,4,6-Trichlorophenol	ND	0.20		mg/Kg	1	10/9/2012 5:52:19 PM
Surr: 2,4,6-Tribromophenol	80.2	21.3-145		%REC	1	10/9/2012 5:52:19 PM
Surr: 2-Fluorobiphenyl	74.8	20-131		%REC	1	10/9/2012 5:52:19 PM
Surr: 2-Fluorophenol	80.7	11.9-130		%REC	1	10/9/2012 5:52:19 PM
Surr: 4-Terphenyl-d14	65.7	25.1-149		%REC	1	10/9/2012 5:52:19 PM
Surr: Nitrobenzene-d5	78.3	25.6-137		%REC	1	10/9/2012 5:52:19 PM
Surr: Phenol-d5	78.3	20.3-132		%REC	1	10/9/2012 5:52:19 PM
METHOD 8260B/5035LOW: VOLATILES						Analyst: RAA
Benzene	0.00855	0.00120		mg/Kg	1	10/8/2012 9:25:50 PM
Toluene	0.00500	0.00120		mg/Kg	1	10/8/2012 9:25:50 PM
Ethylbenzene	0.00125	0.00120		mg/Kg	1	10/8/2012 9:25:50 PM
Xylenes, Total	0.00344	0.00240		mg/Kg	1	10/8/2012 9:25:50 PM
Methyl tert-butyl ether (MTBE)	ND	0.00120		mg/Kg	1	10/8/2012 9:25:50 PM
1,2,4-Trimethylbenzene	0.00132	0.00120		mg/Kg	1	10/8/2012 9:25:50 PM
1,3,5-Trimethylbenzene	ND	0.00120		mg/Kg	1	10/8/2012 9:25:50 PM
1,2-Dichloroethane (EDC)	ND	0.00120		mg/Kg	1	10/8/2012 9:25:50 PM
1,2-Dibromoethane (EDB)	ND	0.00120		mg/Kg	1	10/8/2012 9:25:50 PM
Naphthalene	ND	0.00240		mg/Kg	1	10/8/2012 9:25:50 PM
1-Methylnaphthalene	ND	0.00481		mg/Kg	1	10/8/2012 9:25:50 PM
2-Methylnaphthalene	ND	0.00481		mg/Kg	1	10/8/2012 9:25:50 PM
Acetone	ND	0.0120		mg/Kg	1	10/8/2012 9:25:50 PM
Bromobenzene	ND	0.00120		mg/Kg	1	10/8/2012 9:25:50 PM
Bromodichloromethane	ND	0.00120		mg/Kg	1	10/8/2012 9:25:50 PM
Bromoform	ND	0.00120		mg/Kg	1	10/8/2012 9:25:50 PM
Bromomethane	ND	0.00120		mg/Kg	1	10/8/2012 9:25:50 PM
2-Butanone	ND	0.0120		mg/Kg	1	10/8/2012 9:25:50 PM
Carbon tetrachloride	ND	0.00120		mg/Kg	1	10/8/2012 9:25:50 PM
Chlorobenzene	ND	0.00120		mg/Kg	1	10/8/2012 9:25:50 PM
Chloroethane	ND	0.00120		mg/Kg	1	10/8/2012 9:25:50 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210279

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-3 (19.5-20')

Project: SWMU NO.1

Collection Date: 10/2/2012 5:25:00 PM

Lab ID: 1210279-012

Matrix: SOIL

Received Date: 10/4/2012 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
METHOD 8260B/5035LOW: VOLATILES						Analyst: RAA
Chloroform	ND	0.00120		mg/Kg	1	10/8/2012 9:25:50 PM
Chloromethane	ND	0.00120		mg/Kg	1	10/8/2012 9:25:50 PM
2-Chlorotoluene	ND	0.00120		mg/Kg	1	10/8/2012 9:25:50 PM
Carbon disulfide	ND	0.0120		mg/Kg	1	10/8/2012 9:25:50 PM
4-Chlorotoluene	ND	0.00120		mg/Kg	1	10/8/2012 9:25:50 PM
cis-1,2-DCE	ND	0.00120		mg/Kg	1	10/8/2012 9:25:50 PM
cis-1,3-Dichloropropene	ND	0.00120		mg/Kg	1	10/8/2012 9:25:50 PM
1,2-Dibromo-3-chloropropane	ND	0.00120		mg/Kg	1	10/8/2012 9:25:50 PM
Dibromochloromethane	ND	0.00120		mg/Kg	1	10/8/2012 9:25:50 PM
Dibromomethane	ND	0.00120		mg/Kg	1	10/8/2012 9:25:50 PM
1,2-Dichlorobenzene	ND	0.00120		mg/Kg	1	10/8/2012 9:25:50 PM
1,3-Dichlorobenzene	ND	0.00120		mg/Kg	1	10/8/2012 9:25:50 PM
1,4-Dichlorobenzene	ND	0.00120		mg/Kg	1	10/8/2012 9:25:50 PM
Dichlorodifluoromethane	ND	0.00120		mg/Kg	1	10/8/2012 9:25:50 PM
1,1-Dichloroethane	ND	0.00120		mg/Kg	1	10/8/2012 9:25:50 PM
1,1-Dichloroethene	ND	0.00120		mg/Kg	1	10/8/2012 9:25:50 PM
1,2-Dichloropropane	ND	0.00120		mg/Kg	1	10/8/2012 9:25:50 PM
1,3-Dichloropropane	ND	0.00120		mg/Kg	1	10/8/2012 9:25:50 PM
2,2-Dichloropropane	ND	0.00120		mg/Kg	1	10/8/2012 9:25:50 PM
1,1-Dichloropropene	ND	0.00120		mg/Kg	1	10/8/2012 9:25:50 PM
Hexachlorobutadiene	ND	0.00120		mg/Kg	1	10/8/2012 9:25:50 PM
Isopropylbenzene	ND	0.00120		mg/Kg	1	10/8/2012 9:25:50 PM
4-Isopropyltoluene	ND	0.00120		mg/Kg	1	10/8/2012 9:25:50 PM
Methylene chloride	ND	0.00360		mg/Kg	1	10/8/2012 9:25:50 PM
n-Butylbenzene	ND	0.00120		mg/Kg	1	10/8/2012 9:25:50 PM
2-Hexanone	ND	0.0120		mg/Kg	1	10/8/2012 9:25:50 PM
n-Propylbenzene	ND	0.00120		mg/Kg	1	10/8/2012 9:25:50 PM
sec-Butylbenzene	ND	0.00120		mg/Kg	1	10/8/2012 9:25:50 PM
Styrene	ND	0.00120		mg/Kg	1	10/8/2012 9:25:50 PM
4-Methyl-2-pentanone	ND	0.0120		mg/Kg	1	10/8/2012 9:25:50 PM
tert-Butylbenzene	ND	0.00120		mg/Kg	1	10/8/2012 9:25:50 PM
1,1,1,2-Tetrachloroethane	ND	0.00120		mg/Kg	1	10/8/2012 9:25:50 PM
1,1,2,2-Tetrachloroethane	ND	0.00120		mg/Kg	1	10/8/2012 9:25:50 PM
Tetrachloroethene (PCE)	ND	0.00120		mg/Kg	1	10/8/2012 9:25:50 PM
trans-1,2-DCE	ND	0.00120		mg/Kg	1	10/8/2012 9:25:50 PM
trans-1,3-Dichloropropene	ND	0.00120		mg/Kg	1	10/8/2012 9:25:50 PM
1,2,3-Trichlorobenzene	ND	0.00120		mg/Kg	1	10/8/2012 9:25:50 PM
1,2,4-Trichlorobenzene	ND	0.00120		mg/Kg	1	10/8/2012 9:25:50 PM
1,1,1-Trichloroethane	ND	0.00120		mg/Kg	1	10/8/2012 9:25:50 PM
1,1,2-Trichloroethane	ND	0.00120		mg/Kg	1	10/8/2012 9:25:50 PM
Trichloroethene (TCE)	ND	0.00120		mg/Kg	1	10/8/2012 9:25:50 PM
Trichlorofluoromethane	ND	0.00120		mg/Kg	1	10/8/2012 9:25:50 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210279

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-3 (19.5-20')

Project: SWMU NO.1

Collection Date: 10/2/2012 5:25:00 PM

Lab ID: 1210279-012

Matrix: SOIL

Received Date: 10/4/2012 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
METHOD 8260B/5035LOW: VOLATILES						Analyst: RAA
1,2,3-Trichloropropane	ND	0.00120		mg/Kg	1	10/8/2012 9:25:50 PM
Vinyl chloride	ND	0.00120		mg/Kg	1	10/8/2012 9:25:50 PM
Surr: 1,2-Dichloroethane-d4	104	70-130		%REC	1	10/8/2012 9:25:50 PM
Surr: 4-Bromofluorobenzene	95.3	70-130		%REC	1	10/8/2012 9:25:50 PM
Surr: Dibromofluoromethane	103	70-130		%REC	1	10/8/2012 9:25:50 PM
Surr: Toluene-d8	90.5	70-130		%REC	1	10/8/2012 9:25:50 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210279

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: EB100212

Project: SWMU NO.1

Collection Date: 10/2/2012 5:45:00 PM

Lab ID: 1210279-013

Matrix: AQUEOUS

Received Date: 10/4/2012 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: JMP
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	10/8/2012 11:26:09 AM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	10/8/2012 11:26:09 AM
Surr: DNOP	118	79.5-166		%REC	1	10/8/2012 11:26:09 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	10/5/2012 6:49:39 PM
Surr: BFB	97.5	69.8-119		%REC	1	10/5/2012 6:49:39 PM
EPA METHOD 300.0: ANIONS						Analyst: JRR
Fluoride	ND	0.10		mg/L	1	10/4/2012 12:22:52 PM
Chloride	ND	0.50		mg/L	1	10/4/2012 12:22:52 PM
Sulfate	ND	0.50		mg/L	1	10/4/2012 12:22:52 PM
EPA METHOD 200.7: METALS						Analyst: JLF
Barium	ND	0.0020		mg/L	1	10/10/2012 10:02:26 PM
Beryllium	ND	0.0020		mg/L	1	10/10/2012 10:02:26 PM
Cadmium	ND	0.0020		mg/L	1	10/10/2012 10:02:26 PM
Chromium	ND	0.0060		mg/L	1	10/10/2012 10:02:26 PM
Cobalt	ND	0.0060		mg/L	1	10/10/2012 10:02:26 PM
Iron	ND	0.020		mg/L	1	10/10/2012 10:02:26 PM
Manganese	ND	0.0020		mg/L	1	10/10/2012 10:02:26 PM
Nickel	ND	0.010		mg/L	1	10/10/2012 10:02:26 PM
Silver	ND	0.0050		mg/L	1	10/10/2012 10:02:26 PM
Vanadium	ND	0.050		mg/L	1	10/10/2012 10:02:26 PM
Zinc	ND	0.010		mg/L	1	10/12/2012 9:22:54 AM
EPA 200.8: METALS						Analyst: DBD
Antimony	ND	0.0010		mg/L	1	10/17/2012 12:40:00 PM
Arsenic	ND	0.0010		mg/L	1	10/17/2012 12:40:00 PM
Lead	ND	0.0010		mg/L	1	10/17/2012 12:40:00 PM
Selenium	ND	0.0010		mg/L	1	10/17/2012 12:40:00 PM
EPA METHOD 245.1: MERCURY						Analyst: IDC
Mercury	ND	0.00020		mg/L	1	10/15/2012 6:15:26 PM
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Acenaphthene	ND	10		µg/L	1	10/8/2012 7:29:47 PM
Acenaphthylene	ND	10		µg/L	1	10/8/2012 7:29:47 PM
Aniline	ND	10		µg/L	1	10/8/2012 7:29:47 PM
Anthracene	ND	10		µg/L	1	10/8/2012 7:29:47 PM
Azobenzene	ND	10		µg/L	1	10/8/2012 7:29:47 PM
Benz(a)anthracene	ND	10		µg/L	1	10/8/2012 7:29:47 PM
Benzo(a)pyrene	ND	10		µg/L	1	10/8/2012 7:29:47 PM
Benzo(b)fluoranthene	ND	10		µg/L	1	10/8/2012 7:29:47 PM
Benzo(g,h,i)perylene	ND	10		µg/L	1	10/8/2012 7:29:47 PM

Qualifiers:

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- J Analyte detected below quantitation limits
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- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210279

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: EB100212

Project: SWMU NO.1

Collection Date: 10/2/2012 5:45:00 PM

Lab ID: 1210279-013

Matrix: AQUEOUS

Received Date: 10/4/2012 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Benzo(k)fluoranthene	ND	10		µg/L	1	10/8/2012 7:29:47 PM
Benzoic acid	ND	20		µg/L	1	10/8/2012 7:29:47 PM
Benzyl alcohol	ND	10		µg/L	1	10/8/2012 7:29:47 PM
Bis(2-chloroethoxy)methane	ND	10		µg/L	1	10/8/2012 7:29:47 PM
Bis(2-chloroethyl)ether	ND	10		µg/L	1	10/8/2012 7:29:47 PM
Bis(2-chloroisopropyl)ether	ND	10		µg/L	1	10/8/2012 7:29:47 PM
Bis(2-ethylhexyl)phthalate	ND	10		µg/L	1	10/8/2012 7:29:47 PM
4-Bromophenyl phenyl ether	ND	10		µg/L	1	10/8/2012 7:29:47 PM
Butyl benzyl phthalate	ND	10		µg/L	1	10/8/2012 7:29:47 PM
Carbazole	ND	10		µg/L	1	10/8/2012 7:29:47 PM
4-Chloro-3-methylphenol	ND	10		µg/L	1	10/8/2012 7:29:47 PM
4-Chloroaniline	ND	10		µg/L	1	10/8/2012 7:29:47 PM
2-Chloronaphthalene	ND	10		µg/L	1	10/8/2012 7:29:47 PM
2-Chlorophenol	ND	10		µg/L	1	10/8/2012 7:29:47 PM
4-Chlorophenyl phenyl ether	ND	10		µg/L	1	10/8/2012 7:29:47 PM
Chrysene	ND	10		µg/L	1	10/8/2012 7:29:47 PM
Di-n-butyl phthalate	ND	10		µg/L	1	10/8/2012 7:29:47 PM
Di-n-octyl phthalate	ND	10		µg/L	1	10/8/2012 7:29:47 PM
Dibenz(a,h)anthracene	ND	10		µg/L	1	10/8/2012 7:29:47 PM
Dibenzofuran	ND	10		µg/L	1	10/8/2012 7:29:47 PM
1,2-Dichlorobenzene	ND	10		µg/L	1	10/8/2012 7:29:47 PM
1,3-Dichlorobenzene	ND	10		µg/L	1	10/8/2012 7:29:47 PM
1,4-Dichlorobenzene	ND	10		µg/L	1	10/8/2012 7:29:47 PM
3,3'-Dichlorobenzidine	ND	10		µg/L	1	10/8/2012 7:29:47 PM
Diethyl phthalate	ND	10		µg/L	1	10/8/2012 7:29:47 PM
Dimethyl phthalate	ND	10		µg/L	1	10/8/2012 7:29:47 PM
2,4-Dichlorophenol	ND	20		µg/L	1	10/8/2012 7:29:47 PM
2,4-Dimethylphenol	ND	10		µg/L	1	10/8/2012 7:29:47 PM
4,6-Dinitro-2-methylphenol	ND	20		µg/L	1	10/8/2012 7:29:47 PM
2,4-Dinitrophenol	ND	20		µg/L	1	10/8/2012 7:29:47 PM
2,4-Dinitrotoluene	ND	10		µg/L	1	10/8/2012 7:29:47 PM
2,6-Dinitrotoluene	ND	10		µg/L	1	10/8/2012 7:29:47 PM
Fluoranthene	ND	10		µg/L	1	10/8/2012 7:29:47 PM
Fluorene	ND	10		µg/L	1	10/8/2012 7:29:47 PM
Hexachlorobenzene	ND	10		µg/L	1	10/8/2012 7:29:47 PM
Hexachlorobutadiene	ND	10		µg/L	1	10/8/2012 7:29:47 PM
Hexachlorocyclopentadiene	ND	10		µg/L	1	10/8/2012 7:29:47 PM
Hexachloroethane	ND	10		µg/L	1	10/8/2012 7:29:47 PM
Indeno(1,2,3-cd)pyrene	ND	10		µg/L	1	10/8/2012 7:29:47 PM
Isophorone	ND	10		µg/L	1	10/8/2012 7:29:47 PM
1-Methylnaphthalene	ND	10		µg/L	1	10/8/2012 7:29:47 PM
2-Methylnaphthalene	ND	10		µg/L	1	10/8/2012 7:29:47 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210279

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: EB100212

Project: SWMU NO.1

Collection Date: 10/2/2012 5:45:00 PM

Lab ID: 1210279-013

Matrix: AQUEOUS

Received Date: 10/4/2012 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
2-Methylphenol	ND	10		µg/L	1	10/8/2012 7:29:47 PM
3+4-Methylphenol	ND	10		µg/L	1	10/8/2012 7:29:47 PM
N-Nitrosodi-n-propylamine	ND	10		µg/L	1	10/8/2012 7:29:47 PM
N-Nitrosodimethylamine	ND	10		µg/L	1	10/8/2012 7:29:47 PM
N-Nitrosodiphenylamine	ND	10		µg/L	1	10/8/2012 7:29:47 PM
Naphthalene	ND	10		µg/L	1	10/8/2012 7:29:47 PM
2-Nitroaniline	ND	10		µg/L	1	10/8/2012 7:29:47 PM
3-Nitroaniline	ND	10		µg/L	1	10/8/2012 7:29:47 PM
4-Nitroaniline	ND	10		µg/L	1	10/8/2012 7:29:47 PM
Nitrobenzene	ND	10		µg/L	1	10/8/2012 7:29:47 PM
2-Nitrophenol	ND	10		µg/L	1	10/8/2012 7:29:47 PM
4-Nitrophenol	ND	10		µg/L	1	10/8/2012 7:29:47 PM
Pentachlorophenol	ND	20		µg/L	1	10/8/2012 7:29:47 PM
Phenanthrene	ND	10		µg/L	1	10/8/2012 7:29:47 PM
Phenol	ND	10		µg/L	1	10/8/2012 7:29:47 PM
Pyrene	ND	10		µg/L	1	10/8/2012 7:29:47 PM
Pyridine	ND	10		µg/L	1	10/8/2012 7:29:47 PM
1,2,4-Trichlorobenzene	ND	10		µg/L	1	10/8/2012 7:29:47 PM
2,4,5-Trichlorophenol	ND	10		µg/L	1	10/8/2012 7:29:47 PM
2,4,6-Trichlorophenol	ND	10		µg/L	1	10/8/2012 7:29:47 PM
Surr: 2,4,6-Tribromophenol	74.8	44.2-126		%REC	1	10/8/2012 7:29:47 PM
Surr: 2-Fluorobiphenyl	63.7	37-114		%REC	1	10/8/2012 7:29:47 PM
Surr: 2-Fluorophenol	60.4	23.4-98		%REC	1	10/8/2012 7:29:47 PM
Surr: 4-Terphenyl-d14	64.6	41.3-116		%REC	1	10/8/2012 7:29:47 PM
Surr: Nitrobenzene-d5	72.6	39.5-118		%REC	1	10/8/2012 7:29:47 PM
Surr: Phenol-d5	44.8	20.9-95.9		%REC	1	10/8/2012 7:29:47 PM
EPA METHOD 8260B: VOLATILES						Analyst: JDJ
Benzene	ND	1.0		µg/L	1	10/4/2012 11:20:42 PM
Toluene	ND	1.0		µg/L	1	10/4/2012 11:20:42 PM
Ethylbenzene	ND	1.0		µg/L	1	10/4/2012 11:20:42 PM
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	10/4/2012 11:20:42 PM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	10/4/2012 11:20:42 PM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	10/4/2012 11:20:42 PM
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	10/4/2012 11:20:42 PM
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	10/4/2012 11:20:42 PM
Naphthalene	ND	2.0		µg/L	1	10/4/2012 11:20:42 PM
1-Methylnaphthalene	ND	4.0		µg/L	1	10/4/2012 11:20:42 PM
2-Methylnaphthalene	ND	4.0		µg/L	1	10/4/2012 11:20:42 PM
Acetone	ND	10		µg/L	1	10/4/2012 11:20:42 PM
Bromobenzene	ND	1.0		µg/L	1	10/4/2012 11:20:42 PM
Bromodichloromethane	ND	1.0		µg/L	1	10/4/2012 11:20:42 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210279

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: EB100212

Project: SWMU NO.1

Collection Date: 10/2/2012 5:45:00 PM

Lab ID: 1210279-013

Matrix: AQUEOUS

Received Date: 10/4/2012 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: JDJ
Bromoform	ND	1.0		µg/L	1	10/4/2012 11:20:42 PM
Bromomethane	ND	3.0		µg/L	1	10/4/2012 11:20:42 PM
2-Butanone	ND	10		µg/L	1	10/4/2012 11:20:42 PM
Carbon disulfide	ND	10		µg/L	1	10/4/2012 11:20:42 PM
Carbon Tetrachloride	ND	1.0		µg/L	1	10/4/2012 11:20:42 PM
Chlorobenzene	ND	1.0		µg/L	1	10/4/2012 11:20:42 PM
Chloroethane	ND	2.0		µg/L	1	10/4/2012 11:20:42 PM
Chloroform	ND	1.0		µg/L	1	10/4/2012 11:20:42 PM
Chloromethane	ND	3.0		µg/L	1	10/4/2012 11:20:42 PM
2-Chlorotoluene	ND	1.0		µg/L	1	10/4/2012 11:20:42 PM
4-Chlorotoluene	ND	1.0		µg/L	1	10/4/2012 11:20:42 PM
cis-1,2-DCE	ND	1.0		µg/L	1	10/4/2012 11:20:42 PM
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	10/4/2012 11:20:42 PM
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	10/4/2012 11:20:42 PM
Dibromochloromethane	ND	1.0		µg/L	1	10/4/2012 11:20:42 PM
Dibromomethane	ND	1.0		µg/L	1	10/4/2012 11:20:42 PM
1,2-Dichlorobenzene	ND	1.0		µg/L	1	10/4/2012 11:20:42 PM
1,3-Dichlorobenzene	ND	1.0		µg/L	1	10/4/2012 11:20:42 PM
1,4-Dichlorobenzene	ND	1.0		µg/L	1	10/4/2012 11:20:42 PM
Dichlorodifluoromethane	ND	1.0		µg/L	1	10/4/2012 11:20:42 PM
1,1-Dichloroethane	ND	1.0		µg/L	1	10/4/2012 11:20:42 PM
1,1-Dichloroethene	ND	1.0		µg/L	1	10/4/2012 11:20:42 PM
1,2-Dichloropropane	ND	1.0		µg/L	1	10/4/2012 11:20:42 PM
1,3-Dichloropropane	ND	1.0		µg/L	1	10/4/2012 11:20:42 PM
2,2-Dichloropropane	ND	2.0		µg/L	1	10/4/2012 11:20:42 PM
1,1-Dichloropropene	ND	1.0		µg/L	1	10/4/2012 11:20:42 PM
Hexachlorobutadiene	ND	1.0		µg/L	1	10/4/2012 11:20:42 PM
2-Hexanone	ND	10		µg/L	1	10/4/2012 11:20:42 PM
Isopropylbenzene	ND	1.0		µg/L	1	10/4/2012 11:20:42 PM
4-Isopropyltoluene	ND	1.0		µg/L	1	10/4/2012 11:20:42 PM
4-Methyl-2-pentanone	ND	10		µg/L	1	10/4/2012 11:20:42 PM
Methylene Chloride	ND	3.0		µg/L	1	10/4/2012 11:20:42 PM
n-Butylbenzene	ND	3.0		µg/L	1	10/4/2012 11:20:42 PM
n-Propylbenzene	ND	1.0		µg/L	1	10/4/2012 11:20:42 PM
sec-Butylbenzene	ND	1.0		µg/L	1	10/4/2012 11:20:42 PM
Styrene	ND	1.0		µg/L	1	10/4/2012 11:20:42 PM
tert-Butylbenzene	ND	1.0		µg/L	1	10/4/2012 11:20:42 PM
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	10/4/2012 11:20:42 PM
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	10/4/2012 11:20:42 PM
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	10/4/2012 11:20:42 PM
trans-1,2-DCE	ND	1.0		µg/L	1	10/4/2012 11:20:42 PM
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	10/4/2012 11:20:42 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210279

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: EB100212

Project: SWMU NO.1

Collection Date: 10/2/2012 5:45:00 PM

Lab ID: 1210279-013

Matrix: AQUEOUS

Received Date: 10/4/2012 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: JDJ
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	10/4/2012 11:20:42 PM
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	10/4/2012 11:20:42 PM
1,1,1-Trichloroethane	ND	1.0		µg/L	1	10/4/2012 11:20:42 PM
1,1,2-Trichloroethane	ND	1.0		µg/L	1	10/4/2012 11:20:42 PM
Trichloroethene (TCE)	ND	1.0		µg/L	1	10/4/2012 11:20:42 PM
Trichlorofluoromethane	ND	1.0		µg/L	1	10/4/2012 11:20:42 PM
1,2,3-Trichloropropane	ND	2.0		µg/L	1	10/4/2012 11:20:42 PM
Vinyl chloride	ND	1.0		µg/L	1	10/4/2012 11:20:42 PM
Xylenes, Total	ND	1.5		µg/L	1	10/4/2012 11:20:42 PM
Surr: 1,2-Dichloroethane-d4	93.9	70-130		%REC	1	10/4/2012 11:20:42 PM
Surr: 4-Bromofluorobenzene	112	70-130		%REC	1	10/4/2012 11:20:42 PM
Surr: Dibromofluoromethane	99.3	70-130		%REC	1	10/4/2012 11:20:42 PM
Surr: Toluene-d8	92.3	70-130		%REC	1	10/4/2012 11:20:42 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 121005049
Project Name: 1210279

Analytical Results Report

Sample Number	121005049-001	Sampling Date	10/2/2012	Date/Time Received	10/5/2012	10:54 A	
Client Sample ID	1210279-001D / SWMU 1-2 (6-8)			Sampling Time	10:00 AM		
Matrix	Soil	Sample Location					
Comments							
Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/Kg	0.3	10/15/2012	CRW	EPA 335.4	
%moisture	15.1	Percent		10/9/2012	KFG	%moisture	

Sample Number	121005049-002	Sampling Date	10/2/2012	Date/Time Received	10/5/2012	10:54 A	
Client Sample ID	1210279-002D / SWMU 1-2 (10-11)			Sampling Time	10:20 AM		
Matrix	Soil	Sample Location					
Comments							
Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/Kg	0.3	10/15/2012	CRW	EPA 335.4	
%moisture	19.8	Percent		10/9/2012	KFG	%moisture	

Sample Number	121005049-003	Sampling Date	10/2/2012	Date/Time Received	10/5/2012	10:54 A	
Client Sample ID	1210279-003D / SWMU 1-2 (14-16)			Sampling Time	10:35 AM		
Matrix	Soil	Sample Location					
Comments							
Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/Kg	0.3	10/15/2012	CRW	EPA 335.4	
%moisture	16.5	Percent		10/9/2012	KFG	%moisture	

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 121005049
Project Name: 1210279

Analytical Results Report

Sample Number	121005049-004	Sampling Date	10/2/2012	Date/Time Received	10/5/2012	10:54 A
Client Sample ID	1210279-004D / SWMU 1-2 (17-17.25)			Sampling Time	10:50 AM	
Matrix	Soil	Sample Location				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/Kg	0.3	10/15/2012	CRW	EPA 335.4	
%moisture	19.3	Percent		10/9/2012	KFG	%moisture	

Sample Number	121005049-005	Sampling Date	10/2/2012	Date/Time Received	10/5/2012	10:54 A
Client Sample ID	1210279-005D / SWMU 1-2 (19.5-20)			Sampling Time	11:05 AM	
Matrix	Soil	Sample Location				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/Kg	0.3	10/15/2012	CRW	EPA 335.4	
%moisture	10.8	Percent		10/9/2012	KFG	%moisture	

Sample Number	121005049-006	Sampling Date	10/2/2012	Date/Time Received	10/5/2012	10:54 A
Client Sample ID	1210279-006F / SWMU 1-2 GW			Sampling Time	1:45 PM	
Matrix	Water	Sample Location				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	0.0367	mg/L	0.01	10/16/2012	CRW	EPA 335.4	

Sample Number	121005049-007	Sampling Date	10/2/2012	Date/Time Received	10/5/2012	10:54 A
Client Sample ID	1210279-008D / SWMU 1-3 (2-4)			Sampling Time	4:20 PM	
Matrix	Soil	Sample Location				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/Kg	0.3	10/15/2012	CRW	EPA 335.4	
%moisture	11.4	Percent		10/9/2012	KFG	%moisture	

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 121005049
Project Name: 1210279

Analytical Results Report

Sample Number	121005049-008	Sampling Date	10/2/2012	Date/Time Received	10/5/2012	10:54 A
Client Sample ID	1210279-009D / SWMU 1-3 (10-11)			Sampling Time	4:35 PM	
Matrix	Soil	Sample Location				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/Kg	0.3	10/15/2012	CRW	EPA 335.4	
%moisture	18.1	Percent		10/9/2012	KFG	%moisture	

Sample Number	121005049-009	Sampling Date	10/2/2012	Date/Time Received	10/5/2012	10:54 A
Client Sample ID	1210279-010D / SWMU 1-3 (11-11.25)			Sampling Time	4:50 PM	
Matrix	Soil	Sample Location				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/Kg	0.3	10/15/2012	CRW	EPA 335.4	
%moisture	17.5	Percent		10/9/2012	KFG	%moisture	

Sample Number	121005049-010	Sampling Date	10/2/2012	Date/Time Received	10/5/2012	10:54 A
Client Sample ID	1210279-011D / SWMU 1-3 (18.5-19.5)			Sampling Time	5:10 PM	
Matrix	Soil	Sample Location				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/Kg	0.3	10/15/2012	CRW	EPA 335.4	
%moisture	18.3	Percent		10/9/2012	KFG	%moisture	

Sample Number	121005049-011	Sampling Date	10/2/2012	Date/Time Received	10/5/2012	10:54 A
Client Sample ID	1210279-012D / SWMU 1-3 (19.5-20)			Sampling Time	5:25 PM	
Matrix	Soil	Sample Location				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/Kg	0.3	10/15/2012	CRW	EPA 335.4	
%moisture	13.3	Percent		10/9/2012	KFG	%moisture	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0085

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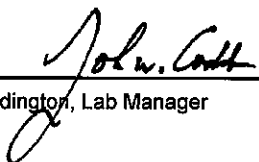
Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 121005049
Project Name: 1210279

Analytical Results Report

Sample Number	121005049-012	Sampling Date	10/2/2012	Date/Time Received	10/5/2012	10:54 A
Client Sample ID	1210279-013F / EB100212			Sampling Time	5:45 PM	
Matrix	Water	Sample Location				
Comments						

Authorized Signature


John Coddington, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

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The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1210279

14-Nov-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.1

Sample ID	MB		SampType:	MBLK		TestCode:	EPA Method 200.7: Metals			
Client ID:	PBW		Batch ID:	R6141		RunNo:	6141			
Prep Date:			Analysis Date:	10/10/2012		SeqNo:	176939		Units:	mg/L
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Beryllium	ND	0.0020								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Cobalt	ND	0.0060								
Iron	ND	0.020								
Manganese	ND	0.0020								
Nickel	ND	0.010								
Silver	ND	0.0050								
Vanadium	ND	0.050								

Sample ID	LCS		SampType:	LCS		TestCode:	EPA Method 200.7: Metals			
Client ID:	LCSW		Batch ID:	R6141		RunNo:	6141			
Prep Date:			Analysis Date:	10/10/2012		SeqNo:	176940		Units:	mg/L
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.49	0.0020	0.5000	0	98.6	85	115			
Beryllium	0.51	0.0020	0.5000	0	101	85	115			
Cadmium	0.50	0.0020	0.5000	0	100	85	115			
Chromium	0.49	0.0060	0.5000	0	97.3	85	115			
Cobalt	0.48	0.0060	0.5000	0	96.2	85	115			
Iron	0.49	0.020	0.5000	0	98.1	85	115			
Manganese	0.49	0.0020	0.5000	0	97.7	85	115			
Nickel	0.47	0.010	0.5000	0	94.9	85	115			
Silver	0.10	0.0050	0.1000	0	102	85	115			
Vanadium	0.51	0.050	0.5000	0	101	85	115			

Sample ID	1210368-001BMS		SampType:	MS		TestCode:	EPA Method 200.7: Metals			
Client ID:	BatchQC		Batch ID:	R6141		RunNo:	6141			
Prep Date:			Analysis Date:	10/10/2012		SeqNo:	177005		Units:	mg/L
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.51	0.0020	0.5000	0.02430	96.8	70	130			
Beryllium	0.51	0.0020	0.5000	0	102	70	130			
Cadmium	0.49	0.0020	0.5000	0	97.8	70	130			

Sample ID	1210368-001BMSD		SampType:	MSD		TestCode:	EPA Method 200.7: Metals			
Client ID:	BatchQC		Batch ID:	R6141		RunNo:	6141			
Prep Date:			Analysis Date:	10/10/2012		SeqNo:	177006		Units:	mg/L
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.51	0.0020	0.5000	0.02430	97.1	70	130	0.302	20	

Qualifiers:

* Value exceeds Maximum Contaminant Level.

E Value above quantitation range

J Analyte detected below quantitation limits

P Sample pH greater than 2

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1210279

14-Nov-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.1

Sample ID	1210368-001BMSD			SampType:	MSD		TestCode:	EPA Method 200.7: Metals			
Client ID:	BatchQC			Batch ID:	R6141		RunNo:	6141			
Prep Date:				Analysis Date:	10/10/2012		SeqNo:	177006		Units:	mg/L
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Beryllium	0.52	0.0020	0.5000	0	103	70	130	0.724	20		
Cadmium	0.50	0.0020	0.5000	0	99.0	70	130	1.24	20		

Sample ID	MB-4223	SampType: MBLK			TestCode: EPA Method 200.7: Metals					
Client ID:	PBW	Batch ID: 4223			RunNo: 6141					
Prep Date:	10/10/2012	Analysis Date: 10/10/2012			SeqNo: 177028		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Beryllium	ND	0.0020								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Cobalt	ND	0.0060								
Iron	ND	0.020								
Manganese	ND	0.0020								
Nickel	ND	0.010								
Silver	ND	0.0050								
Vanadium	ND	0.050								
Zinc	ND	0.010								

Sample ID	LCS-4223		SampType: LCS		TestCode: EPA Method 200.7: Metals					
Client ID:	LCSW		Batch ID: 4223		RunNo: 6141					
Prep Date:	10/10/2012		Analysis Date: 10/10/2012		SeqNo: 177029		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.49	0.0020	0.5000	0	99.0	85	115			
Beryllium	0.52	0.0020	0.5000	0	104	85	115			
Cadmium	0.51	0.0020	0.5000	0	102	85	115			
Chromium	0.49	0.0060	0.5000	0	98.2	85	115			
Cobalt	0.49	0.0060	0.5000	0	97.1	85	115			
Iron	0.50	0.020	0.5000	0	100	85	115			
Manganese	0.49	0.0020	0.5000	0	98.3	85	115			
Nickel	0.48	0.010	0.5000	0	96.2	85	115			
Silver	0.10	0.0050	0.1000	0	103	85	115			
Vanadium	0.51	0.050	0.5000	0	102	85	115			
Zinc	0.49	0.010	0.5000	0	97.9	85	115			

Sample ID	MB	SampType:	MBLK		TestCode:	EPA Method 200.7: Metals				
Client ID:	PBW	Batch ID:	R6212		RunNo:	6212				
Prep Date:		Analysis Date:	10/12/2012		SeqNo:	178907		Units: mg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1210279

14-Nov-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.1

Sample ID	MB	SampType:	MBLK	TestCode:	EPA Method 200.7: Metals					
Client ID:	PBW	Batch ID:	R6212	RunNo:	6212					
Prep Date:		Analysis Date:	10/12/2012	SeqNo:	178907	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Zinc	ND	0.010								

Sample ID	LCS	SampType:	LCS	TestCode:	EPA Method 200.7: Metals					
Client ID:	LCSW	Batch ID:	R6212	RunNo:	6212					
Prep Date:		Analysis Date:	10/12/2012	SeqNo:	178908	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Zinc	0.51	0.010	0.5000	0	101	85	115			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1210279

14-Nov-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.1

Sample ID	MB-4223		SampType:	MBLK		TestCode:	EPA 200.8: Metals			
Client ID:	PBW		Batch ID:	4223		RunNo:	6249			
Prep Date:	10/10/2012		Analysis Date:	10/15/2012		SeqNo:	179959		Units: mg/L	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0025								
Arsenic	ND	0.0025								
Lead	ND	0.0025								
Selenium	ND	0.0025								

Sample ID	1210046-001AMS		SampType:	MS		TestCode:	EPA 200.8: Metals			
Client ID:	BatchQC		Batch ID:	R6315		RunNo:	6315			
Prep Date:			Analysis Date:	10/17/2012		SeqNo:	181878		Units: mg/L	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.027	0.0010	0.02500	0.001891	99.5	70	130			

Sample ID	1210367-001BMS		SampType:	MS		TestCode:	EPA 200.8: Metals			
Client ID:	BatchQC		Batch ID:	R6315		RunNo:	6315			
Prep Date:			Analysis Date:	10/17/2012		SeqNo:	181885		Units: mg/L	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.025	0.0010	0.02500	0	98.6	70	130			
Arsenic	0.035	0.0010	0.02500	0.01018	101	70	130			
Selenium	0.031	0.0010	0.02500	0.005490	104	70	130			

Sample ID	LCS		SampType:	LCS		TestCode:	EPA 200.8: Metals			
Client ID:	LCSW		Batch ID:	R6315		RunNo:	6315			
Prep Date:			Analysis Date:	10/17/2012		SeqNo:	181905		Units: mg/L	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.025	0.0010	0.02500	0	101	85	115			
Arsenic	0.026	0.0010	0.02500	0	102	85	115			
Lead	0.025	0.0010	0.02500	0	99.9	85	115			
Selenium	0.026	0.0010	0.02500	0	106	85	115			

Sample ID	LCS		SampType:	LCS		TestCode:	EPA 200.8: Metals			
Client ID:	LCSW		Batch ID:	R6315		RunNo:	6315			
Prep Date:			Analysis Date:	10/17/2012		SeqNo:	181906		Units: mg/L	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.025	0.0010	0.02500	0	101	85	115			
Arsenic	0.026	0.0010	0.02500	0	102	85	115			
Lead	0.025	0.0010	0.02500	0	99.6	85	115			
Selenium	0.027	0.0010	0.02500	0	106	85	115			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1210279

14-Nov-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.1

Sample ID	LCS		SampType: LCS		TestCode: EPA 200.8: Metals					
Client ID:	LCSW		Batch ID: R6315		RunNo: 6315					
Prep Date:			Analysis Date: 10/17/2012		SeqNo: 181907		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.024	0.0010	0.02500	0	96.7	85	115			
Arsenic	0.025	0.0010	0.02500	0	101	85	115			
Lead	0.025	0.0010	0.02500	0	100	85	115			
Selenium	0.026	0.0010	0.02500	0	106	85	115			

Sample ID	MB	SampType: MBLK			TestCode: EPA 200.8: Metals					
Client ID:	PBW	Batch ID: R6315			RunNo: 6315					
Prep Date:		Analysis Date: 10/17/2012			SeqNo: 181909		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								
Arsenic	ND	0.0010								
Lead	ND	0.0010								
Selenium	ND	0.0010								

Sample ID	MB	SampType: MBLK			TestCode: EPA 200.8: Metals					
Client ID:	PBW	Batch ID: R6315			RunNo: 6315					
Prep Date:		Analysis Date: 10/17/2012			SeqNo: 181910		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								
Arsenic	ND	0.0010								
Lead	ND	0.0010								
Selenium	ND	0.0010								

Sample ID	MB	SampType: MBLK			TestCode: EPA 200.8: Metals					
Client ID:	PBW	Batch ID: R6315			RunNo: 6315					
Prep Date:		Analysis Date: 10/17/2012			SeqNo: 181911		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								
Arsenic	ND	0.0010								
Lead	ND	0.0010								
Selenium	ND	0.0010								

Sample ID	1210585-001CMS		SampType: MS		TestCode: EPA 200.8: Metals					
Client ID:	BatchQC		Batch ID: R6315		RunNo: 6315					
Prep Date:			Analysis Date: 10/17/2012		SeqNo: 181948		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.026	0.0010	0.02500	0	103	70	130			
Arsenic	0.026	0.0010	0.02500	0	102	70	130			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1210279

14-Nov-12

Client: Western Refining Southwest, Gallup**Project:** SWMU NO.1

Sample ID	1210585-001CMS			SampType:	MS			TestCode:	EPA 200.8: Metals		
Client ID:	BatchQC			Batch ID:	R6315			RunNo:	6315		
Prep Date:				Analysis Date:	10/17/2012			SeqNo:	181948		Units: mg/L
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Lead	0.025	0.0010	0.02500	0	99.7	70	130				
Selenium	0.026	0.0010	0.02500	0	105	70	130				

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1210279

14-Nov-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.1

Sample ID	MB-4279		SampType: MBLK		TestCode: EPA Method 245.1: Mercury					
Client ID:	PBW		Batch ID: 4279		RunNo: 6215					
Prep Date:	10/12/2012		Analysis Date: 10/12/2012		SeqNo: 179065		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercurv	ND	0.00020								

Sample ID	LCS-4279		SampType: LCS		TestCode: EPA Method 245.1: Mercury					
Client ID:	LCSW		Batch ID: 4279		RunNo: 6215					
Prep Date:	10/12/2012		Analysis Date: 10/12/2012		SeqNo: 179066		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0049	0.00020	0.005000	0	97.0	80	120			

Sample ID	1210332-010EMS		SampType: MS		TestCode: EPA Method 245.1: Mercury					
Client ID:	BatchQC		Batch ID: 4279		RunNo: 6215					
Prep Date:	10/12/2012		Analysis Date: 10/12/2012		SeqNo: 179069		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0048	0.00020	0.005000	0	96.9	75	125			

Sample ID	1210332-010EMSD			SampType:	MSD		TestCode:	EPA Method 245.1: Mercury			
Client ID:	BatchQC			Batch ID:	4279		RunNo:	6215			
Prep Date:	10/12/2012			Analysis Date:	10/12/2012		SeqNo:	179072		Units:	mg/L
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Mercury	0.0049	0.00020	0.005000	0	97.7	75	125	0.749	20		

Sample ID	MB-4303		SampType: mblk		TestCode: EPA Method 245.1: Mercury					
Client ID:	PBW		Batch ID: 4303		RunNo: 6268					
Prep Date:	10/15/2012		Analysis Date: 10/15/2012		SeqNo: 180618		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.00020								

Sample ID	LCS-4303		SampType: Ics		TestCode: EPA Method 245.1: Mercury					
Client ID:	LCSW		Batch ID: 4303		RunNo: 6268					
Prep Date:	10/15/2012		Analysis Date: 10/15/2012		SeqNo: 180619		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0048	0.00020	0.005000	0	95.8	80	120			

Sample ID	1210352-007BMS		SampType: ms		TestCode: EPA Method 245.1: Mercury					
Client ID:	BatchQC		Batch ID: 4303		RunNo: 6268					
Prep Date:	10/15/2012		Analysis Date: 10/15/2012		SeqNo: 180639		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0047	0.00020	0.005000	0	93.6	75	125			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1210279

14-Nov-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.1

Sample ID	1210352-007BMSD	SampType:	msd	TestCode:	EPA Method 245.1: Mercury					
Client ID:	BatchQC	Batch ID:	4303	RunNo:	6268					
Prep Date:	10/15/2012	Analysis Date:	10/15/2012	SeqNo:	180642	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0047	0.00020	0.005000	0	94.2	75	125	0.680	20	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1210279

14-Nov-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.1

Sample ID	MB	SampType: MBLK			TestCode: EPA Method 300.0: Anions					
Client ID:	PBW	Batch ID: R5979			RunNo: 5979					
Prep Date:		Analysis Date: 10/4/2012			SeqNo: 172224		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								
Sulfate	ND	0.50								

Sample ID	LCS		SampType: LCS		TestCode: EPA Method 300.0: Anions					
Client ID:	LCSW		Batch ID: R5979		RunNo: 5979					
Prep Date:			Analysis Date: 10/4/2012		SeqNo: 172225		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.52	0.10	0.5000	0	103	90	110			
Chloride	5.0	0.50	5.000	0	99.2	90	110			
Sulfate	9.2	0.50	10.00	0	91.9	90	110			

Sample ID	1210279-013GMS			SampType:	MS		TestCode:	EPA Method 300.0: Anions			
Client ID:	EB100212			Batch ID:	R5979		RunNo:	5979			
Prep Date:				Analysis Date:	10/4/2012		SeqNo:	172240		Units:	mg/L
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Fluoride	0.50	0.10	0.5000	0	100	76.6	110				
Chloride	4.7	0.50	5.000	0	94.0	87.8	111				

Sample ID	1210279-013GMSD		SampType: MSD		TestCode: EPA Method 300.0: Anions					
Client ID:	EB100212		Batch ID: R5979		RunNo: 5979					
Prep Date:			Analysis Date: 10/4/2012		SeqNo: 172241		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.50	0.10	0.5000	0	101	76.6	110	0.119	20	
Chloride	4.7	0.50	5.000	0	93.6	87.8	111	0.433	20	

Sample ID	MB	SampType: MBLK			TestCode: EPA Method 300.0: Anions					
Client ID:	PBW	Batch ID: R5996			RunNo: 5996					
Prep Date:		Analysis Date: 10/4/2012			SeqNo: 172794		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Sulfate	ND	0.50								

Sample ID	LCS		SampType: LCS		TestCode: EPA Method 300.0: Anions					
Client ID:	LCSW		Batch ID: R5996		RunNo: 5996					
Prep Date:			Analysis Date: 10/4/2012		SeqNo: 172795		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1210279

14-Nov-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.1

Sample ID	LCS		SampType: LCS			TestCode: EPA Method 300.0: Anions				
Client ID:	LCSW		Batch ID: R5996			RunNo: 5996				
Prep Date:			Analysis Date: 10/4/2012			SeqNo: 172795		Units: mg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.48	0.10	0.5000	0	96.0	90	110			
Sulfate	9.7	0.50	10.00	0	96.6	90	110			

Sample ID	1210285-001EMS			SampType: MS		TestCode: EPA Method 300.0: Anions				
Client ID:	BatchQC		Batch ID: R5996		RunNo: 5996					
Prep Date:			Analysis Date: 10/4/2012		SeqNo: 172807		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.77	0.10	0.5000	0	155	76.6	110			S

Sample ID	1210285-001EMSD			SampType:	MSD		TestCode:	EPA Method 300.0: Anions			
Client ID:	BatchQC		Batch ID:	R5996		RunNo:	5996				
Prep Date:			Analysis Date:	10/4/2012		SeqNo:	172808		Units:	mg/L	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Fluoride	0.78	0.10	0.5000	0	155	76.6	110	0.271	20	S	

Sample ID	1210300-001BMS		SampType: MS			TestCode: EPA Method 300.0: Anions				
Client ID:	BatchQC		Batch ID: R5996			RunNo: 5996				
Prep Date:			Analysis Date: 10/4/2012			SeqNo: 172812		Units: mg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate	15	0.50	10.00	8.924	62.0	84.6	122			S

Sample ID	1210300-001BMSD			SampType: MSD	TestCode: EPA Method 300.0: Anions					
Client ID:	BatchQC			Batch ID: R5996	RunNo: 5996					
Prep Date:				Analysis Date: 10/4/2012	SeqNo: 172813		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate	15	0.50	10.00	8.924	62.3	84.6	122	0.201	20	S

Sample ID	MB	SampType: MBLK			TestCode: EPA Method 300.0: Anions					
Client ID:	PBW	Batch ID: R5996			RunNo: 5996					
Prep Date:		Analysis Date: 10/5/2012			SeqNo: 172858		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Sulfate	ND	0.50								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1210279

14-Nov-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.1

Sample ID	LCS		SampType: LCS			TestCode: EPA Method 300.0: Anions				
Client ID:	LCSW		Batch ID: R5996			RunNo: 5996				
Prep Date:			Analysis Date: 10/5/2012			SeqNo: 172859		Units: mg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.51	0.10	0.5000	0	102	90	110			
Sulfate	9.8	0.50	10.00	0	97.9	90	110			

Sample ID	1210301-001AMS		SampType: MS			TestCode: EPA Method 300.0: Anions				
Client ID:	BatchQC		Batch ID: R5996			RunNo: 5996				
Prep Date:			Analysis Date: 10/5/2012			SeqNo: 172863		Units: mg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	1.4	0.10	0.5000	0.8809	97.3	76.6	110			

Sample ID	1210301-001AMSD		SampType: MSD			TestCode: EPA Method 300.0: Anions				
Client ID:	BatchQC		Batch ID: R5996			RunNo: 5996				
Prep Date:			Analysis Date: 10/5/2012			SeqNo: 172864		Units: mg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	1.4	0.10	0.5000	0.8809	97.0	76.6	110	0.110	20	

Sample ID	MB		SampType: MBLK			TestCode: EPA Method 300.0: Anions				
Client ID:	PBW		Batch ID: R6149			RunNo: 6149				
Prep Date:			Analysis Date: 10/10/2012			SeqNo: 177130		Units: mg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								

Sample ID	LCS		SampType: LCS			TestCode: EPA Method 300.0: Anions				
Client ID:	LCSW		Batch ID: R6149			RunNo: 6149				
Prep Date:			Analysis Date: 10/10/2012			SeqNo: 177131		Units: mg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.9	0.50	5.000	0	98.3	90	110			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1210279

14-Nov-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.1

Sample ID	1210279-012CMS	SampType:	MS	TestCode:	EPA Method 8015B: Diesel Range Organics					
Client ID:	SWMU 1-3 (19.5-20')	Batch ID:	4138	RunNo:	6027					
Prep Date:	10/5/2012	Analysis Date:	10/7/2012	SeqNo:	173631	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	41	10	51.28	0	80.5	57.2	146			
Surr: DNOP	4.1		5.128		79.6	77.6	140			

Sample ID	1210279-012CMSD	SampType:	MSD	TestCode:	EPA Method 8015B: Diesel Range Organics					
Client ID:	SWMU 1-3 (19.5-20')	Batch ID:	4138	RunNo:	6027					
Prep Date:	10/5/2012	Analysis Date:	10/7/2012	SeqNo:	173633	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	39	10	50.97	0	77.2	57.2	146	4.84	24.5	
Surr: DNOP	4.0		5.097		77.7	77.6	140	0	0	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1210279

14-Nov-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.1

Sample ID	MB-4137	SampType: MBLK		TestCode: EPA Method 8015B: Diesel Range						
Client ID:	PBW	Batch ID: 4137		RunNo: 6039						
Prep Date:	10/5/2012	Analysis Date: 10/8/2012		SeqNo: 174081			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	1.0								
Motor Oil Range Organics (MRO)	ND	5.0								
Surr: DNOP	1.1		1.000		108	79.5	166			

Sample ID	LCS-4137		SampType: LCS		TestCode: EPA Method 8015B: Diesel Range					
Client ID:	LCSW		Batch ID: 4137		RunNo: 6039					
Prep Date:	10/5/2012		Analysis Date: 10/8/2012		SeqNo: 174082		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	5.2	1.0	5.000	0	104	74	157			
Surr: DNOP	0.45		0.5000		90.2	79.5	166			

Sample ID	LCSD-4137		SampType: LCSD		TestCode: EPA Method 8015B: Diesel Range					
Client ID:	LCSS02		Batch ID: 4137		RunNo: 6039					
Prep Date:	10/5/2012		Analysis Date: 10/8/2012		SeqNo: 174083		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	5.5	1.0	5.000	0	109	74	157	5.45	23	
Surr: DNOP	0.45		0.5000		90.8	79.5	166	0	0	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1210279

14-Nov-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.1

Sample ID	MB-4015	SampType: MBLK			TestCode: EPA Method 8015B: Gasoline Range					
Client ID:	PBS	Batch ID: 4015			RunNo: 6019					
Prep Date:	10/1/2012	Analysis Date: 10/5/2012			SeqNo: 173412		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	1000		1000		100	84	116			

Sample ID	LCS-4015		SampType: LCS		TestCode: EPA Method 8015B: Gasoline Range					
Client ID:	LCSS		Batch ID: 4015		RunNo: 6019					
Prep Date:	10/1/2012		Analysis Date: 10/5/2012		SeqNo: 173413		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	5.0	25.00	0	101	74	117			
Surr: BFB	1000		1000		103	84	116			

Sample ID	1210002-001AMS		SampType: MS		TestCode: EPA Method 8015B: Gasoline Range					
Client ID:	BatchQC		Batch ID: 4015		RunNo: 6019					
Prep Date:	10/1/2012		Analysis Date: 10/5/2012		SeqNo: 173418		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	4.9	24.61	0	106	70	130			
Surr: BFB	1100		984.3		108	84	116			

Sample ID	1210002-001AMSD		SampType: MSD		TestCode: EPA Method 8015B: Gasoline Range					
Client ID:	BatchQC		Batch ID: 4015		RunNo: 6019					
Prep Date:	10/1/2012		Analysis Date: 10/5/2012		SeqNo: 173419		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	4.9	24.61	0	97.4	70	130	8.23	22.1	
Surr: BFB	1100		984.3		110	84	116	0	0	

Sample ID	5ML RB		SampType: MBLK		TestCode: EPA Method 8015B: Gasoline Range					
Client ID:	PBS		Batch ID: R6020		RunNo: 6020					
Prep Date:			Analysis Date: 10/5/2012		SeqNo: 173460		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	1000		1000		104	84	116			

Sample ID	2.5UG GRO LCS	SampType: LCS			TestCode: EPA Method 8015B: Gasoline Range					
Client ID:	LCSS	Batch ID: R6020			RunNo: 6020					
Prep Date:		Analysis Date: 10/5/2012			SeqNo: 173461		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	5.0	25.00	0	85.0	74	117			
Surr: BFB	820		1000		82.5	84	116			S

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1210279

14-Nov-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.1

Sample ID	1210279-011BMS		SampType: MS		TestCode: EPA Method 8015B: Gasoline Range					
Client ID:	SWMU 1-3 (18.5-19.		Batch ID: R6020		RunNo: 6020					
Prep Date:			Analysis Date: 10/6/2012		SeqNo: 173465		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	12	5.0	15.46	0	78.9	70	130			
Surr: BFB	670		618.5		108	84	116			

Sample ID	1210279-011BMSD				SampType:	MSD		TestCode:	EPA Method 8015B: Gasoline Range		
Client ID:	SWMU 1-3 (18.5-19.		Batch ID:		R6020		RunNo:	6020			
Prep Date:			Analysis Date:		10/6/2012		SeqNo:	173466		Units:	mg/Kg
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Gasoline Range Organics (GRO)	14	5.0	15.46	0	90.8	70	130	14.0	22.1		
Surr: BFB	650		618.5		105	84	116	0	0		

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1210279

14-Nov-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.1

Sample ID	5ML RB	SampType:	MBLK	TestCode:	EPA Method 8015B: Gasoline Range					
Client ID:	PBW	Batch ID:	R6020	RunNo:	6020					
Prep Date:		Analysis Date:	10/5/2012	SeqNo:	173451	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	21		20.00		104	69.8	119			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1210279

14-Nov-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.1

Sample ID	5ml-rb	SampType:	MBLK	TestCode:	EPA Method 8260B: VOLATILES					
Client ID:	PBS	Batch ID:	R6144	RunNo:	6144					
Prep Date:		Analysis Date:	10/10/2012	SeqNo:	177071	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Methyl tert-butyl ether (MTBE)	ND	0.050								
1,2,4-Trimethylbenzene	ND	0.050								
1,3,5-Trimethylbenzene	ND	0.050								
1,2-Dichloroethane (EDC)	ND	0.050								
1,2-Dibromoethane (EDB)	ND	0.050								
Naphthalene	ND	0.10								
1-Methylnaphthalene	ND	0.20								
2-Methylnaphthalene	ND	0.20								
Acetone	ND	0.75								
Bromobenzene	ND	0.050								
Bromodichloromethane	ND	0.050								
Bromoform	ND	0.050								
Bromomethane	ND	0.15								
2-Butanone	ND	0.50								
Carbon disulfide	ND	0.50								
Carbon tetrachloride	ND	0.10								
Chlorobenzene	ND	0.050								
Chloroethane	ND	0.10								
Chloroform	ND	0.050								
Chloromethane	ND	0.15								
2-Chlorotoluene	ND	0.050								
4-Chlorotoluene	ND	0.050								
cis-1,2-DCE	ND	0.050								
cis-1,3-Dichloropropene	ND	0.050								
1,2-Dibromo-3-chloropropane	ND	0.10								
Dibromochloromethane	ND	0.050								
Dibromomethane	ND	0.10								
1,2-Dichlorobenzene	ND	0.050								
1,3-Dichlorobenzene	ND	0.050								
1,4-Dichlorobenzene	ND	0.050								
Dichlorodifluoromethane	ND	0.050								
1,1-Dichloroethane	ND	0.10								
1,1-Dichloroethene	ND	0.050								
1,2-Dichloropropane	ND	0.050								
1,3-Dichloropropane	ND	0.050								
2,2-Dichloropropane	ND	0.10								
1,1-Dichloropropene	ND	0.10								
Hexachlorobutadiene	ND	0.10								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1210279

14-Nov-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.1

Sample ID	5ml-rb	SampType: MBLK			TestCode: EPA Method 8260B: VOLATILES					
Client ID:	PBS	Batch ID: R6144			RunNo: 6144					
Prep Date:		Analysis Date: 10/10/2012			SeqNo: 177071		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
2-Hexanone	ND	0.50								
Isopropylbenzene	ND	0.050								
4-Isopropyltoluene	ND	0.050								
4-Methyl-2-pentanone	ND	0.50								
Methylene chloride	ND	0.15								
n-Butylbenzene	ND	0.15								
n-Propylbenzene	ND	0.050								
sec-Butylbenzene	ND	0.050								
Styrene	ND	0.050								
tert-Butylbenzene	ND	0.050								
1,1,1,2-Tetrachloroethane	ND	0.050								
1,1,2,2-Tetrachloroethane	ND	0.050								
Tetrachloroethene (PCE)	ND	0.050								
trans-1,2-DCE	ND	0.050								
trans-1,3-Dichloropropene	ND	0.050								
1,2,3-Trichlorobenzene	ND	0.10								
1,2,4-Trichlorobenzene	ND	0.050								
1,1,1-Trichloroethane	ND	0.050								
1,1,2-Trichloroethane	ND	0.050								
Trichloroethene (TCE)	ND	0.050								
Trichlorofluoromethane	ND	0.050								
1,2,3-Trichloropropane	ND	0.10								
Vinyl chloride	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 1,2-Dichloroethane-d4	0.46		0.5000		92.2	70	130			
Surr: 4-Bromofluorobenzene	0.39		0.5000		78.8	70	130			
Surr: Dibromofluoromethane	0.54		0.5000		107	70	130			
Surr: Toluene-d8	0.42		0.5000		84.4	70	130			

Sample ID	100ng lcs	SampType: LCS			TestCode: EPA Method 8260B: VOLATILES					
Client ID:	LCSS	Batch ID: R6144			RunNo: 6144					
Prep Date:		Analysis Date: 10/10/2012			SeqNo: 177073		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.99	0.050	1.000	0	99.1	70	130			
Toluene	0.98	0.050	1.000	0	98.5	80	120			
Chlorobenzene	0.93	0.050	1.000	0	92.7	70	130			
1,1-Dichloroethene	1.0	0.050	1.000	0	104	74	124			
Trichloroethene (TCE)	0.92	0.050	1.000	0	92.3	70	130			
Surr: 1,2-Dichloroethane-d4	0.46		0.5000		92.2	70	130			
Surr: 4-Bromofluorobenzene	0.40		0.5000		79.4	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1210279

14-Nov-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.1

Sample ID	100ng lcs		SampType: LCS		TestCode: EPA Method 8260B: VOLATILES					
Client ID:	LCSS		Batch ID: R6144		RunNo: 6144					
Prep Date:			Analysis Date: 10/10/2012		SeqNo: 177073		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: Dibromofluoromethane	0.55		0.5000		110	70	130			
Surr: Toluene-d8	0.42		0.5000		83.9	70	130			

Sample ID	1210279-001B MS	SampType: MS			TestCode: EPA Method 8260B: VOLATILES					
Client ID:	SWMU 1-2 (6-8')	Batch ID: R6144			RunNo: 6144					
Prep Date:		Analysis Date: 10/10/2012			SeqNo: 177076		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.67	0.050	0.6719	0	99.5	80.9	118			
Toluene	0.57	0.050	0.6719	0	84.7	69.5	119			
Chlorobenzene	0.60	0.050	0.6719	0	89.8	75.7	115			
1,1-Dichloroethene	0.68	0.050	0.6719	0	101	68.6	126			
Trichloroethene (TCE)	0.65	0.050	0.6719	0	97.0	68.7	115			
Surr: 1,2-Dichloroethane-d4	0.29		0.3360		87.7	70	130			
Surr: 4-Bromofluorobenzene	0.26		0.3360		78.3	70	130			
Surr: Dibromofluoromethane	0.35		0.3360		103	70	130			
Surr: Toluene-d8	0.25		0.3360		74.4	70	130			

Sample ID	1210279-001B MSD			SampType: MSD	TestCode: EPA Method 8260B: VOLATILES					
Client ID:	SWMU 1-2 (6-8')		Batch ID: R6144		RunNo: 6144					
Prep Date:			Analysis Date: 10/10/2012		SeqNo: 177077		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.68	0.050	0.6719	0	101	80.9	118	1.54	20	
Toluene	0.58	0.050	0.6719	0	85.9	69.5	119	1.42	20	
Chlorobenzene	0.63	0.050	0.6719	0	93.1	75.7	115	3.54	20	
1,1-Dichloroethene	0.68	0.050	0.6719	0	101	68.6	126	0.179	24.8	
Trichloroethene (TCE)	0.65	0.050	0.6719	0	97.2	68.7	115	0.171	20	
Surr: 1,2-Dichloroethane-d4	0.30		0.3360		89.5	70	130	0	0	
Surr: 4-Bromofluorobenzene	0.25		0.3360		73.6	70	130	0	0	
Surr: Dibromofluoromethane	0.39		0.3360		117	70	130	0	0	
Surr: Toluene-d8	0.24		0.3360		72.6	70	130	0	0	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1210279

14-Nov-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.1

Sample ID	mb-4139		SampType: MBLK		TestCode: Method 8260B/5035LOW: VOLATILES					
Client ID:	PBS		Batch ID: 4139		RunNo: 6123					
Prep Date:	10/5/2012		Analysis Date: 10/8/2012		SeqNo: 176473		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.00100								
Toluene	ND	0.00100								
Ethylbenzene	ND	0.00100								
Xylenes, Total	ND	0.00200								
Methyl tert-butyl ether (MTBE)	ND	0.00100								
1,2,4-Trimethylbenzene	ND	0.00100								
1,3,5-Trimethylbenzene	ND	0.00100								
1,2-Dichloroethane (EDC)	ND	0.00100								
1,2-Dibromoethane (EDB)	ND	0.00100								
Naphthalene	ND	0.00200								
1-Methylnaphthalene	ND	0.00400								
2-Methylnaphthalene	ND	0.00400								
Acetone	ND	0.0100								
Bromobenzene	ND	0.00100								
Bromodichloromethane	ND	0.00100								
Bromoform	ND	0.00100								
Bromomethane	ND	0.00100								
2-Butanone	ND	0.0100								
Carbon tetrachloride	ND	0.00100								
Chlorobenzene	ND	0.00100								
Chloroethane	ND	0.00100								
Chloroform	ND	0.00100								
Chloromethane	ND	0.00100								
2-Chlorotoluene	ND	0.00100								
Carbon disulfide	ND	0.0100								
4-Chlorotoluene	ND	0.00100								
cis-1,2-DCE	ND	0.00100								
cis-1,3-Dichloropropene	ND	0.00100								
1,2-Dibromo-3-chloropropane	ND	0.00100								
Dibromochloromethane	ND	0.00100								
Dibromomethane	ND	0.00100								
1,2-Dichlorobenzene	ND	0.00100								
1,3-Dichlorobenzene	ND	0.00100								
1,4-Dichlorobenzene	ND	0.00100								
Dichlorodifluoromethane	ND	0.00100								
1,1-Dichloroethane	ND	0.00100								
1,1-Dichloroethene	ND	0.00100								
1,2-Dichloropropane	ND	0.00100								
1,3-Dichloropropane	ND	0.00100								
2,2-Dichloropropane	ND	0.00100								
1,1-Dichloropropene	ND	0.00100								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1210279

14-Nov-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.1

Sample ID	mb-4139		SampType: MBLK		TestCode: Method 8260B/5035LOW: VOLATILES					
Client ID:	PBS		Batch ID: 4139		RunNo: 6123					
Prep Date:	10/5/2012		Analysis Date: 10/8/2012		SeqNo: 176473		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Hexachlorobutadiene	ND	0.00100								
Isopropylbenzene	ND	0.00100								
4-Isopropyltoluene	ND	0.00100								
Methylene chloride	ND	0.00300								
n-Butylbenzene	ND	0.00100								
2-Hexanone	ND	0.0100								
n-Propylbenzene	ND	0.00100								
sec-Butylbenzene	ND	0.00100								
Styrene	ND	0.00100								
4-Methyl-2-pentanone	ND	0.0100								
tert-Butylbenzene	ND	0.00100								
1,1,1,2-Tetrachloroethane	ND	0.00100								
1,1,2,2-Tetrachloroethane	ND	0.00100								
Tetrachloroethene (PCE)	ND	0.00100								
trans-1,2-DCE	ND	0.00100								
trans-1,3-Dichloropropene	ND	0.00100								
1,2,3-Trichlorobenzene	ND	0.00100								
1,2,4-Trichlorobenzene	ND	0.00100								
1,1,1-Trichloroethane	ND	0.00100								
1,1,2-Trichloroethane	ND	0.00100								
Trichloroethene (TCE)	ND	0.00100								
Trichlorofluoromethane	ND	0.00100								
1,2,3-Trichloropropane	ND	0.00100								
Vinyl chloride	ND	0.00100								
Surr: 1,2-Dichloroethane-d4	43.5		50.00		86.9	70	130			
Surr: 4-Bromofluorobenzene	48.2		50.00		96.4	70	130			
Surr: Dibromofluoromethane	51.1		50.00		102	70	130			
Surr: Toluene-d8	48.6		50.00		97.1	70	130			

Sample ID	lcs-4139		SampType: LCS		TestCode: Method 8260B/5035LOW: VOLATILES					
Client ID:	LCSS		Batch ID: 4139		RunNo: 6123					
Prep Date:	10/5/2012		Analysis Date: 10/8/2012		SeqNo: 176475		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	10.6	1.00	10.00	0	106	60	140			
Toluene	9.55	1.00	10.00	0	95.5	60	140			
Chlorobenzene	9.91	1.00	10.00	0	99.1	60	140			
1,1-Dichloroethene	11.6	1.00	10.00	0	116	60	140			
Trichloroethene (TCE)	9.40	1.00	10.00	0	94.0	60	140			
Surr: 1,2-Dichloroethane-d4	45.7		50.00		91.3	70	130			
Surr: 4-Bromofluorobenzene	39.6		50.00		79.3	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1210279

14-Nov-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.1

Sample ID	lcs-4139		SampType: LCS		TestCode: Method 8260B/5035LOW: VOLATILES					
Client ID:	LCSS		Batch ID: 4139		RunNo: 6123					
Prep Date:	10/5/2012		Analysis Date: 10/8/2012		SeqNo: 176475		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: Dibromofluoromethane	49.3		50.00		98.5	70	130			
Surr: Toluene-d8	47.1		50.00		94.2	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1210279

14-Nov-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.1

Sample ID	5ml rb	SampType: MBLK			TestCode: EPA Method 8260B: VOLATILES					
Client ID:	PBW	Batch ID: R5993			RunNo: 5993					
Prep Date:		Analysis Date: 10/4/2012			SeqNo: 172673		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1210279

14-Nov-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.1

Sample ID	5ml rb	SampType: MBLK			TestCode: EPA Method 8260B: VOLATILES					
Client ID:	PBW	Batch ID: R5993			RunNo: 5993					
Prep Date:		Analysis Date: 10/4/2012			SeqNo: 172673		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	10		10.00		99.6	70	130			
Surr: 4-Bromofluorobenzene	9.3		10.00		93.4	70	130			
Surr: Dibromofluoromethane	9.5		10.00		95.1	70	130			
Surr: Toluene-d8	10		10.00		100	70	130			

Sample ID	100ng lcs	SampType: LCS			TestCode: EPA Method 8260B: VOLATILES					
Client ID:	LCSW	Batch ID: R5993			RunNo: 5993					
Prep Date:		Analysis Date: 10/4/2012			SeqNo: 172697		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	93.9	70	130			
Toluene	22	1.0	20.00	0	112	80	120			
Chlorobenzene	21	1.0	20.00	0	103	70	130			
1,1-Dichloroethene	20	1.0	20.00	0	101	73.7	122			
Trichloroethene (TCE)	22	1.0	20.00	0	108	70	130			
Surr: 1,2-Dichloroethane-d4	9.0		10.00		89.9	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		102	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1210279

14-Nov-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.1

Sample ID	100ng lcs	SampType:	LCS	TestCode:	EPA Method 8260B: VOLATILES					
Client ID:	LCSW	Batch ID:	R5993	RunNo:	5993					
Prep Date:		Analysis Date:	10/4/2012	SeqNo:	172697	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: Dibromofluoromethane	9.6		10.00		95.7	70	130			
Surr: Toluene-d8	10		10.00		99.5	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1210279

14-Nov-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.1

Sample ID	mb-4140	SampType:	MBLK	TestCode:	EPA Method 8270C: Semivolatiles					
Client ID:	PBS	Batch ID:	4140	RunNo:	6106					
Prep Date:	10/5/2012	Analysis Date:	10/9/2012	SeqNo:	176018	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	0.20								
Acenaphthylene	ND	0.20								
Aniline	ND	0.20								
Anthracene	ND	0.20								
Azobenzene	ND	0.20								
Benz(a)anthracene	ND	0.20								
Benzo(a)pyrene	ND	0.20								
Benzo(b)fluoranthene	ND	0.20								
Benzo(g,h,i)perylene	ND	0.20								
Benzo(k)fluoranthene	ND	0.20								
Benzoic acid	ND	0.50								
Benzyl alcohol	ND	0.20								
Bis(2-chloroethoxy)methane	ND	0.20								
Bis(2-chloroethyl)ether	ND	0.20								
Bis(2-chloroisopropyl)ether	ND	0.20								
Bis(2-ethylhexyl)phthalate	ND	0.50								
4-Bromophenyl phenyl ether	ND	0.20								
Butyl benzyl phthalate	ND	0.20								
Carbazole	ND	0.20								
4-Chloro-3-methylphenol	ND	0.50								
4-Chloroaniline	ND	0.50								
2-Chloronaphthalene	ND	0.25								
2-Chlorophenol	ND	0.20								
4-Chlorophenyl phenyl ether	ND	0.20								
Chrysene	ND	0.20								
Di-n-butyl phthalate	ND	0.50								
Di-n-octyl phthalate	ND	0.25								
Dibenz(a,h)anthracene	ND	0.20								
Dibenzofuran	ND	0.20								
1,2-Dichlorobenzene	ND	0.20								
1,3-Dichlorobenzene	ND	0.20								
1,4-Dichlorobenzene	ND	0.20								
3,3'-Dichlorobenzidine	ND	0.25								
Diethyl phthalate	ND	0.20								
Dimethyl phthalate	ND	0.20								
2,4-Dichlorophenol	ND	0.40								
2,4-Dimethylphenol	ND	0.30								
4,6-Dinitro-2-methylphenol	ND	0.50								
2,4-Dinitrophenol	ND	0.40								
2,4-Dinitrotoluene	ND	0.50								
2,6-Dinitrotoluene	ND	0.50								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1210279

14-Nov-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.1

Sample ID	mb-4140		SampType:	MBLK		TestCode:	EPA Method 8270C: Semivolatiles			
Client ID:	PBS		Batch ID:	4140		RunNo:	6106			
Prep Date:	10/5/2012		Analysis Date:	10/9/2012		SeqNo:	176018		Units: mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoranthene	ND	0.20								
Fluorene	ND	0.20								
Hexachlorobenzene	ND	0.20								
Hexachlorobutadiene	ND	0.20								
Hexachlorocyclopentadiene	ND	0.20								
Hexachloroethane	ND	0.20								
Indeno(1,2,3-cd)pyrene	ND	0.20								
Isophorone	ND	0.50								
1-Methylnaphthalene	ND	0.20								
2-Methylnaphthalene	ND	0.20								
2-Methylphenol	ND	0.50								
3+4-Methylphenol	ND	0.20								
N-Nitrosodi-n-propylamine	ND	0.20								
N-Nitrosodiphenylamine	ND	0.20								
Naphthalene	ND	0.20								
2-Nitroaniline	ND	0.20								
3-Nitroaniline	ND	0.20								
4-Nitroaniline	ND	0.40								
Nitrobenzene	ND	0.50								
2-Nitrophenol	ND	0.20								
4-Nitrophenol	ND	0.25								
Pentachlorophenol	ND	0.40								
Phenanthrene	ND	0.20								
Phenol	ND	0.20								
Pyrene	ND	0.20								
Pyridine	ND	0.50								
1,2,4-Trichlorobenzene	ND	0.20								
2,4,5-Trichlorophenol	ND	0.20								
2,4,6-Trichlorophenol	ND	0.20								
Surr: 2,4,6-Tribromophenol	2.3		3.330		68.7	21.3	145			
Surr: 2-Fluorobiphenyl	0.94		1.670		56.2	20	131			
Surr: 2-Fluorophenol	2.0		3.330		59.6	11.9	130			
Surr: 4-Terphenyl-d14	0.96		1.670		57.5	25.1	149			
Surr: Nitrobenzene-d5	1.0		1.670		59.9	25.6	137			
Surr: Phenol-d5	2.1		3.330		62.9	20.3	132			

Sample ID	lcs-4140		SampType:	LCS		TestCode:	EPA Method 8270C: Semivolatiles			
Client ID:	LCSS		Batch ID:	4140		RunNo:	6106			
Prep Date:	10/5/2012		Analysis Date:	10/9/2012		SeqNo:	176019		Units: mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1210279

14-Nov-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.1

Sample ID	Ics-4140	SampType: LCS			TestCode: EPA Method 8270C: Semivolatiles					
Client ID:	LCSS	Batch ID: 4140			RunNo: 6106					
Prep Date:	10/5/2012	Analysis Date: 10/9/2012			SeqNo: 176019		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	0.99	0.20	1.670	0	59.5	49.7	98.1			
4-Chloro-3-methylphenol	2.2	0.50	3.330	0	65.1	43.8	89.1			
2-Chlorophenol	1.9	0.20	3.330	0	57.0	41.1	96.9			
1,4-Dichlorobenzene	0.91	0.20	1.670	0	54.6	41	97.4			
2,4-Dinitrotoluene	1.2	0.50	1.670	0	70.7	44.4	104			
N-Nitrosodi-n-propylamine	1.1	0.20	1.670	0	65.0	39.1	86.9			
4-Nitrophenol	2.1	0.25	3.330	0	62.6	44.2	107			
Pentachlorophenol	1.5	0.40	3.330	0	44.9	36.2	80			
Phenol	2.0	0.20	3.330	0	60.0	42.7	92.7			
Pyrene	0.90	0.20	1.670	0	53.9	34.7	98.8			
1,2,4-Trichlorobenzene	0.88	0.20	1.670	0	52.9	37.8	98.3			
Surr: 2,4,6-Tribromophenol	2.5		3.330		74.6	21.3	145			
Surr: 2-Fluorobiphenyl	1.1		1.670		66.2	20	131			
Surr: 2-Fluorophenol	1.9		3.330		55.8	11.9	130			
Surr: 4-Terphenyl-d14	1.1		1.670		64.8	25.1	149			
Surr: Nitrobenzene-d5	1.0		1.670		60.3	25.6	137			
Surr: Phenol-d5	2.1		3.330		63.6	20.3	132			

Sample ID	1210279-012CMS	SampType: MS			TestCode: EPA Method 8270C: Semivolatiles					
Client ID:	SWMU 1-3 (19.5-20')	Batch ID: 4140			RunNo: 6106					
Prep Date:	10/5/2012	Analysis Date: 10/9/2012			SeqNo: 176040		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	1.3	0.20	1.684	0	76.6	38.6	100			
4-Chloro-3-methylphenol	2.7	0.50	3.358	0	79.2	35.8	108			
2-Chlorophenol	2.4	0.20	3.358	0	72.3	48.2	96.1			
1,4-Dichlorobenzene	1.1	0.20	1.684	0	66.4	42.5	97.6			
2,4-Dinitrotoluene	1.6	0.50	1.684	0	92.4	51.2	108			
N-Nitrosodi-n-propylamine	1.1	0.20	1.684	0	67.5	31.6	114			
4-Nitrophenol	2.8	0.25	3.358	0	82.3	22.7	144			
Pentachlorophenol	2.1	0.40	3.358	0	61.1	24	109			
Phenol	2.6	0.20	3.358	0	76.4	33.1	108			
Pyrene	1.2	0.20	1.684	0	69.2	42.7	98.9			
1,2,4-Trichlorobenzene	1.1	0.20	1.684	0	64.3	27.1	118			
Surr: 2,4,6-Tribromophenol	2.9		3.358		86.1	21.3	145			
Surr: 2-Fluorobiphenyl	1.2		1.684		73.8	20	131			
Surr: 2-Fluorophenol	2.5		3.358		75.3	11.9	130			
Surr: 4-Terphenyl-d14	1.2		1.684		70.1	25.1	149			
Surr: Nitrobenzene-d5	1.2		1.684		73.1	25.6	137			
Surr: Phenol-d5	2.7		3.358		79.5	20.3	132			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1210279

14-Nov-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.1

Sample ID	1210279-012CMSD	SampType: MSD		TestCode: EPA Method 8270C: Semivolatiles						
Client ID:	SWMU 1-3 (19.5-20')	Batch ID: 4140		RunNo: 6106						
Prep Date:	10/5/2012	Analysis Date: 10/9/2012		SeqNo: 176041		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	1.2	0.20	1.667	0	74.1	38.6	100	4.39	20	
4-Chloro-3-methylphenol	2.7	0.50	3.324	0	82.1	35.8	108	2.56	20	
2-Chlorophenol	2.3	0.20	3.324	0	68.8	48.2	96.1	5.93	20	
1,4-Dichlorobenzene	1.0	0.20	1.667	0	62.1	42.5	97.6	7.84	20	
2,4-Dinitrotoluene	1.6	0.50	1.667	0	95.5	51.2	108	2.29	20	
N-Nitrosodi-n-propylamine	1.1	0.20	1.667	0	66.7	31.6	114	2.25	20	
4-Nitrophenol	2.9	0.25	3.324	0	88.4	22.7	144	6.14	20	
Pentachlorophenol	2.1	0.40	3.324	0	64.0	24	109	3.56	20	
Phenol	2.3	0.20	3.324	0	69.6	33.1	108	10.3	20	
Pyrene	1.2	0.20	1.667	0	71.4	42.7	98.9	2.04	20	
1,2,4-Trichlorobenzene	1.1	0.20	1.667	0	66.7	27.1	118	2.65	20	
Surr: 2,4,6-Tribromophenol	3.0		3.324		89.8	21.3	145	0	0	
Surr: 2-Fluorobiphenyl	1.2		1.667		71.8	20	131	0	0	
Surr: 2-Fluorophenol	2.4		3.324		72.3	11.9	130	0	0	
Surr: 4-Terphenyl-d14	1.2		1.667		72.5	25.1	149	0	0	
Surr: Nitrobenzene-d5	1.3		1.667		76.8	25.6	137	0	0	
Surr: Phenol-d5	2.6		3.324		77.9	20.3	132	0	0	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1210279

14-Nov-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.1

Sample ID	mb-4129		SampType: MBLK		TestCode: EPA Method 8270C: Semivolatiles					
Client ID:	PBW		Batch ID: 4129		RunNo: 6065					
Prep Date:	10/5/2012		Analysis Date: 10/8/2012		SeqNo: 174758		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	10								
Acenaphthylene	ND	10								
Aniline	ND	10								
Anthracene	ND	10								
Azobenzene	ND	10								
Benz(a)anthracene	ND	10								
Benzo(a)pyrene	ND	10								
Benzo(b)fluoranthene	ND	10								
Benzo(g,h,i)perylene	ND	10								
Benzo(k)fluoranthene	ND	10								
Benzoic acid	ND	20								
Benzyl alcohol	ND	10								
Bis(2-chloroethoxy)methane	ND	10								
Bis(2-chloroethyl)ether	ND	10								
Bis(2-chloroisopropyl)ether	ND	10								
Bis(2-ethylhexyl)phthalate	ND	10								
4-Bromophenyl phenyl ether	ND	10								
Butyl benzyl phthalate	ND	10								
Carbazole	ND	10								
4-Chloro-3-methylphenol	ND	10								
4-Chloroaniline	ND	10								
2-Chloronaphthalene	ND	10								
2-Chlorophenol	ND	10								
4-Chlorophenyl phenyl ether	ND	10								
Chrysene	ND	10								
Di-n-butyl phthalate	ND	10								
Di-n-octyl phthalate	ND	10								
Dibenz(a,h)anthracene	ND	10								
Dibenzofuran	ND	10								
1,2-Dichlorobenzene	ND	10								
1,3-Dichlorobenzene	ND	10								
1,4-Dichlorobenzene	ND	10								
3,3'-Dichlorobenzidine	ND	10								
Diethyl phthalate	ND	10								
Dimethyl phthalate	ND	10								
2,4-Dichlorophenol	ND	20								
2,4-Dimethylphenol	ND	10								
4,6-Dinitro-2-methylphenol	ND	20								
2,4-Dinitrophenol	ND	20								
2,4-Dinitrotoluene	ND	10								
2,6-Dinitrotoluene	ND	10								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1210279

14-Nov-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.1

Sample ID	mb-4129		SampType: MBLK			TestCode: EPA Method 8270C: Semivolatiles				
Client ID:	PBW		Batch ID: 4129			RunNo: 6065				
Prep Date:	10/5/2012		Analysis Date: 10/8/2012			SeqNo: 174758		Units: µg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoranthene	ND	10								
Fluorene	ND	10								
Hexachlorobenzene	ND	10								
Hexachlorobutadiene	ND	10								
Hexachlorocyclopentadiene	ND	10								
Hexachloroethane	ND	10								
Indeno(1,2,3-cd)pyrene	ND	10								
Isophorone	ND	10								
1-Methylnaphthalene	ND	10								
2-Methylnaphthalene	ND	10								
2-Methylphenol	ND	10								
3+4-Methylphenol	ND	10								
N-Nitrosodi-n-propylamine	ND	10								
N-Nitrosodimethylamine	ND	10								
N-Nitrosodiphenylamine	ND	10								
Naphthalene	ND	10								
2-Nitroaniline	ND	10								
3-Nitroaniline	ND	10								
4-Nitroaniline	ND	10								
Nitrobenzene	ND	10								
2-Nitrophenol	ND	10								
4-Nitrophenol	ND	10								
Pentachlorophenol	ND	20								
Phenanthrene	ND	10								
Phenol	ND	10								
Pyrene	ND	10								
Pyridine	ND	10								
1,2,4-Trichlorobenzene	ND	10								
2,4,5-Trichlorophenol	ND	10								
2,4,6-Trichlorophenol	ND	10								
Surr: 2,4,6-Tribromophenol	180		200.0		88.6	44.2	126			
Surr: 2-Fluorobiphenyl	74		100.0		73.9	37	114			
Surr: 2-Fluorophenol	140		200.0		70.6	23.4	98			
Surr: 4-Terphenyl-d14	77		100.0		76.8	41.3	116			
Surr: Nitrobenzene-d5	90		100.0		89.6	39.5	118			
Surr: Phenol-d5	110		200.0		54.8	20.9	95.9			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1210279

14-Nov-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.1

Sample ID	Ics-4129	SampType: LCS			TestCode: EPA Method 8270C: Semivolatiles					
Client ID:	LCSW	Batch ID: 4129			RunNo: 6065					
Prep Date:	10/5/2012	Analysis Date: 10/8/2012			SeqNo: 174759		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	69	10	100.0	0	68.6	38.2	99.4			
4-Chloro-3-methylphenol	170	10	200.0	0	82.8	35.5	108			
2-Chlorophenol	150	10	200.0	0	75.2	29.8	106			
1,4-Dichlorobenzene	59	10	100.0	0	58.6	32.6	91.5			
2,4-Dinitrotoluene	87	10	100.0	0	87.2	44.7	112			
N-Nitrosodi-n-propylamine	74	10	100.0	0	73.7	38.5	105			
4-Nitrophenol	95	10	200.0	0	47.3	11.6	73.1			
Pentachlorophenol	110	20	200.0	0	55.9	20.2	93			
Phenol	96	10	200.0	0	48.1	23	66.1			
Pyrene	67	10	100.0	0	67.3	40.1	101			
1,2,4-Trichlorobenzene	63	10	100.0	0	63.3	37.7	99.1			
Surr: 2,4,6-Tribromophenol	180		200.0		88.8	44.2	126			
Surr: 2-Fluorobiphenyl	65		100.0		65.2	37	114			
Surr: 2-Fluorophenol	120		200.0		61.3	23.4	98			
Surr: 4-Terphenyl-d14	69		100.0		68.7	41.3	116			
Surr: Nitrobenzene-d5	78		100.0		78.2	39.5	118			
Surr: Phenol-d5	110		200.0		52.5	20.9	95.9			

Sample ID	Icsd-4129		SampType: LCSD			TestCode: EPA Method 8270C: Semivolatiles					
Client ID:	LCSS02		Batch ID: 4129			RunNo: 6065					
Prep Date:	10/5/2012		Analysis Date: 10/8/2012			SeqNo: 174760		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Acenaphthene	70	10	100.0	0	70.5	38.2	99.4	2.79	20		
4-Chloro-3-methylphenol	170	10	200.0	0	85.2	35.5	108	2.83	20		
2-Chlorophenol	150	10	200.0	0	74.9	29.8	106	0.386	20		
1,4-Dichlorobenzene	60	10	100.0	0	59.7	32.6	91.5	1.93	20		
2,4-Dinitrotoluene	91	10	100.0	0	91.1	44.7	112	4.31	20		
N-Nitrosodi-n-propylamine	75	10	100.0	0	74.7	38.5	105	1.27	20		
4-Nitrophenol	100	10	200.0	0	50.7	11.6	73.1	6.98	20		
Pentachlorophenol	110	20	200.0	0	55.9	20.2	93	0.0536	20		
Phenol	89	10	200.0	0	44.7	23	66.1	7.41	20		
Pyrene	74	10	100.0	0	74.0	40.1	101	9.37	20		
1,2,4-Trichlorobenzene	64	10	100.0	0	63.9	37.7	99.1	0.943	20		
Surr: 2,4,6-Tribromophenol	170		200.0		84.4	44.2	126	0	0		
Surr: 2-Fluorobiphenyl	65		100.0		65.0	37	114	0	0		
Surr: 2-Fluorophenol	110		200.0		55.6	23.4	98	0	0		
Surr: 4-Terphenyl-d14	75		100.0		75.1	41.3	116	0	0		
Surr: Nitrobenzene-d5	76		100.0		76.1	39.5	118	0	0		
Surr: Phenol-d5	94		200.0		47.1	20.9	95.9	0	0		

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1210279

14-Nov-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.1

Sample ID	MB-4086		SampType: MBLK		TestCode: EPA Method 7471: Mercury					
Client ID:	PBS		Batch ID: 4086		RunNo: 6082					
Prep Date:	10/8/2012		Analysis Date: 10/9/2012		SeqNo: 175476		Units: mg/kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercurv	ND	0.033								

Sample ID	LCS-4086		SampType: LCS		TestCode: EPA Method 7471: Mercury					
Client ID:	LCSS		Batch ID: 4086		RunNo: 6082					
Prep Date:	10/8/2012		Analysis Date: 10/9/2012		SeqNo: 175477		Units: mg/kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.17	0.033	0.1667	0	104	80	120			

Sample ID	1210279-008CMS		SampType: MS		TestCode: EPA Method 7471: Mercury					
Client ID:	SWMU 1-3 (2-4')		Batch ID: 4086		RunNo: 6082					
Prep Date:	10/8/2012		Analysis Date: 10/9/2012		SeqNo: 175510		Units: mg/kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.15	0.033	0.1665	0.01287	84.9	75	125			

Sample ID	1210279-008CMSD		SampType: MSD		TestCode: EPA Method 7471: Mercury					
Client ID:	SWMU 1-3 (2-4')		Batch ID: 4086		RunNo: 6082					
Prep Date:	10/8/2012		Analysis Date: 10/9/2012		SeqNo: 175511		Units: mg/kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.15	0.033	0.1686	0.01287	82.8	75	125	1.08	20	

Sample ID	MB-4150		SampType: MBLK		TestCode: EPA Method 7471: Mercury					
Client ID:	PBS		Batch ID: 4150		RunNo: 6082					
Prep Date:	10/8/2012		Analysis Date: 10/9/2012		SeqNo: 175512		Units: mg/kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.033								

Sample ID	LCS-4150		SampType: LCS		TestCode: EPA Method 7471: Mercury					
Client ID:	LCSS		Batch ID: 4150		RunNo: 6082					
Prep Date:	10/8/2012		Analysis Date: 10/9/2012		SeqNo: 175513		Units: mg/kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.19	0.033	0.1667	0	117	80	120			

Sample ID	1210332-015CMS		SampType: MS		TestCode: EPA Method 7471: Mercury					
Client ID:	BatchQC		Batch ID: 4150		RunNo: 6082					
Prep Date:	10/8/2012		Analysis Date: 10/9/2012		SeqNo: 175534		Units: mg/kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.18	0.033	0.1635	0	108	75	125			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1210279

14-Nov-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.1

Sample ID	1210332-015CMSD	SampType:	MSD	TestCode:	EPA Method 7471: Mercury						
Client ID:	BatchQC	Batch ID:	4150	RunNo:	6082						
Prep Date:	10/8/2012	Analysis Date:	10/9/2012	SeqNo:	175535	Units:	mg/kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Mercury	0.18	0.033	0.1662	0	108	75	125	1.95	20		

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1210279

14-Nov-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.1

Sample ID	MB-4300	SampType:	MBLK	TestCode:	EPA Method 6010B: Soil Metals					
Client ID:	PBS	Batch ID:	4300	RunNo:	6281					
Prep Date:	10/15/2012	Analysis Date:	10/16/2012	SeqNo:	181006	Units:	mg/Kg			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	2.5								
Arsenic	ND	2.5								
Barium	ND	0.10								
Beryllium	ND	0.15								
Cadmium	ND	0.10								
Chromium	ND	0.30								
Cobalt	ND	0.30								
Lead	ND	0.25								
Manganese	ND	0.10								
Nickel	ND	0.50								
Selenium	ND	2.5								
Silver	ND	0.25								
Vanadium	ND	2.5								
Zinc	ND	2.5								

Sample ID	LCS-4300	SampType:	LCS	TestCode:	EPA Method 6010B: Soil Metals					
Client ID:	LCSS	Batch ID:	4300	RunNo:	6281					
Prep Date:	10/15/2012	Analysis Date:	10/16/2012	SeqNo:	181012	Units:	mg/Kg			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	24	2.5	25.00	0.9150	90.4	80	120			
Arsenic	27	2.5	25.00	0	107	80	120			
Barium	25	0.10	25.00	0	101	80	120			
Beryllium	27	0.15	25.00	0	108	80	120			
Cadmium	26	0.10	25.00	0	104	80	120			
Chromium	25	0.30	25.00	0	100	80	120			
Cobalt	25	0.30	25.00	0	100	80	120			
Lead	26	0.25	25.00	0	103	80	120			
Manganese	25	0.10	25.00	0.05000	99.4	80	120			
Nickel	25	0.50	25.00	0	99.0	80	120			
Selenium	26	2.5	25.00	0	105	80	120			
Silver	5.2	0.25	5.000	0	104	80	120			
Vanadium	26	2.5	25.00	0	103	80	120			
Zinc	26	2.5	25.00	0	104	80	120			

Sample ID	MB-4300	SampType:	MBLK	TestCode:	EPA Method 6010B: Soil Metals					
Client ID:	PBS	Batch ID:	4300	RunNo:	6310					
Prep Date:	10/15/2012	Analysis Date:	10/17/2012	SeqNo:	181592	Units:	mg/Kg			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	ND	1.0								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1210279

14-Nov-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.1

Sample ID	LCS-4300		SampType: LCS		TestCode: EPA Method 6010B: Soil Metals					
Client ID:	LCSS		Batch ID: 4300		RunNo: 6310					
Prep Date:	10/15/2012		Analysis Date: 10/17/2012		SeqNo: 181593		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	27	1.0	25.00	0	108	80	120			

Sample ID	1210583-001CMS		SampType: MS		TestCode: EPA Method 6010B: Soil Metals					
Client ID:	BatchQC		Batch ID: 4300		RunNo: 6310					
Prep Date:	10/15/2012		Analysis Date: 10/17/2012		SeqNo: 181667		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	25	0.75	24.84	0.8953	96.7	75	125			
Cadmium	22	0.50	24.84	0	90.2	75	125			
Chromium	31	1.5	24.84	12.41	74.0	75	125			S
Cobalt	26	1.5	24.84	5.546	80.5	75	125			
Lead	26	1.3	24.84	5.875	81.9	75	125			
Nickel	29	2.5	24.84	8.319	83.0	75	125			
Silver	4.6	1.3	4.967	0	92.2	75	125			
Vanadium	47	13	24.84	25.45	86.0	75	125			
Zinc	49	13	24.84	33.40	64.7	75	125			S

Sample ID	1210583-001CMSD		SampType: MSD		TestCode: EPA Method 6010B: Soil Metals					
Client ID:	BatchQC		Batch ID: 4300		RunNo: 6310					
Prep Date:	10/15/2012		Analysis Date: 10/17/2012		SeqNo: 181668		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	26	0.75	24.89	0.8953	101	75	125	4.27	20	
Cadmium	23	0.50	24.89	0	94.2	75	125	4.55	20	
Chromium	33	1.5	24.89	12.41	83.0	75	125	7.15	20	
Cobalt	27	1.5	24.89	5.546	85.8	75	125	5.17	20	
Lead	28	1.2	24.89	5.875	87.0	75	125	4.93	20	
Nickel	30	2.5	24.89	8.319	88.6	75	125	4.90	20	
Silver	4.9	1.2	4.978	0	98.0	75	125	6.31	20	
Vanadium	48	12	24.89	25.45	91.4	75	125	2.90	20	
Zinc	58	12	24.89	33.40	98.3	75	125	15.6	20	

Sample ID	1210583-001CMS	SampType: MS			TestCode: EPA Method 6010B: Soil Metals					
Client ID:	BatchQC	Batch ID: 4300			RunNo: 6437					
Prep Date:	10/15/2012	Analysis Date: 10/23/2012			SeqNo: 185157		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	12	24.84	0	30.6	75	125			S
Arsenic	25	12	24.84	0	102	75	125			
Selenium	13	12	24.84	0	53.6	75	125			S

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1210279

14-Nov-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.1

Sample ID	1210583-001CMSD	SampType:	MSD	TestCode:	EPA Method 6010B: Soil Metals					
Client ID:	BatchQC	Batch ID:	4300	RunNo:	6437					
Prep Date:	10/15/2012	Analysis Date:	10/23/2012	SeqNo:	185160	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	12	24.89	0	34.4	75	125	0	20	S
Arsenic	26	12	24.89	0	105	75	125	3.33	20	
Selenium	16	12	24.89	0	62.7	75	125	16.0	20	S

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87105
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: Western Refining Gallup Work Order Number: 1210279
Received by/date: mg 10/04/12
Logged By: Ashley Gallegos 10/4/2012 8:00:00 AM AG
Completed By: Ashley Gallegos 10/4/2012 9:13:43 AM AG
Reviewed By: IO 10/04/12

Chain of Custody

1. Were seals intact? Yes ☐ No ☐ Not Present ☒
2. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
3. How was the sample delivered? FedEx

Log In

4. Coolers are present? (see 19. for cooler specific information) Yes ☒ No ☐ NA ☐
5. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
6. Were all samples received at a temperature of $>0^{\circ}\text{C}$ to 6.0°C ? Yes ☒ No ☐ NA ☐
7. Sample(s) in proper container(s)? Yes ☒ No ☐
8. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
9. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☒
10. Was preservative added to bottles? Yes ☒ No ☒ NA ☐
11. VOA vials have zero headspace? Yes ☒ No ☐ No VOA Vials ☐
12. Were any sample containers received broken? Yes ☐ No ☒
13. Does paperwork match bottle labels?
(Note discrepancies on chain of custody) Yes ☒ No ☐
14. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
15. Is it clear what analyses were requested? Yes ☒ No ☐
16. Were all holding times able to be met?
(If no, notify customer for authorization.) Yes ☒ No ☐

OOGE - ADDED 3mL HNO₃ FOR ACCEPTABLE pH - OOGEF - ADDED 2 PELLETS NaOH FOR ACCEPTABLE pH

of preserved
bottles checked
for pH: 2 2
(2 or >12 unless noted)
Adjusted? yes
Checked by: U

Special Handling (if applicable)

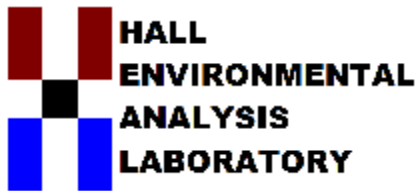
17. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified: _____ Date: _____
By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding: _____
Client Instructions: _____

18. Additional remarks:

19. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.6	Good	Yes			



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

November 14, 2012

Scott Crouch

Western Refining Southwest, Gallup

Rt. 3 Box 7

Gallup, NM 87301

TEL:

FAX

RE: SWMU NO.1

OrderNo.: 1210332

Dear Scott Crouch:

Hall Environmental Analysis Laboratory received 15 sample(s) on 10/5/2012 for the analyses presented in the following report.

This report is a revised report and it replaces the original report issued October 29, 2012.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. All samples are reported as received unless otherwise indicated.

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

Sincerely,

A handwritten signature in black ink, appearing to read "Andy Freeman", with a stylized flourish at the end.

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210332

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-4 (10-12')DUP

Project: SWMU NO.1

Collection Date: 10/3/2012 1:15:00 PM

Lab ID: 1210332-001

Matrix: SOIL

Received Date: 10/5/2012 6:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: JMP
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	10/8/2012 9:31:27 AM
Motor Oil Range Organics (MRO)	ND	51		mg/Kg	1	10/8/2012 9:31:27 AM
Surr: DNOP	95.9	77.6-140		%REC	1	10/8/2012 9:31:27 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	10/6/2012 5:39:05 PM
Surr: BFB	108	84-116		%REC	1	10/6/2012 5:39:05 PM
EPA METHOD 7471: MERCURY						Analyst: IDC
Mercury	ND	0.033		mg/kg	1	10/9/2012 11:08:22 AM
EPA METHOD 6010B: SOIL METALS						Analyst: JLF
Antimony	ND	12		mg/Kg	5	10/11/2012 9:55:44 AM
Arsenic	ND	12		mg/Kg	5	10/11/2012 9:55:44 AM
Barium	870	5.0		mg/Kg	50	10/11/2012 11:42:40 AM
Beryllium	ND	0.75		mg/Kg	5	10/11/2012 9:55:44 AM
Cadmium	ND	0.50		mg/Kg	5	10/11/2012 9:55:44 AM
Chromium	6.4	1.5		mg/Kg	5	10/11/2012 9:55:44 AM
Cobalt	3.1	1.5		mg/Kg	5	10/11/2012 9:55:44 AM
Iron	9200	500		mg/Kg	500	10/11/2012 11:45:05 AM
Lead	4.4	1.2		mg/Kg	5	10/11/2012 9:55:44 AM
Manganese	1400	5.0		mg/Kg	50	10/11/2012 11:42:40 AM
Nickel	5.0	2.5		mg/Kg	5	10/11/2012 9:55:44 AM
Selenium	ND	12		mg/Kg	5	10/11/2012 9:55:44 AM
Silver	ND	1.2		mg/Kg	5	10/11/2012 9:55:44 AM
Vanadium	19	12		mg/Kg	5	10/11/2012 9:55:44 AM
Zinc	ND	12		mg/Kg	5	10/11/2012 9:55:44 AM
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Acenaphthene	ND	0.20		mg/Kg	1	10/9/2012 7:22:09 PM
Acenaphthylene	ND	0.20		mg/Kg	1	10/9/2012 7:22:09 PM
Aniline	ND	0.20		mg/Kg	1	10/9/2012 7:22:09 PM
Anthracene	ND	0.20		mg/Kg	1	10/9/2012 7:22:09 PM
Azobenzene	ND	0.20		mg/Kg	1	10/9/2012 7:22:09 PM
Benz(a)anthracene	ND	0.20		mg/Kg	1	10/9/2012 7:22:09 PM
Benzo(a)pyrene	ND	0.20		mg/Kg	1	10/9/2012 7:22:09 PM
Benzo(b)fluoranthene	ND	0.20		mg/Kg	1	10/9/2012 7:22:09 PM
Benzo(g,h,i)perylene	ND	0.20		mg/Kg	1	10/9/2012 7:22:09 PM
Benzo(k)fluoranthene	ND	0.20		mg/Kg	1	10/9/2012 7:22:09 PM
Benzoic acid	ND	0.49		mg/Kg	1	10/9/2012 7:22:09 PM
Benzyl alcohol	ND	0.20		mg/Kg	1	10/9/2012 7:22:09 PM
Bis(2-chloroethoxy)methane	ND	0.20		mg/Kg	1	10/9/2012 7:22:09 PM
Bis(2-chloroethyl)ether	ND	0.20		mg/Kg	1	10/9/2012 7:22:09 PM
Bis(2-chloroisopropyl)ether	ND	0.20		mg/Kg	1	10/9/2012 7:22:09 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210332

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-4 (10-12')DUP

Project: SWMU NO.1

Collection Date: 10/3/2012 1:15:00 PM

Lab ID: 1210332-001

Matrix: SOIL

Received Date: 10/5/2012 6:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Bis(2-ethylhexyl)phthalate	ND	0.49		mg/Kg	1	10/9/2012 7:22:09 PM
4-Bromophenyl phenyl ether	ND	0.20		mg/Kg	1	10/9/2012 7:22:09 PM
Butyl benzyl phthalate	ND	0.20		mg/Kg	1	10/9/2012 7:22:09 PM
Carbazole	ND	0.20		mg/Kg	1	10/9/2012 7:22:09 PM
4-Chloro-3-methylphenol	ND	0.49		mg/Kg	1	10/9/2012 7:22:09 PM
4-Chloroaniline	ND	0.49		mg/Kg	1	10/9/2012 7:22:09 PM
2-Chloronaphthalene	ND	0.25		mg/Kg	1	10/9/2012 7:22:09 PM
2-Chlorophenol	ND	0.20		mg/Kg	1	10/9/2012 7:22:09 PM
4-Chlorophenyl phenyl ether	ND	0.20		mg/Kg	1	10/9/2012 7:22:09 PM
Chrysene	ND	0.20		mg/Kg	1	10/9/2012 7:22:09 PM
Di-n-butyl phthalate	ND	0.49		mg/Kg	1	10/9/2012 7:22:09 PM
Di-n-octyl phthalate	ND	0.25		mg/Kg	1	10/9/2012 7:22:09 PM
Dibenz(a,h)anthracene	ND	0.20		mg/Kg	1	10/9/2012 7:22:09 PM
Dibenzofuran	ND	0.20		mg/Kg	1	10/9/2012 7:22:09 PM
1,2-Dichlorobenzene	ND	0.20		mg/Kg	1	10/9/2012 7:22:09 PM
1,3-Dichlorobenzene	ND	0.20		mg/Kg	1	10/9/2012 7:22:09 PM
1,4-Dichlorobenzene	ND	0.20		mg/Kg	1	10/9/2012 7:22:09 PM
3,3'-Dichlorobenzidine	ND	0.25		mg/Kg	1	10/9/2012 7:22:09 PM
Diethyl phthalate	ND	0.20		mg/Kg	1	10/9/2012 7:22:09 PM
Dimethyl phthalate	ND	0.20		mg/Kg	1	10/9/2012 7:22:09 PM
2,4-Dichlorophenol	ND	0.40		mg/Kg	1	10/9/2012 7:22:09 PM
2,4-Dimethylphenol	ND	0.30		mg/Kg	1	10/9/2012 7:22:09 PM
4,6-Dinitro-2-methylphenol	ND	0.49		mg/Kg	1	10/9/2012 7:22:09 PM
2,4-Dinitrophenol	ND	0.40		mg/Kg	1	10/9/2012 7:22:09 PM
2,4-Dinitrotoluene	ND	0.49		mg/Kg	1	10/9/2012 7:22:09 PM
2,6-Dinitrotoluene	ND	0.49		mg/Kg	1	10/9/2012 7:22:09 PM
Fluoranthene	ND	0.20		mg/Kg	1	10/9/2012 7:22:09 PM
Fluorene	ND	0.20		mg/Kg	1	10/9/2012 7:22:09 PM
Hexachlorobenzene	ND	0.20		mg/Kg	1	10/9/2012 7:22:09 PM
Hexachlorobutadiene	ND	0.20		mg/Kg	1	10/9/2012 7:22:09 PM
Hexachlorocyclopentadiene	ND	0.20		mg/Kg	1	10/9/2012 7:22:09 PM
Hexachloroethane	ND	0.20		mg/Kg	1	10/9/2012 7:22:09 PM
Indeno(1,2,3-cd)pyrene	ND	0.20		mg/Kg	1	10/9/2012 7:22:09 PM
Isophorone	ND	0.49		mg/Kg	1	10/9/2012 7:22:09 PM
1-Methylnaphthalene	ND	0.20		mg/Kg	1	10/9/2012 7:22:09 PM
2-Methylnaphthalene	ND	0.20		mg/Kg	1	10/9/2012 7:22:09 PM
2-Methylphenol	ND	0.49		mg/Kg	1	10/9/2012 7:22:09 PM
3+4-Methylphenol	ND	0.20		mg/Kg	1	10/9/2012 7:22:09 PM
N-Nitrosodi-n-propylamine	ND	0.20		mg/Kg	1	10/9/2012 7:22:09 PM
N-Nitrosodiphenylamine	ND	0.20		mg/Kg	1	10/9/2012 7:22:09 PM
Naphthalene	ND	0.20		mg/Kg	1	10/9/2012 7:22:09 PM
2-Nitroaniline	ND	0.20		mg/Kg	1	10/9/2012 7:22:09 PM

Qualifiers:

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- E Value above quantitation range
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- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
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CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-4 (10-12')DUP

Project: SWMU NO.1

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Lab ID: 1210332-001

Matrix: SOIL

Received Date: 10/5/2012 6:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
3-Nitroaniline	ND	0.20		mg/Kg	1	10/9/2012 7:22:09 PM
4-Nitroaniline	ND	0.40		mg/Kg	1	10/9/2012 7:22:09 PM
Nitrobenzene	ND	0.49		mg/Kg	1	10/9/2012 7:22:09 PM
2-Nitrophenol	ND	0.20		mg/Kg	1	10/9/2012 7:22:09 PM
4-Nitrophenol	ND	0.25		mg/Kg	1	10/9/2012 7:22:09 PM
Pentachlorophenol	ND	0.40		mg/Kg	1	10/9/2012 7:22:09 PM
Phenanthrene	ND	0.20		mg/Kg	1	10/9/2012 7:22:09 PM
Phenol	ND	0.20		mg/Kg	1	10/9/2012 7:22:09 PM
Pyrene	ND	0.20		mg/Kg	1	10/9/2012 7:22:09 PM
Pyridine	ND	0.49		mg/Kg	1	10/9/2012 7:22:09 PM
1,2,4-Trichlorobenzene	ND	0.20		mg/Kg	1	10/9/2012 7:22:09 PM
2,4,5-Trichlorophenol	ND	0.20		mg/Kg	1	10/9/2012 7:22:09 PM
2,4,6-Trichlorophenol	ND	0.20		mg/Kg	1	10/9/2012 7:22:09 PM
Surr: 2,4,6-Tribromophenol	83.5	21.3-145		%REC	1	10/9/2012 7:22:09 PM
Surr: 2-Fluorobiphenyl	75.5	20-131		%REC	1	10/9/2012 7:22:09 PM
Surr: 2-Fluorophenol	80.0	11.9-130		%REC	1	10/9/2012 7:22:09 PM
Surr: 4-Terphenyl-d14	66.4	25.1-149		%REC	1	10/9/2012 7:22:09 PM
Surr: Nitrobenzene-d5	73.6	25.6-137		%REC	1	10/9/2012 7:22:09 PM
Surr: Phenol-d5	83.3	20.3-132		%REC	1	10/9/2012 7:22:09 PM
METHOD 8260B/5035LOW: VOLATILES						Analyst: RAA
Benzene	ND	0.000986		mg/Kg	1	10/8/2012 9:56:35 PM
Toluene	ND	0.000986		mg/Kg	1	10/8/2012 9:56:35 PM
Ethylbenzene	ND	0.000986		mg/Kg	1	10/8/2012 9:56:35 PM
Xylenes, Total	ND	0.00197		mg/Kg	1	10/8/2012 9:56:35 PM
Methyl tert-butyl ether (MTBE)	ND	0.000986		mg/Kg	1	10/8/2012 9:56:35 PM
1,2,4-Trimethylbenzene	ND	0.000986		mg/Kg	1	10/8/2012 9:56:35 PM
1,3,5-Trimethylbenzene	ND	0.000986		mg/Kg	1	10/8/2012 9:56:35 PM
1,2-Dichloroethane (EDC)	ND	0.000986		mg/Kg	1	10/8/2012 9:56:35 PM
1,2-Dibromoethane (EDB)	ND	0.000986		mg/Kg	1	10/8/2012 9:56:35 PM
Naphthalene	ND	0.00197		mg/Kg	1	10/8/2012 9:56:35 PM
1-Methylnaphthalene	ND	0.00395		mg/Kg	1	10/8/2012 9:56:35 PM
2-Methylnaphthalene	ND	0.00395		mg/Kg	1	10/8/2012 9:56:35 PM
Acetone	0.0116	0.00986		mg/Kg	1	10/8/2012 9:56:35 PM
Bromobenzene	ND	0.000986		mg/Kg	1	10/8/2012 9:56:35 PM
Bromodichloromethane	ND	0.000986		mg/Kg	1	10/8/2012 9:56:35 PM
Bromoform	ND	0.000986		mg/Kg	1	10/8/2012 9:56:35 PM
Bromomethane	ND	0.000986		mg/Kg	1	10/8/2012 9:56:35 PM
2-Butanone	ND	0.00986		mg/Kg	1	10/8/2012 9:56:35 PM
Carbon tetrachloride	ND	0.000986		mg/Kg	1	10/8/2012 9:56:35 PM
Chlorobenzene	ND	0.000986		mg/Kg	1	10/8/2012 9:56:35 PM
Chloroethane	ND	0.000986		mg/Kg	1	10/8/2012 9:56:35 PM

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Analytical Report

Lab Order 1210332

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-4 (10-12')DUP

Project: SWMU NO.1

Collection Date: 10/3/2012 1:15:00 PM

Lab ID: 1210332-001

Matrix: SOIL

Received Date: 10/5/2012 6:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
METHOD 8260B/5035LOW: VOLATILES						Analyst: RAA
Chloroform	ND	0.000986		mg/Kg	1	10/8/2012 9:56:35 PM
Chloromethane	ND	0.000986		mg/Kg	1	10/8/2012 9:56:35 PM
2-Chlorotoluene	ND	0.000986		mg/Kg	1	10/8/2012 9:56:35 PM
Carbon disulfide	ND	0.000986		mg/Kg	1	10/8/2012 9:56:35 PM
4-Chlorotoluene	ND	0.000986		mg/Kg	1	10/8/2012 9:56:35 PM
cis-1,2-DCE	ND	0.000986		mg/Kg	1	10/8/2012 9:56:35 PM
cis-1,3-Dichloropropene	ND	0.000986		mg/Kg	1	10/8/2012 9:56:35 PM
1,2-Dibromo-3-chloropropane	ND	0.000986		mg/Kg	1	10/8/2012 9:56:35 PM
Dibromochloromethane	ND	0.000986		mg/Kg	1	10/8/2012 9:56:35 PM
Dibromomethane	ND	0.000986		mg/Kg	1	10/8/2012 9:56:35 PM
1,2-Dichlorobenzene	ND	0.000986		mg/Kg	1	10/8/2012 9:56:35 PM
1,3-Dichlorobenzene	ND	0.000986		mg/Kg	1	10/8/2012 9:56:35 PM
1,4-Dichlorobenzene	ND	0.000986		mg/Kg	1	10/8/2012 9:56:35 PM
Dichlorodifluoromethane	ND	0.000986		mg/Kg	1	10/8/2012 9:56:35 PM
1,1-Dichloroethane	ND	0.000986		mg/Kg	1	10/8/2012 9:56:35 PM
1,1-Dichloroethene	ND	0.000986		mg/Kg	1	10/8/2012 9:56:35 PM
1,2-Dichloropropane	ND	0.000986		mg/Kg	1	10/8/2012 9:56:35 PM
1,3-Dichloropropane	ND	0.000986		mg/Kg	1	10/8/2012 9:56:35 PM
2,2-Dichloropropane	ND	0.000986		mg/Kg	1	10/8/2012 9:56:35 PM
1,1-Dichloropropene	ND	0.000986		mg/Kg	1	10/8/2012 9:56:35 PM
Hexachlorobutadiene	ND	0.000986		mg/Kg	1	10/8/2012 9:56:35 PM
Isopropylbenzene	ND	0.000986		mg/Kg	1	10/8/2012 9:56:35 PM
4-Isopropyltoluene	ND	0.000986		mg/Kg	1	10/8/2012 9:56:35 PM
Methylene chloride	ND	0.00296		mg/Kg	1	10/8/2012 9:56:35 PM
n-Butylbenzene	ND	0.000986		mg/Kg	1	10/8/2012 9:56:35 PM
2-Hexanone	ND	0.000986		mg/Kg	1	10/8/2012 9:56:35 PM
n-Propylbenzene	ND	0.000986		mg/Kg	1	10/8/2012 9:56:35 PM
sec-Butylbenzene	ND	0.000986		mg/Kg	1	10/8/2012 9:56:35 PM
Styrene	ND	0.000986		mg/Kg	1	10/8/2012 9:56:35 PM
4-Methyl-2-pentanone	ND	0.000986		mg/Kg	1	10/8/2012 9:56:35 PM
tert-Butylbenzene	ND	0.000986		mg/Kg	1	10/8/2012 9:56:35 PM
1,1,1,2-Tetrachloroethane	ND	0.000986		mg/Kg	1	10/8/2012 9:56:35 PM
1,1,2,2-Tetrachloroethane	ND	0.000986		mg/Kg	1	10/8/2012 9:56:35 PM
Tetrachloroethene (PCE)	ND	0.000986		mg/Kg	1	10/8/2012 9:56:35 PM
trans-1,2-DCE	ND	0.000986		mg/Kg	1	10/8/2012 9:56:35 PM
trans-1,3-Dichloropropene	ND	0.000986		mg/Kg	1	10/8/2012 9:56:35 PM
1,2,3-Trichlorobenzene	ND	0.000986		mg/Kg	1	10/8/2012 9:56:35 PM
1,2,4-Trichlorobenzene	ND	0.000986		mg/Kg	1	10/8/2012 9:56:35 PM
1,1,1-Trichloroethane	ND	0.000986		mg/Kg	1	10/8/2012 9:56:35 PM
1,1,2-Trichloroethane	ND	0.000986		mg/Kg	1	10/8/2012 9:56:35 PM
Trichloroethene (TCE)	ND	0.000986		mg/Kg	1	10/8/2012 9:56:35 PM
Trichlorofluoromethane	ND	0.000986		mg/Kg	1	10/8/2012 9:56:35 PM

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Matrix: SOIL

Received Date: 10/5/2012 6:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
METHOD 8260B/5035LOW: VOLATILES						Analyst: RAA
1,2,3-Trichloropropane	ND	0.000986		mg/Kg	1	10/8/2012 9:56:35 PM
Vinyl chloride	ND	0.000986		mg/Kg	1	10/8/2012 9:56:35 PM
Surr: 1,2-Dichloroethane-d4	94.8	70-130		%REC	1	10/8/2012 9:56:35 PM
Surr: 4-Bromofluorobenzene	93.4	70-130		%REC	1	10/8/2012 9:56:35 PM
Surr: Dibromofluoromethane	91.9	70-130		%REC	1	10/8/2012 9:56:35 PM
Surr: Toluene-d8	92.7	70-130		%REC	1	10/8/2012 9:56:35 PM

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Lab Order 1210332

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-4 (17-18')

Project: SWMU NO.1

Collection Date: 10/3/2012 1:45:00 PM

Lab ID: 1210332-002

Matrix: SOIL

Received Date: 10/5/2012 6:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: JMP
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	10/6/2012 9:43:43 PM
Motor Oil Range Organics (MRO)	ND	51		mg/Kg	1	10/6/2012 9:43:43 PM
Surr: DNOP	91.0	77.6-140		%REC	1	10/6/2012 9:43:43 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	13	5.0		mg/Kg	1	10/6/2012 6:09:29 PM
Surr: BFB	105	84-116		%REC	1	10/6/2012 6:09:29 PM
EPA METHOD 7471: MERCURY						Analyst: IDC
Mercury	ND	0.033		mg/kg	1	10/9/2012 11:10:08 AM
EPA METHOD 6010B: SOIL METALS						Analyst: JLF
Antimony	ND	12		mg/Kg	5	10/11/2012 10:00:49 AM
Arsenic	ND	12		mg/Kg	5	10/11/2012 10:00:49 AM
Barium	370	5.0		mg/Kg	50	10/11/2012 11:48:01 AM
Beryllium	ND	0.75		mg/Kg	5	10/11/2012 10:00:49 AM
Cadmium	ND	0.50		mg/Kg	5	10/11/2012 10:00:49 AM
Chromium	7.9	1.5		mg/Kg	5	10/11/2012 10:00:49 AM
Cobalt	3.9	1.5		mg/Kg	5	10/11/2012 10:00:49 AM
Iron	10000	500		mg/Kg	500	10/11/2012 11:50:28 AM
Lead	2.7	1.2		mg/Kg	5	10/11/2012 10:00:49 AM
Manganese	570	5.0		mg/Kg	50	10/11/2012 11:48:01 AM
Nickel	6.0	2.5		mg/Kg	5	10/11/2012 10:00:49 AM
Selenium	ND	12		mg/Kg	5	10/11/2012 10:00:49 AM
Silver	ND	1.2		mg/Kg	5	10/11/2012 10:00:49 AM
Vanadium	17	12		mg/Kg	5	10/11/2012 10:00:49 AM
Zinc	17	12		mg/Kg	5	10/11/2012 10:00:49 AM
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Acenaphthene	ND	0.20		mg/Kg	1	10/9/2012 7:51:52 PM
Acenaphthylene	ND	0.20		mg/Kg	1	10/9/2012 7:51:52 PM
Aniline	ND	0.20		mg/Kg	1	10/9/2012 7:51:52 PM
Anthracene	ND	0.20		mg/Kg	1	10/9/2012 7:51:52 PM
Azobenzene	ND	0.20		mg/Kg	1	10/9/2012 7:51:52 PM
Benz(a)anthracene	ND	0.20		mg/Kg	1	10/9/2012 7:51:52 PM
Benzo(a)pyrene	ND	0.20		mg/Kg	1	10/9/2012 7:51:52 PM
Benzo(b)fluoranthene	ND	0.20		mg/Kg	1	10/9/2012 7:51:52 PM
Benzo(g,h,i)perylene	ND	0.20		mg/Kg	1	10/9/2012 7:51:52 PM
Benzo(k)fluoranthene	ND	0.20		mg/Kg	1	10/9/2012 7:51:52 PM
Benzoic acid	ND	0.50		mg/Kg	1	10/9/2012 7:51:52 PM
Benzyl alcohol	ND	0.20		mg/Kg	1	10/9/2012 7:51:52 PM
Bis(2-chloroethoxy)methane	ND	0.20		mg/Kg	1	10/9/2012 7:51:52 PM
Bis(2-chloroethyl)ether	ND	0.20		mg/Kg	1	10/9/2012 7:51:52 PM
Bis(2-chloroisopropyl)ether	ND	0.20		mg/Kg	1	10/9/2012 7:51:52 PM

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Lab ID: 1210332-002

Matrix: SOIL

Received Date: 10/5/2012 6:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Bis(2-ethylhexyl)phthalate	ND	0.50		mg/Kg	1	10/9/2012 7:51:52 PM
4-Bromophenyl phenyl ether	ND	0.20		mg/Kg	1	10/9/2012 7:51:52 PM
Butyl benzyl phthalate	ND	0.20		mg/Kg	1	10/9/2012 7:51:52 PM
Carbazole	ND	0.20		mg/Kg	1	10/9/2012 7:51:52 PM
4-Chloro-3-methylphenol	ND	0.50		mg/Kg	1	10/9/2012 7:51:52 PM
4-Chloroaniline	ND	0.50		mg/Kg	1	10/9/2012 7:51:52 PM
2-Chloronaphthalene	ND	0.25		mg/Kg	1	10/9/2012 7:51:52 PM
2-Chlorophenol	ND	0.20		mg/Kg	1	10/9/2012 7:51:52 PM
4-Chlorophenyl phenyl ether	ND	0.20		mg/Kg	1	10/9/2012 7:51:52 PM
Chrysene	ND	0.20		mg/Kg	1	10/9/2012 7:51:52 PM
Di-n-butyl phthalate	ND	0.50		mg/Kg	1	10/9/2012 7:51:52 PM
Di-n-octyl phthalate	ND	0.25		mg/Kg	1	10/9/2012 7:51:52 PM
Dibenz(a,h)anthracene	ND	0.20		mg/Kg	1	10/9/2012 7:51:52 PM
Dibenzofuran	ND	0.20		mg/Kg	1	10/9/2012 7:51:52 PM
1,2-Dichlorobenzene	ND	0.20		mg/Kg	1	10/9/2012 7:51:52 PM
1,3-Dichlorobenzene	ND	0.20		mg/Kg	1	10/9/2012 7:51:52 PM
1,4-Dichlorobenzene	ND	0.20		mg/Kg	1	10/9/2012 7:51:52 PM
3,3'-Dichlorobenzidine	ND	0.25		mg/Kg	1	10/9/2012 7:51:52 PM
Diethyl phthalate	ND	0.20		mg/Kg	1	10/9/2012 7:51:52 PM
Dimethyl phthalate	ND	0.20		mg/Kg	1	10/9/2012 7:51:52 PM
2,4-Dichlorophenol	ND	0.40		mg/Kg	1	10/9/2012 7:51:52 PM
2,4-Dimethylphenol	0.64	0.30		mg/Kg	1	10/9/2012 7:51:52 PM
4,6-Dinitro-2-methylphenol	ND	0.50		mg/Kg	1	10/9/2012 7:51:52 PM
2,4-Dinitrophenol	ND	0.40		mg/Kg	1	10/9/2012 7:51:52 PM
2,4-Dinitrotoluene	ND	0.50		mg/Kg	1	10/9/2012 7:51:52 PM
2,6-Dinitrotoluene	ND	0.50		mg/Kg	1	10/9/2012 7:51:52 PM
Fluoranthene	ND	0.20		mg/Kg	1	10/9/2012 7:51:52 PM
Fluorene	ND	0.20		mg/Kg	1	10/9/2012 7:51:52 PM
Hexachlorobenzene	ND	0.20		mg/Kg	1	10/9/2012 7:51:52 PM
Hexachlorobutadiene	ND	0.20		mg/Kg	1	10/9/2012 7:51:52 PM
Hexachlorocyclopentadiene	ND	0.20		mg/Kg	1	10/9/2012 7:51:52 PM
Hexachloroethane	ND	0.20		mg/Kg	1	10/9/2012 7:51:52 PM
Indeno(1,2,3-cd)pyrene	ND	0.20		mg/Kg	1	10/9/2012 7:51:52 PM
Isophorone	ND	0.50		mg/Kg	1	10/9/2012 7:51:52 PM
1-Methylnaphthalene	ND	0.20		mg/Kg	1	10/9/2012 7:51:52 PM
2-Methylnaphthalene	0.27	0.20		mg/Kg	1	10/9/2012 7:51:52 PM
2-Methylphenol	ND	0.50		mg/Kg	1	10/9/2012 7:51:52 PM
3+4-Methylphenol	ND	0.20		mg/Kg	1	10/9/2012 7:51:52 PM
N-Nitrosodi-n-propylamine	ND	0.20		mg/Kg	1	10/9/2012 7:51:52 PM
N-Nitrosodiphenylamine	ND	0.20		mg/Kg	1	10/9/2012 7:51:52 PM
Naphthalene	ND	0.20		mg/Kg	1	10/9/2012 7:51:52 PM
2-Nitroaniline	ND	0.20		mg/Kg	1	10/9/2012 7:51:52 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210332

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-4 (17-18')

Project: SWMU NO.1

Collection Date: 10/3/2012 1:45:00 PM

Lab ID: 1210332-002

Matrix: SOIL

Received Date: 10/5/2012 6:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
3-Nitroaniline	ND	0.20		mg/Kg	1	10/9/2012 7:51:52 PM
4-Nitroaniline	ND	0.40		mg/Kg	1	10/9/2012 7:51:52 PM
Nitrobenzene	ND	0.50		mg/Kg	1	10/9/2012 7:51:52 PM
2-Nitrophenol	ND	0.20		mg/Kg	1	10/9/2012 7:51:52 PM
4-Nitrophenol	ND	0.25		mg/Kg	1	10/9/2012 7:51:52 PM
Pentachlorophenol	ND	0.40		mg/Kg	1	10/9/2012 7:51:52 PM
Phenanthrene	ND	0.20		mg/Kg	1	10/9/2012 7:51:52 PM
Phenol	ND	0.20		mg/Kg	1	10/9/2012 7:51:52 PM
Pyrene	ND	0.20		mg/Kg	1	10/9/2012 7:51:52 PM
Pyridine	ND	0.50		mg/Kg	1	10/9/2012 7:51:52 PM
1,2,4-Trichlorobenzene	ND	0.20		mg/Kg	1	10/9/2012 7:51:52 PM
2,4,5-Trichlorophenol	ND	0.20		mg/Kg	1	10/9/2012 7:51:52 PM
2,4,6-Trichlorophenol	ND	0.20		mg/Kg	1	10/9/2012 7:51:52 PM
Surr: 2,4,6-Tribromophenol	109	21.3-145		%REC	1	10/9/2012 7:51:52 PM
Surr: 2-Fluorobiphenyl	93.8	20-131		%REC	1	10/9/2012 7:51:52 PM
Surr: 2-Fluorophenol	99.7	11.9-130		%REC	1	10/9/2012 7:51:52 PM
Surr: 4-Terphenyl-d14	79.3	25.1-149		%REC	1	10/9/2012 7:51:52 PM
Surr: Nitrobenzene-d5	97.5	25.6-137		%REC	1	10/9/2012 7:51:52 PM
Surr: Phenol-d5	98.0	20.3-132		%REC	1	10/9/2012 7:51:52 PM
EPA METHOD 8260B: VOLATILES						Analyst: DJF
Benzene	ND	0.050		mg/Kg	1	10/15/2012 7:49:26 PM
Toluene	ND	0.050		mg/Kg	1	10/15/2012 7:49:26 PM
Ethylbenzene	0.050	0.050		mg/Kg	1	10/15/2012 7:49:26 PM
Methyl tert-butyl ether (MTBE)	ND	0.050		mg/Kg	1	10/15/2012 7:49:26 PM
1,2,4-Trimethylbenzene	0.25	0.050		mg/Kg	1	10/15/2012 7:49:26 PM
1,3,5-Trimethylbenzene	0.073	0.050		mg/Kg	1	10/15/2012 7:49:26 PM
1,2-Dichloroethane (EDC)	ND	0.050		mg/Kg	1	10/15/2012 7:49:26 PM
1,2-Dibromoethane (EDB)	ND	0.050		mg/Kg	1	10/15/2012 7:49:26 PM
Naphthalene	0.40	0.10		mg/Kg	1	10/15/2012 7:49:26 PM
1-Methylnaphthalene	0.55	0.20		mg/Kg	1	10/15/2012 7:49:26 PM
2-Methylnaphthalene	0.93	0.20		mg/Kg	1	10/15/2012 7:49:26 PM
Acetone	ND	0.75		mg/Kg	1	10/15/2012 7:49:26 PM
Bromobenzene	ND	0.050		mg/Kg	1	10/15/2012 7:49:26 PM
Bromodichloromethane	ND	0.050		mg/Kg	1	10/15/2012 7:49:26 PM
Bromoform	ND	0.050		mg/Kg	1	10/15/2012 7:49:26 PM
Bromomethane	ND	0.15		mg/Kg	1	10/15/2012 7:49:26 PM
2-Butanone	ND	0.50		mg/Kg	1	10/15/2012 7:49:26 PM
Carbon disulfide	ND	0.50		mg/Kg	1	10/15/2012 7:49:26 PM
Carbon tetrachloride	ND	0.10		mg/Kg	1	10/15/2012 7:49:26 PM
Chlorobenzene	ND	0.050		mg/Kg	1	10/15/2012 7:49:26 PM
Chloroethane	ND	0.10		mg/Kg	1	10/15/2012 7:49:26 PM

Qualifiers:

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- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210332

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-4 (17-18')

Project: SWMU NO.1

Collection Date: 10/3/2012 1:45:00 PM

Lab ID: 1210332-002

Matrix: SOIL

Received Date: 10/5/2012 6:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: DJF
Chloroform	ND	0.050		mg/Kg	1	10/15/2012 7:49:26 PM
Chloromethane	ND	0.15		mg/Kg	1	10/15/2012 7:49:26 PM
2-Chlorotoluene	ND	0.050		mg/Kg	1	10/15/2012 7:49:26 PM
4-Chlorotoluene	ND	0.050		mg/Kg	1	10/15/2012 7:49:26 PM
cis-1,2-DCE	ND	0.050		mg/Kg	1	10/15/2012 7:49:26 PM
cis-1,3-Dichloropropene	ND	0.050		mg/Kg	1	10/15/2012 7:49:26 PM
1,2-Dibromo-3-chloropropane	ND	0.10		mg/Kg	1	10/15/2012 7:49:26 PM
Dibromochloromethane	ND	0.050		mg/Kg	1	10/15/2012 7:49:26 PM
Dibromomethane	ND	0.10		mg/Kg	1	10/15/2012 7:49:26 PM
1,2-Dichlorobenzene	ND	0.050		mg/Kg	1	10/15/2012 7:49:26 PM
1,3-Dichlorobenzene	ND	0.050		mg/Kg	1	10/15/2012 7:49:26 PM
1,4-Dichlorobenzene	ND	0.050		mg/Kg	1	10/15/2012 7:49:26 PM
Dichlorodifluoromethane	ND	0.050		mg/Kg	1	10/15/2012 7:49:26 PM
1,1-Dichloroethane	ND	0.10		mg/Kg	1	10/15/2012 7:49:26 PM
1,1-Dichloroethene	ND	0.050		mg/Kg	1	10/15/2012 7:49:26 PM
1,2-Dichloropropane	ND	0.050		mg/Kg	1	10/15/2012 7:49:26 PM
1,3-Dichloropropane	ND	0.050		mg/Kg	1	10/15/2012 7:49:26 PM
2,2-Dichloropropane	ND	0.10		mg/Kg	1	10/15/2012 7:49:26 PM
1,1-Dichloropropene	ND	0.10		mg/Kg	1	10/15/2012 7:49:26 PM
Hexachlorobutadiene	ND	0.10		mg/Kg	1	10/15/2012 7:49:26 PM
2-Hexanone	ND	0.50		mg/Kg	1	10/15/2012 7:49:26 PM
Isopropylbenzene	ND	0.050		mg/Kg	1	10/15/2012 7:49:26 PM
4-Isopropyltoluene	ND	0.050		mg/Kg	1	10/15/2012 7:49:26 PM
4-Methyl-2-pentanone	ND	0.50		mg/Kg	1	10/15/2012 7:49:26 PM
Methylene chloride	ND	0.15		mg/Kg	1	10/15/2012 7:49:26 PM
n-Butylbenzene	ND	0.15		mg/Kg	1	10/15/2012 7:49:26 PM
n-Propylbenzene	ND	0.050		mg/Kg	1	10/15/2012 7:49:26 PM
sec-Butylbenzene	ND	0.050		mg/Kg	1	10/15/2012 7:49:26 PM
Styrene	ND	0.050		mg/Kg	1	10/15/2012 7:49:26 PM
tert-Butylbenzene	ND	0.050		mg/Kg	1	10/15/2012 7:49:26 PM
1,1,1,2-Tetrachloroethane	ND	0.050		mg/Kg	1	10/15/2012 7:49:26 PM
1,1,2,2-Tetrachloroethane	ND	0.050		mg/Kg	1	10/15/2012 7:49:26 PM
Tetrachloroethene (PCE)	ND	0.050		mg/Kg	1	10/15/2012 7:49:26 PM
trans-1,2-DCE	ND	0.050		mg/Kg	1	10/15/2012 7:49:26 PM
trans-1,3-Dichloropropene	ND	0.050		mg/Kg	1	10/15/2012 7:49:26 PM
1,2,3-Trichlorobenzene	ND	0.10		mg/Kg	1	10/15/2012 7:49:26 PM
1,2,4-Trichlorobenzene	ND	0.050		mg/Kg	1	10/15/2012 7:49:26 PM
1,1,1-Trichloroethane	ND	0.050		mg/Kg	1	10/15/2012 7:49:26 PM
1,1,2-Trichloroethane	ND	0.050		mg/Kg	1	10/15/2012 7:49:26 PM
Trichloroethene (TCE)	ND	0.050		mg/Kg	1	10/15/2012 7:49:26 PM
Trichlorofluoromethane	ND	0.050		mg/Kg	1	10/15/2012 7:49:26 PM
1,2,3-Trichloropropane	ND	0.10		mg/Kg	1	10/15/2012 7:49:26 PM

Qualifiers:

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- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210332

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-4 (17-18')

Project: SWMU NO.1

Collection Date: 10/3/2012 1:45:00 PM

Lab ID: 1210332-002

Matrix: SOIL

Received Date: 10/5/2012 6:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: DJF
Vinyl chloride	ND	0.050		mg/Kg	1	10/15/2012 7:49:26 PM
Xylenes, Total	0.35	0.10		mg/Kg	1	10/15/2012 7:49:26 PM
Surr: 1,2-Dichloroethane-d4	95.3	70-130		%REC	1	10/15/2012 7:49:26 PM
Surr: 4-Bromofluorobenzene	89.7	70-130		%REC	1	10/15/2012 7:49:26 PM
Surr: Dibromofluoromethane	91.8	70-130		%REC	1	10/15/2012 7:49:26 PM
Surr: Toluene-d8	98.6	70-130		%REC	1	10/15/2012 7:49:26 PM

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2
RL Reporting Detection Limit

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210332

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-4 (23-24')

Project: SWMU NO.1

Collection Date: 10/3/2012 2:00:00 PM

Lab ID: 1210332-003

Matrix: SOIL

Received Date: 10/5/2012 6:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: JMP
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	10/6/2012 10:08:49 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	10/6/2012 10:08:49 PM
Surr: DNOP	89.2	77.6-140		%REC	1	10/6/2012 10:08:49 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	10/6/2012 6:25:18 AM
Surr: BFB	85.7	84-116		%REC	1	10/6/2012 6:25:18 AM
EPA METHOD 7471: MERCURY						Analyst: IDC
Mercury	ND	0.033		mg/kg	1	10/9/2012 11:11:55 AM
EPA METHOD 6010B: SOIL METALS						Analyst: JLF
Antimony	ND	12		mg/Kg	5	10/11/2012 10:16:19 AM
Arsenic	ND	12		mg/Kg	5	10/11/2012 10:16:19 AM
Barium	200	0.50		mg/Kg	5	10/11/2012 10:16:19 AM
Beryllium	1.1	0.75		mg/Kg	5	10/11/2012 10:16:19 AM
Cadmium	ND	0.50		mg/Kg	5	10/11/2012 10:16:19 AM
Chromium	14	1.5		mg/Kg	5	10/11/2012 10:16:19 AM
Cobalt	5.9	1.5		mg/Kg	5	10/11/2012 10:16:19 AM
Iron	18000	500		mg/Kg	500	10/11/2012 12:08:30 PM
Lead	2.1	1.2		mg/Kg	5	10/11/2012 10:16:19 AM
Manganese	340	1.0		mg/Kg	10	10/11/2012 12:06:07 PM
Nickel	12	2.5		mg/Kg	5	10/11/2012 10:16:19 AM
Selenium	ND	12		mg/Kg	5	10/11/2012 10:16:19 AM
Silver	ND	1.2		mg/Kg	5	10/11/2012 10:16:19 AM
Vanadium	15	12		mg/Kg	5	10/11/2012 10:16:19 AM
Zinc	26	12		mg/Kg	5	10/11/2012 10:16:19 AM
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Acenaphthene	ND	0.20		mg/Kg	1	10/9/2012 8:21:38 PM
Acenaphthylene	ND	0.20		mg/Kg	1	10/9/2012 8:21:38 PM
Aniline	ND	0.20		mg/Kg	1	10/9/2012 8:21:38 PM
Anthracene	ND	0.20		mg/Kg	1	10/9/2012 8:21:38 PM
Azobenzene	ND	0.20		mg/Kg	1	10/9/2012 8:21:38 PM
Benz(a)anthracene	ND	0.20		mg/Kg	1	10/9/2012 8:21:38 PM
Benzo(a)pyrene	ND	0.20		mg/Kg	1	10/9/2012 8:21:38 PM
Benzo(b)fluoranthene	ND	0.20		mg/Kg	1	10/9/2012 8:21:38 PM
Benzo(g,h,i)perylene	ND	0.20		mg/Kg	1	10/9/2012 8:21:38 PM
Benzo(k)fluoranthene	ND	0.20		mg/Kg	1	10/9/2012 8:21:38 PM
Benzoic acid	ND	0.50		mg/Kg	1	10/9/2012 8:21:38 PM
Benzyl alcohol	ND	0.20		mg/Kg	1	10/9/2012 8:21:38 PM
Bis(2-chloroethoxy)methane	ND	0.20		mg/Kg	1	10/9/2012 8:21:38 PM
Bis(2-chloroethyl)ether	ND	0.20		mg/Kg	1	10/9/2012 8:21:38 PM
Bis(2-chloroisopropyl)ether	ND	0.20		mg/Kg	1	10/9/2012 8:21:38 PM

Qualifiers:

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- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210332

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-4 (23-24')

Project: SWMU NO.1

Collection Date: 10/3/2012 2:00:00 PM

Lab ID: 1210332-003

Matrix: SOIL

Received Date: 10/5/2012 6:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Bis(2-ethylhexyl)phthalate	ND	0.50		mg/Kg	1	10/9/2012 8:21:38 PM
4-Bromophenyl phenyl ether	ND	0.20		mg/Kg	1	10/9/2012 8:21:38 PM
Butyl benzyl phthalate	ND	0.20		mg/Kg	1	10/9/2012 8:21:38 PM
Carbazole	ND	0.20		mg/Kg	1	10/9/2012 8:21:38 PM
4-Chloro-3-methylphenol	ND	0.50		mg/Kg	1	10/9/2012 8:21:38 PM
4-Chloroaniline	ND	0.50		mg/Kg	1	10/9/2012 8:21:38 PM
2-Chloronaphthalene	ND	0.25		mg/Kg	1	10/9/2012 8:21:38 PM
2-Chlorophenol	ND	0.20		mg/Kg	1	10/9/2012 8:21:38 PM
4-Chlorophenyl phenyl ether	ND	0.20		mg/Kg	1	10/9/2012 8:21:38 PM
Chrysene	ND	0.20		mg/Kg	1	10/9/2012 8:21:38 PM
Di-n-butyl phthalate	ND	0.50		mg/Kg	1	10/9/2012 8:21:38 PM
Di-n-octyl phthalate	ND	0.25		mg/Kg	1	10/9/2012 8:21:38 PM
Dibenz(a,h)anthracene	ND	0.20		mg/Kg	1	10/9/2012 8:21:38 PM
Dibenzofuran	ND	0.20		mg/Kg	1	10/9/2012 8:21:38 PM
1,2-Dichlorobenzene	ND	0.20		mg/Kg	1	10/9/2012 8:21:38 PM
1,3-Dichlorobenzene	ND	0.20		mg/Kg	1	10/9/2012 8:21:38 PM
1,4-Dichlorobenzene	ND	0.20		mg/Kg	1	10/9/2012 8:21:38 PM
3,3'-Dichlorobenzidine	ND	0.25		mg/Kg	1	10/9/2012 8:21:38 PM
Diethyl phthalate	ND	0.20		mg/Kg	1	10/9/2012 8:21:38 PM
Dimethyl phthalate	ND	0.20		mg/Kg	1	10/9/2012 8:21:38 PM
2,4-Dichlorophenol	ND	0.40		mg/Kg	1	10/9/2012 8:21:38 PM
2,4-Dimethylphenol	ND	0.30		mg/Kg	1	10/9/2012 8:21:38 PM
4,6-Dinitro-2-methylphenol	ND	0.50		mg/Kg	1	10/9/2012 8:21:38 PM
2,4-Dinitrophenol	ND	0.40		mg/Kg	1	10/9/2012 8:21:38 PM
2,4-Dinitrotoluene	ND	0.50		mg/Kg	1	10/9/2012 8:21:38 PM
2,6-Dinitrotoluene	ND	0.50		mg/Kg	1	10/9/2012 8:21:38 PM
Fluoranthene	ND	0.20		mg/Kg	1	10/9/2012 8:21:38 PM
Fluorene	ND	0.20		mg/Kg	1	10/9/2012 8:21:38 PM
Hexachlorobenzene	ND	0.20		mg/Kg	1	10/9/2012 8:21:38 PM
Hexachlorobutadiene	ND	0.20		mg/Kg	1	10/9/2012 8:21:38 PM
Hexachlorocyclopentadiene	ND	0.20		mg/Kg	1	10/9/2012 8:21:38 PM
Hexachloroethane	ND	0.20		mg/Kg	1	10/9/2012 8:21:38 PM
Indeno(1,2,3-cd)pyrene	ND	0.20		mg/Kg	1	10/9/2012 8:21:38 PM
Isophorone	ND	0.50		mg/Kg	1	10/9/2012 8:21:38 PM
1-Methylnaphthalene	ND	0.20		mg/Kg	1	10/9/2012 8:21:38 PM
2-Methylnaphthalene	ND	0.20		mg/Kg	1	10/9/2012 8:21:38 PM
2-Methylphenol	ND	0.50		mg/Kg	1	10/9/2012 8:21:38 PM
3+4-Methylphenol	ND	0.20		mg/Kg	1	10/9/2012 8:21:38 PM
N-Nitrosodi-n-propylamine	ND	0.20		mg/Kg	1	10/9/2012 8:21:38 PM
N-Nitrosodiphenylamine	ND	0.20		mg/Kg	1	10/9/2012 8:21:38 PM
Naphthalene	ND	0.20		mg/Kg	1	10/9/2012 8:21:38 PM
2-Nitroaniline	ND	0.20		mg/Kg	1	10/9/2012 8:21:38 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

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- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210332

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-4 (23-24')

Project: SWMU NO.1

Collection Date: 10/3/2012 2:00:00 PM

Lab ID: 1210332-003

Matrix: SOIL

Received Date: 10/5/2012 6:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
3-Nitroaniline	ND	0.20		mg/Kg	1	10/9/2012 8:21:38 PM
4-Nitroaniline	ND	0.40		mg/Kg	1	10/9/2012 8:21:38 PM
Nitrobenzene	ND	0.50		mg/Kg	1	10/9/2012 8:21:38 PM
2-Nitrophenol	ND	0.20		mg/Kg	1	10/9/2012 8:21:38 PM
4-Nitrophenol	ND	0.25		mg/Kg	1	10/9/2012 8:21:38 PM
Pentachlorophenol	ND	0.40		mg/Kg	1	10/9/2012 8:21:38 PM
Phenanthrene	ND	0.20		mg/Kg	1	10/9/2012 8:21:38 PM
Phenol	ND	0.20		mg/Kg	1	10/9/2012 8:21:38 PM
Pyrene	ND	0.20		mg/Kg	1	10/9/2012 8:21:38 PM
Pyridine	ND	0.50		mg/Kg	1	10/9/2012 8:21:38 PM
1,2,4-Trichlorobenzene	ND	0.20		mg/Kg	1	10/9/2012 8:21:38 PM
2,4,5-Trichlorophenol	ND	0.20		mg/Kg	1	10/9/2012 8:21:38 PM
2,4,6-Trichlorophenol	ND	0.20		mg/Kg	1	10/9/2012 8:21:38 PM
Surr: 2,4,6-Tribromophenol	90.5	21.3-145		%REC	1	10/9/2012 8:21:38 PM
Surr: 2-Fluorobiphenyl	80.2	20-131		%REC	1	10/9/2012 8:21:38 PM
Surr: 2-Fluorophenol	88.2	11.9-130		%REC	1	10/9/2012 8:21:38 PM
Surr: 4-Terphenyl-d14	81.6	25.1-149		%REC	1	10/9/2012 8:21:38 PM
Surr: Nitrobenzene-d5	79.5	25.6-137		%REC	1	10/9/2012 8:21:38 PM
Surr: Phenol-d5	86.5	20.3-132		%REC	1	10/9/2012 8:21:38 PM
METHOD 8260B/5035LOW: VOLATILES						Analyst: RAA
Benzene	0.00566	0.000915		mg/Kg	1	10/8/2012 10:27:25 PM
Toluene	0.00275	0.000915		mg/Kg	1	10/8/2012 10:27:25 PM
Ethylbenzene	0.00125	0.000915		mg/Kg	1	10/8/2012 10:27:25 PM
Xylenes, Total	0.00218	0.00183		mg/Kg	1	10/8/2012 10:27:25 PM
Methyl tert-butyl ether (MTBE)	ND	0.000915		mg/Kg	1	10/8/2012 10:27:25 PM
1,2,4-Trimethylbenzene	ND	0.000915		mg/Kg	1	10/8/2012 10:27:25 PM
1,3,5-Trimethylbenzene	ND	0.000915		mg/Kg	1	10/8/2012 10:27:25 PM
1,2-Dichloroethane (EDC)	ND	0.000915		mg/Kg	1	10/8/2012 10:27:25 PM
1,2-Dibromoethane (EDB)	ND	0.000915		mg/Kg	1	10/8/2012 10:27:25 PM
Naphthalene	ND	0.00183		mg/Kg	1	10/8/2012 10:27:25 PM
1-Methylnaphthalene	ND	0.00366		mg/Kg	1	10/8/2012 10:27:25 PM
2-Methylnaphthalene	ND	0.00366		mg/Kg	1	10/8/2012 10:27:25 PM
Acetone	0.0173	0.00915		mg/Kg	1	10/8/2012 10:27:25 PM
Bromobenzene	ND	0.000915		mg/Kg	1	10/8/2012 10:27:25 PM
Bromodichloromethane	ND	0.000915		mg/Kg	1	10/8/2012 10:27:25 PM
Bromoform	ND	0.000915		mg/Kg	1	10/8/2012 10:27:25 PM
Bromomethane	ND	0.000915		mg/Kg	1	10/8/2012 10:27:25 PM
2-Butanone	ND	0.00915		mg/Kg	1	10/8/2012 10:27:25 PM
Carbon tetrachloride	ND	0.000915		mg/Kg	1	10/8/2012 10:27:25 PM
Chlorobenzene	ND	0.000915		mg/Kg	1	10/8/2012 10:27:25 PM
Chloroethane	ND	0.000915		mg/Kg	1	10/8/2012 10:27:25 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210332

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-4 (23-24')

Project: SWMU NO.1

Collection Date: 10/3/2012 2:00:00 PM

Lab ID: 1210332-003

Matrix: SOIL

Received Date: 10/5/2012 6:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
METHOD 8260B/5035LOW: VOLATILES						Analyst: RAA
Chloroform	ND	0.000915		mg/Kg	1	10/8/2012 10:27:25 PM
Chloromethane	ND	0.000915		mg/Kg	1	10/8/2012 10:27:25 PM
2-Chlorotoluene	ND	0.000915		mg/Kg	1	10/8/2012 10:27:25 PM
Carbon disulfide	ND	0.00915		mg/Kg	1	10/8/2012 10:27:25 PM
4-Chlorotoluene	ND	0.000915		mg/Kg	1	10/8/2012 10:27:25 PM
cis-1,2-DCE	ND	0.000915		mg/Kg	1	10/8/2012 10:27:25 PM
cis-1,3-Dichloropropene	ND	0.000915		mg/Kg	1	10/8/2012 10:27:25 PM
1,2-Dibromo-3-chloropropane	ND	0.000915		mg/Kg	1	10/8/2012 10:27:25 PM
Dibromochloromethane	ND	0.000915		mg/Kg	1	10/8/2012 10:27:25 PM
Dibromomethane	ND	0.000915		mg/Kg	1	10/8/2012 10:27:25 PM
1,2-Dichlorobenzene	ND	0.000915		mg/Kg	1	10/8/2012 10:27:25 PM
1,3-Dichlorobenzene	ND	0.000915		mg/Kg	1	10/8/2012 10:27:25 PM
1,4-Dichlorobenzene	ND	0.000915		mg/Kg	1	10/8/2012 10:27:25 PM
Dichlorodifluoromethane	ND	0.000915		mg/Kg	1	10/8/2012 10:27:25 PM
1,1-Dichloroethane	ND	0.000915		mg/Kg	1	10/8/2012 10:27:25 PM
1,1-Dichloroethene	ND	0.000915		mg/Kg	1	10/8/2012 10:27:25 PM
1,2-Dichloropropane	ND	0.000915		mg/Kg	1	10/8/2012 10:27:25 PM
1,3-Dichloropropane	ND	0.000915		mg/Kg	1	10/8/2012 10:27:25 PM
2,2-Dichloropropane	ND	0.000915		mg/Kg	1	10/8/2012 10:27:25 PM
1,1-Dichloropropene	ND	0.000915		mg/Kg	1	10/8/2012 10:27:25 PM
Hexachlorobutadiene	ND	0.000915		mg/Kg	1	10/8/2012 10:27:25 PM
Isopropylbenzene	ND	0.000915		mg/Kg	1	10/8/2012 10:27:25 PM
4-Isopropyltoluene	ND	0.000915		mg/Kg	1	10/8/2012 10:27:25 PM
Methylene chloride	ND	0.00275		mg/Kg	1	10/8/2012 10:27:25 PM
n-Butylbenzene	ND	0.000915		mg/Kg	1	10/8/2012 10:27:25 PM
2-Hexanone	ND	0.00915		mg/Kg	1	10/8/2012 10:27:25 PM
n-Propylbenzene	ND	0.000915		mg/Kg	1	10/8/2012 10:27:25 PM
sec-Butylbenzene	ND	0.000915		mg/Kg	1	10/8/2012 10:27:25 PM
Styrene	ND	0.000915		mg/Kg	1	10/8/2012 10:27:25 PM
4-Methyl-2-pentanone	ND	0.00915		mg/Kg	1	10/8/2012 10:27:25 PM
tert-Butylbenzene	ND	0.000915		mg/Kg	1	10/8/2012 10:27:25 PM
1,1,1,2-Tetrachloroethane	ND	0.000915		mg/Kg	1	10/8/2012 10:27:25 PM
1,1,2,2-Tetrachloroethane	ND	0.000915		mg/Kg	1	10/8/2012 10:27:25 PM
Tetrachloroethene (PCE)	ND	0.000915		mg/Kg	1	10/8/2012 10:27:25 PM
trans-1,2-DCE	ND	0.000915		mg/Kg	1	10/8/2012 10:27:25 PM
trans-1,3-Dichloropropene	ND	0.000915		mg/Kg	1	10/8/2012 10:27:25 PM
1,2,3-Trichlorobenzene	ND	0.000915		mg/Kg	1	10/8/2012 10:27:25 PM
1,2,4-Trichlorobenzene	ND	0.000915		mg/Kg	1	10/8/2012 10:27:25 PM
1,1,1-Trichloroethane	ND	0.000915		mg/Kg	1	10/8/2012 10:27:25 PM
1,1,2-Trichloroethane	ND	0.000915		mg/Kg	1	10/8/2012 10:27:25 PM
Trichloroethene (TCE)	ND	0.000915		mg/Kg	1	10/8/2012 10:27:25 PM
Trichlorofluoromethane	ND	0.000915		mg/Kg	1	10/8/2012 10:27:25 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210332

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-4 (23-24')

Project: SWMU NO.1

Collection Date: 10/3/2012 2:00:00 PM

Lab ID: 1210332-003

Matrix: SOIL

Received Date: 10/5/2012 6:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
METHOD 8260B/5035LOW: VOLATILES						Analyst: RAA
1,2,3-Trichloropropane	ND	0.000915		mg/Kg	1	10/8/2012 10:27:25 PM
Vinyl chloride	ND	0.000915		mg/Kg	1	10/8/2012 10:27:25 PM
Surr: 1,2-Dichloroethane-d4	93.9	70-130		%REC	1	10/8/2012 10:27:25 PM
Surr: 4-Bromofluorobenzene	102	70-130		%REC	1	10/8/2012 10:27:25 PM
Surr: Dibromofluoromethane	92.2	70-130		%REC	1	10/8/2012 10:27:25 PM
Surr: Toluene-d8	95.4	70-130		%REC	1	10/8/2012 10:27:25 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210332

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: Trip Blank

Project: SWMU NO.1

Collection Date:

Lab ID: 1210332-004

Matrix: TRIP BLANK

Received Date: 10/5/2012 6:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: RAA
Benzene	ND	1.0		µg/L	1	10/5/2012 7:34:04 PM
Toluene	ND	1.0		µg/L	1	10/5/2012 7:34:04 PM
Ethylbenzene	ND	1.0		µg/L	1	10/5/2012 7:34:04 PM
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	10/5/2012 7:34:04 PM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	10/5/2012 7:34:04 PM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	10/5/2012 7:34:04 PM
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	10/5/2012 7:34:04 PM
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	10/5/2012 7:34:04 PM
Naphthalene	ND	2.0		µg/L	1	10/5/2012 7:34:04 PM
1-Methylnaphthalene	ND	4.0		µg/L	1	10/5/2012 7:34:04 PM
2-Methylnaphthalene	ND	4.0		µg/L	1	10/5/2012 7:34:04 PM
Acetone	ND	10		µg/L	1	10/5/2012 7:34:04 PM
Bromobenzene	ND	1.0		µg/L	1	10/5/2012 7:34:04 PM
Bromodichloromethane	ND	1.0		µg/L	1	10/5/2012 7:34:04 PM
Bromoform	ND	1.0		µg/L	1	10/5/2012 7:34:04 PM
Bromomethane	ND	3.0		µg/L	1	10/5/2012 7:34:04 PM
2-Butanone	ND	10		µg/L	1	10/5/2012 7:34:04 PM
Carbon disulfide	ND	10		µg/L	1	10/5/2012 7:34:04 PM
Carbon Tetrachloride	ND	1.0		µg/L	1	10/5/2012 7:34:04 PM
Chlorobenzene	ND	1.0		µg/L	1	10/5/2012 7:34:04 PM
Chloroethane	ND	2.0		µg/L	1	10/5/2012 7:34:04 PM
Chloroform	ND	1.0		µg/L	1	10/5/2012 7:34:04 PM
Chloromethane	ND	3.0		µg/L	1	10/5/2012 7:34:04 PM
2-Chlorotoluene	ND	1.0		µg/L	1	10/5/2012 7:34:04 PM
4-Chlorotoluene	ND	1.0		µg/L	1	10/5/2012 7:34:04 PM
cis-1,2-DCE	ND	1.0		µg/L	1	10/5/2012 7:34:04 PM
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	10/5/2012 7:34:04 PM
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	10/5/2012 7:34:04 PM
Dibromochloromethane	ND	1.0		µg/L	1	10/5/2012 7:34:04 PM
Dibromomethane	ND	1.0		µg/L	1	10/5/2012 7:34:04 PM
1,2-Dichlorobenzene	ND	1.0		µg/L	1	10/5/2012 7:34:04 PM
1,3-Dichlorobenzene	ND	1.0		µg/L	1	10/5/2012 7:34:04 PM
1,4-Dichlorobenzene	ND	1.0		µg/L	1	10/5/2012 7:34:04 PM
Dichlorodifluoromethane	ND	1.0		µg/L	1	10/5/2012 7:34:04 PM
1,1-Dichloroethane	ND	1.0		µg/L	1	10/5/2012 7:34:04 PM
1,1-Dichloroethene	ND	1.0		µg/L	1	10/5/2012 7:34:04 PM
1,2-Dichloropropane	ND	1.0		µg/L	1	10/5/2012 7:34:04 PM
1,3-Dichloropropane	ND	1.0		µg/L	1	10/5/2012 7:34:04 PM
2,2-Dichloropropane	ND	2.0		µg/L	1	10/5/2012 7:34:04 PM
1,1-Dichloropropene	ND	1.0		µg/L	1	10/5/2012 7:34:04 PM
Hexachlorobutadiene	ND	1.0		µg/L	1	10/5/2012 7:34:04 PM
2-Hexanone	ND	10		µg/L	1	10/5/2012 7:34:04 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210332

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: Trip Blank

Project: SWMU NO.1

Collection Date:

Lab ID: 1210332-004

Matrix: TRIP BLANK

Received Date: 10/5/2012 6:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: RAA
Isopropylbenzene	ND	1.0		µg/L	1	10/5/2012 7:34:04 PM
4-Isopropyltoluene	ND	1.0		µg/L	1	10/5/2012 7:34:04 PM
4-Methyl-2-pentanone	ND	10		µg/L	1	10/5/2012 7:34:04 PM
Methylene Chloride	ND	3.0		µg/L	1	10/5/2012 7:34:04 PM
n-Butylbenzene	ND	3.0		µg/L	1	10/5/2012 7:34:04 PM
n-Propylbenzene	ND	1.0		µg/L	1	10/5/2012 7:34:04 PM
sec-Butylbenzene	ND	1.0		µg/L	1	10/5/2012 7:34:04 PM
Styrene	ND	1.0		µg/L	1	10/5/2012 7:34:04 PM
tert-Butylbenzene	ND	1.0		µg/L	1	10/5/2012 7:34:04 PM
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	10/5/2012 7:34:04 PM
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	10/5/2012 7:34:04 PM
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	10/5/2012 7:34:04 PM
trans-1,2-DCE	ND	1.0		µg/L	1	10/5/2012 7:34:04 PM
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	10/5/2012 7:34:04 PM
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	10/5/2012 7:34:04 PM
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	10/5/2012 7:34:04 PM
1,1,1-Trichloroethane	ND	1.0		µg/L	1	10/5/2012 7:34:04 PM
1,1,2-Trichloroethane	ND	1.0		µg/L	1	10/5/2012 7:34:04 PM
Trichloroethene (TCE)	ND	1.0		µg/L	1	10/5/2012 7:34:04 PM
Trichlorofluoromethane	ND	1.0		µg/L	1	10/5/2012 7:34:04 PM
1,2,3-Trichloropropane	ND	2.0		µg/L	1	10/5/2012 7:34:04 PM
Vinyl chloride	ND	1.0		µg/L	1	10/5/2012 7:34:04 PM
Xylenes, Total	ND	1.5		µg/L	1	10/5/2012 7:34:04 PM
Surr: 1,2-Dichloroethane-d4	83.8	70-130		%REC	1	10/5/2012 7:34:04 PM
Surr: 4-Bromofluorobenzene	82.2	70-130		%REC	1	10/5/2012 7:34:04 PM
Surr: Dibromofluoromethane	104	70-130		%REC	1	10/5/2012 7:34:04 PM
Surr: Toluene-d8	78.4	70-130		%REC	1	10/5/2012 7:34:04 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210332

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-3 GW

Project: SWMU NO.1

Collection Date: 10/3/2012 9:30:00 AM

Lab ID: 1210332-005

Matrix: AQUEOUS

Received Date: 10/5/2012 6:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: JMP
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	10/8/2012 12:52:54 PM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	10/8/2012 12:52:54 PM
Surr: DNOP	119	79.5-166		%REC	1	10/8/2012 12:52:54 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	0.65	0.10		mg/L	2	10/6/2012 4:08:36 PM
Surr: BFB	114	69.8-119		%REC	2	10/6/2012 4:08:36 PM
EPA METHOD 300.0: ANIONS						Analyst: JRR
Fluoride	0.89	0.10		mg/L	1	10/5/2012 8:47:29 PM
Chloride	1600	50		mg/L	100	10/11/2012 7:33:27 PM
Sulfate	810	10		mg/L	20	10/5/2012 8:59:53 PM
EPA METHOD 200.7: METALS						Analyst: ELS
Barium	0.54	0.0020		mg/L	1	10/16/2012 7:38:43 AM
Beryllium	0.0066	0.0020	*	mg/L	1	10/16/2012 7:38:43 AM
Cadmium	ND	0.0020		mg/L	1	10/16/2012 7:38:43 AM
Chromium	0.015	0.0060		mg/L	1	10/16/2012 7:38:43 AM
Cobalt	0.043	0.0060		mg/L	1	10/16/2012 7:38:43 AM
Iron	20	1.0	*	mg/L	50	10/16/2012 8:03:15 AM
Manganese	2.1	0.010	*	mg/L	5	10/16/2012 7:42:12 AM
Nickel	0.35	0.010	*	mg/L	1	10/16/2012 7:38:43 AM
Silver	ND	0.0050		mg/L	1	10/16/2012 7:38:43 AM
Vanadium	ND	0.050		mg/L	1	10/16/2012 7:38:43 AM
Zinc	0.068	0.010		mg/L	1	10/16/2012 7:38:43 AM
EPA 200.8: METALS						Analyst: DBD
Antimony	ND	0.0025		mg/L	2.5	10/15/2012 5:58:10 PM
Arsenic	0.015	0.0025	*	mg/L	2.5	10/15/2012 5:58:10 PM
Lead	0.057	0.0025	*	mg/L	2.5	10/15/2012 5:58:10 PM
Selenium	0.0097	0.0025		mg/L	2.5	10/15/2012 5:58:10 PM
EPA METHOD 245.1: MERCURY						Analyst: JLF
Mercury	ND	0.00020		mg/L	1	10/12/2012 4:34:37 PM
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Acenaphthene	ND	10		µg/L	1	10/5/2012 2:40:11 PM
Acenaphthylene	ND	10		µg/L	1	10/5/2012 2:40:11 PM
Aniline	ND	10		µg/L	1	10/5/2012 2:40:11 PM
Anthracene	ND	10		µg/L	1	10/5/2012 2:40:11 PM
Azobenzene	ND	10		µg/L	1	10/5/2012 2:40:11 PM
Benz(a)anthracene	ND	10		µg/L	1	10/5/2012 2:40:11 PM
Benzo(a)pyrene	ND	10		µg/L	1	10/5/2012 2:40:11 PM
Benzo(b)fluoranthene	ND	10		µg/L	1	10/5/2012 2:40:11 PM
Benzo(g,h,i)perylene	ND	10		µg/L	1	10/5/2012 2:40:11 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210332

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-3 GW

Project: SWMU NO.1

Collection Date: 10/3/2012 9:30:00 AM

Lab ID: 1210332-005

Matrix: AQUEOUS

Received Date: 10/5/2012 6:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Benzo(k)fluoranthene	ND	10		µg/L	1	10/5/2012 2:40:11 PM
Benzoic acid	ND	20		µg/L	1	10/5/2012 2:40:11 PM
Benzyl alcohol	ND	10		µg/L	1	10/5/2012 2:40:11 PM
Bis(2-chloroethoxy)methane	ND	10		µg/L	1	10/5/2012 2:40:11 PM
Bis(2-chloroethyl)ether	ND	10		µg/L	1	10/5/2012 2:40:11 PM
Bis(2-chloroisopropyl)ether	ND	10		µg/L	1	10/5/2012 2:40:11 PM
Bis(2-ethylhexyl)phthalate	ND	10		µg/L	1	10/5/2012 2:40:11 PM
4-Bromophenyl phenyl ether	ND	10		µg/L	1	10/5/2012 2:40:11 PM
Butyl benzyl phthalate	ND	10		µg/L	1	10/5/2012 2:40:11 PM
Carbazole	ND	10		µg/L	1	10/5/2012 2:40:11 PM
4-Chloro-3-methylphenol	ND	10		µg/L	1	10/5/2012 2:40:11 PM
4-Chloroaniline	ND	10		µg/L	1	10/5/2012 2:40:11 PM
2-Chloronaphthalene	ND	10		µg/L	1	10/5/2012 2:40:11 PM
2-Chlorophenol	ND	10		µg/L	1	10/5/2012 2:40:11 PM
4-Chlorophenyl phenyl ether	ND	10		µg/L	1	10/5/2012 2:40:11 PM
Chrysene	ND	10		µg/L	1	10/5/2012 2:40:11 PM
Di-n-butyl phthalate	ND	10		µg/L	1	10/5/2012 2:40:11 PM
Di-n-octyl phthalate	ND	10		µg/L	1	10/5/2012 2:40:11 PM
Dibenz(a,h)anthracene	ND	10		µg/L	1	10/5/2012 2:40:11 PM
Dibenzofuran	ND	10		µg/L	1	10/5/2012 2:40:11 PM
1,2-Dichlorobenzene	ND	10		µg/L	1	10/5/2012 2:40:11 PM
1,3-Dichlorobenzene	ND	10		µg/L	1	10/5/2012 2:40:11 PM
1,4-Dichlorobenzene	ND	10		µg/L	1	10/5/2012 2:40:11 PM
3,3'-Dichlorobenzidine	ND	10		µg/L	1	10/5/2012 2:40:11 PM
Diethyl phthalate	ND	10		µg/L	1	10/5/2012 2:40:11 PM
Dimethyl phthalate	ND	10		µg/L	1	10/5/2012 2:40:11 PM
2,4-Dichlorophenol	ND	20		µg/L	1	10/5/2012 2:40:11 PM
2,4-Dimethylphenol	ND	10		µg/L	1	10/5/2012 2:40:11 PM
4,6-Dinitro-2-methylphenol	ND	20		µg/L	1	10/5/2012 2:40:11 PM
2,4-Dinitrophenol	ND	20		µg/L	1	10/5/2012 2:40:11 PM
2,4-Dinitrotoluene	ND	10		µg/L	1	10/5/2012 2:40:11 PM
2,6-Dinitrotoluene	ND	10		µg/L	1	10/5/2012 2:40:11 PM
Fluoranthene	ND	10		µg/L	1	10/5/2012 2:40:11 PM
Fluorene	ND	10		µg/L	1	10/5/2012 2:40:11 PM
Hexachlorobenzene	ND	10		µg/L	1	10/5/2012 2:40:11 PM
Hexachlorobutadiene	ND	10		µg/L	1	10/5/2012 2:40:11 PM
Hexachlorocyclopentadiene	ND	10		µg/L	1	10/5/2012 2:40:11 PM
Hexachloroethane	ND	10		µg/L	1	10/5/2012 2:40:11 PM
Indeno(1,2,3-cd)pyrene	ND	10		µg/L	1	10/5/2012 2:40:11 PM
Isophorone	ND	10		µg/L	1	10/5/2012 2:40:11 PM
1-Methylnaphthalene	ND	10		µg/L	1	10/5/2012 2:40:11 PM
2-Methylnaphthalene	ND	10		µg/L	1	10/5/2012 2:40:11 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210332

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-3 GW

Project: SWMU NO.1

Collection Date: 10/3/2012 9:30:00 AM

Lab ID: 1210332-005

Matrix: AQUEOUS

Received Date: 10/5/2012 6:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
2-Methylphenol	ND	10		µg/L	1	10/5/2012 2:40:11 PM
3+4-Methylphenol	ND	10		µg/L	1	10/5/2012 2:40:11 PM
N-Nitrosodi-n-propylamine	ND	10		µg/L	1	10/5/2012 2:40:11 PM
N-Nitrosodimethylamine	ND	10		µg/L	1	10/5/2012 2:40:11 PM
N-Nitrosodiphenylamine	ND	10		µg/L	1	10/5/2012 2:40:11 PM
Naphthalene	ND	10		µg/L	1	10/5/2012 2:40:11 PM
2-Nitroaniline	ND	10		µg/L	1	10/5/2012 2:40:11 PM
3-Nitroaniline	ND	10		µg/L	1	10/5/2012 2:40:11 PM
4-Nitroaniline	ND	20		µg/L	1	10/5/2012 2:40:11 PM
Nitrobenzene	ND	10		µg/L	1	10/5/2012 2:40:11 PM
2-Nitrophenol	ND	10		µg/L	1	10/5/2012 2:40:11 PM
4-Nitrophenol	ND	10		µg/L	1	10/5/2012 2:40:11 PM
Pentachlorophenol	ND	20		µg/L	1	10/5/2012 2:40:11 PM
Phenanthrene	ND	10		µg/L	1	10/5/2012 2:40:11 PM
Phenol	ND	10		µg/L	1	10/5/2012 2:40:11 PM
Pyrene	ND	10		µg/L	1	10/5/2012 2:40:11 PM
Pyridine	ND	10		µg/L	1	10/5/2012 2:40:11 PM
1,2,4-Trichlorobenzene	ND	10		µg/L	1	10/5/2012 2:40:11 PM
2,4,5-Trichlorophenol	ND	10		µg/L	1	10/5/2012 2:40:11 PM
2,4,6-Trichlorophenol	ND	10		µg/L	1	10/5/2012 2:40:11 PM
Surr: 2,4,6-Tribromophenol	74.9	44.2-126		%REC	1	10/5/2012 2:40:11 PM
Surr: 2-Fluorobiphenyl	83.3	37-114		%REC	1	10/5/2012 2:40:11 PM
Surr: 2-Fluorophenol	51.8	23.4-98		%REC	1	10/5/2012 2:40:11 PM
Surr: 4-Terphenyl-d14	81.8	41.3-116		%REC	1	10/5/2012 2:40:11 PM
Surr: Nitrobenzene-d5	77.3	39.5-118		%REC	1	10/5/2012 2:40:11 PM
Surr: Phenol-d5	49.8	20.9-95.9		%REC	1	10/5/2012 2:40:11 PM
EPA METHOD 8260B: VOLATILES						Analyst: RAA
Benzene	3.4	1.0		µg/L	1	10/5/2012 8:01:37 PM
Toluene	ND	1.0		µg/L	1	10/5/2012 8:01:37 PM
Ethylbenzene	ND	1.0		µg/L	1	10/5/2012 8:01:37 PM
Methyl tert-butyl ether (MTBE)	40	1.0		µg/L	1	10/5/2012 8:01:37 PM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	10/5/2012 8:01:37 PM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	10/5/2012 8:01:37 PM
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	10/5/2012 8:01:37 PM
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	10/5/2012 8:01:37 PM
Naphthalene	ND	2.0		µg/L	1	10/5/2012 8:01:37 PM
1-Methylnaphthalene	ND	4.0		µg/L	1	10/5/2012 8:01:37 PM
2-Methylnaphthalene	ND	4.0		µg/L	1	10/5/2012 8:01:37 PM
Acetone	14	10		µg/L	1	10/5/2012 8:01:37 PM
Bromobenzene	ND	1.0		µg/L	1	10/5/2012 8:01:37 PM
Bromodichloromethane	ND	1.0		µg/L	1	10/5/2012 8:01:37 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210332

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-3 GW

Project: SWMU NO.1

Collection Date: 10/3/2012 9:30:00 AM

Lab ID: 1210332-005

Matrix: AQUEOUS

Received Date: 10/5/2012 6:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: RAA
Bromoform	ND	1.0		µg/L	1	10/5/2012 8:01:37 PM
Bromomethane	ND	3.0		µg/L	1	10/5/2012 8:01:37 PM
2-Butanone	ND	10		µg/L	1	10/5/2012 8:01:37 PM
Carbon disulfide	ND	10		µg/L	1	10/5/2012 8:01:37 PM
Carbon Tetrachloride	ND	1.0		µg/L	1	10/5/2012 8:01:37 PM
Chlorobenzene	ND	1.0		µg/L	1	10/5/2012 8:01:37 PM
Chloroethane	ND	2.0		µg/L	1	10/5/2012 8:01:37 PM
Chloroform	ND	1.0		µg/L	1	10/5/2012 8:01:37 PM
Chloromethane	ND	3.0		µg/L	1	10/5/2012 8:01:37 PM
2-Chlorotoluene	ND	1.0		µg/L	1	10/5/2012 8:01:37 PM
4-Chlorotoluene	ND	1.0		µg/L	1	10/5/2012 8:01:37 PM
cis-1,2-DCE	ND	1.0		µg/L	1	10/5/2012 8:01:37 PM
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	10/5/2012 8:01:37 PM
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	10/5/2012 8:01:37 PM
Dibromochloromethane	ND	1.0		µg/L	1	10/5/2012 8:01:37 PM
Dibromomethane	ND	1.0		µg/L	1	10/5/2012 8:01:37 PM
1,2-Dichlorobenzene	ND	1.0		µg/L	1	10/5/2012 8:01:37 PM
1,3-Dichlorobenzene	ND	1.0		µg/L	1	10/5/2012 8:01:37 PM
1,4-Dichlorobenzene	ND	1.0		µg/L	1	10/5/2012 8:01:37 PM
Dichlorodifluoromethane	ND	1.0		µg/L	1	10/5/2012 8:01:37 PM
1,1-Dichloroethane	ND	1.0		µg/L	1	10/5/2012 8:01:37 PM
1,1-Dichloroethene	ND	1.0		µg/L	1	10/5/2012 8:01:37 PM
1,2-Dichloropropane	ND	1.0		µg/L	1	10/5/2012 8:01:37 PM
1,3-Dichloropropane	ND	1.0		µg/L	1	10/5/2012 8:01:37 PM
2,2-Dichloropropane	ND	2.0		µg/L	1	10/5/2012 8:01:37 PM
1,1-Dichloropropene	ND	1.0		µg/L	1	10/5/2012 8:01:37 PM
Hexachlorobutadiene	ND	1.0		µg/L	1	10/5/2012 8:01:37 PM
2-Hexanone	ND	10		µg/L	1	10/5/2012 8:01:37 PM
Isopropylbenzene	ND	1.0		µg/L	1	10/5/2012 8:01:37 PM
4-Isopropyltoluene	ND	1.0		µg/L	1	10/5/2012 8:01:37 PM
4-Methyl-2-pentanone	ND	10		µg/L	1	10/5/2012 8:01:37 PM
Methylene Chloride	ND	3.0		µg/L	1	10/5/2012 8:01:37 PM
n-Butylbenzene	ND	3.0		µg/L	1	10/5/2012 8:01:37 PM
n-Propylbenzene	ND	1.0		µg/L	1	10/5/2012 8:01:37 PM
sec-Butylbenzene	ND	1.0		µg/L	1	10/5/2012 8:01:37 PM
Styrene	ND	1.0		µg/L	1	10/5/2012 8:01:37 PM
tert-Butylbenzene	ND	1.0		µg/L	1	10/5/2012 8:01:37 PM
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	10/5/2012 8:01:37 PM
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	10/5/2012 8:01:37 PM
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	10/5/2012 8:01:37 PM
trans-1,2-DCE	ND	1.0		µg/L	1	10/5/2012 8:01:37 PM
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	10/5/2012 8:01:37 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210332

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-3 GW

Project: SWMU NO.1

Collection Date: 10/3/2012 9:30:00 AM

Lab ID: 1210332-005

Matrix: AQUEOUS

Received Date: 10/5/2012 6:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: RAA
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	10/5/2012 8:01:37 PM
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	10/5/2012 8:01:37 PM
1,1,1-Trichloroethane	ND	1.0		µg/L	1	10/5/2012 8:01:37 PM
1,1,2-Trichloroethane	ND	1.0		µg/L	1	10/5/2012 8:01:37 PM
Trichloroethene (TCE)	ND	1.0		µg/L	1	10/5/2012 8:01:37 PM
Trichlorofluoromethane	ND	1.0		µg/L	1	10/5/2012 8:01:37 PM
1,2,3-Trichloropropane	ND	2.0		µg/L	1	10/5/2012 8:01:37 PM
Vinyl chloride	ND	1.0		µg/L	1	10/5/2012 8:01:37 PM
Xylenes, Total	ND	1.5		µg/L	1	10/5/2012 8:01:37 PM
Surr: 1,2-Dichloroethane-d4	88.1	70-130		%REC	1	10/5/2012 8:01:37 PM
Surr: 4-Bromofluorobenzene	82.1	70-130		%REC	1	10/5/2012 8:01:37 PM
Surr: Dibromofluoromethane	101	70-130		%REC	1	10/5/2012 8:01:37 PM
Surr: Toluene-d8	104	70-130		%REC	1	10/5/2012 8:01:37 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210332

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-4 (8-10')

Project: SWMU NO.1

Collection Date: 10/3/2012 1:00:00 PM

Lab ID: 1210332-006

Matrix: SOIL

Received Date: 10/5/2012 6:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: JMP
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	10/8/2012 9:05:40 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	10/8/2012 9:05:40 AM
Surr: DNOP	90.4	77.6-140		%REC	1	10/8/2012 9:05:40 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	10/6/2012 6:55:17 AM
Surr: BFB	89.3	84-116		%REC	1	10/6/2012 6:55:17 AM
EPA METHOD 7471: MERCURY						Analyst: IDC
Mercury	ND	0.033		mg/kg	1	10/9/2012 11:13:42 AM
EPA METHOD 6010B: SOIL METALS						Analyst: JLF
Antimony	ND	12		mg/Kg	5	10/11/2012 10:21:28 AM
Arsenic	ND	12		mg/Kg	5	10/11/2012 10:21:28 AM
Barium	590	5.0		mg/Kg	50	10/11/2012 12:11:09 PM
Beryllium	ND	0.75		mg/Kg	5	10/11/2012 10:21:28 AM
Cadmium	ND	0.50		mg/Kg	5	10/11/2012 10:21:28 AM
Chromium	7.9	1.5		mg/Kg	5	10/11/2012 10:21:28 AM
Cobalt	4.0	1.5		mg/Kg	5	10/11/2012 10:21:28 AM
Iron	11000	500		mg/Kg	500	10/11/2012 12:13:37 PM
Lead	4.2	1.2		mg/Kg	5	10/11/2012 10:21:28 AM
Manganese	720	5.0		mg/Kg	50	10/11/2012 12:11:09 PM
Nickel	6.3	2.5		mg/Kg	5	10/11/2012 10:21:28 AM
Selenium	ND	12		mg/Kg	5	10/11/2012 10:21:28 AM
Silver	ND	1.2		mg/Kg	5	10/11/2012 10:21:28 AM
Vanadium	16	12		mg/Kg	5	10/11/2012 10:21:28 AM
Zinc	16	12		mg/Kg	5	10/11/2012 10:21:28 AM
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Acenaphthene	ND	0.20		mg/Kg	1	10/9/2012 8:51:23 PM
Acenaphthylene	ND	0.20		mg/Kg	1	10/9/2012 8:51:23 PM
Aniline	ND	0.20		mg/Kg	1	10/9/2012 8:51:23 PM
Anthracene	ND	0.20		mg/Kg	1	10/9/2012 8:51:23 PM
Azobenzene	ND	0.20		mg/Kg	1	10/9/2012 8:51:23 PM
Benz(a)anthracene	ND	0.20		mg/Kg	1	10/9/2012 8:51:23 PM
Benzo(a)pyrene	ND	0.20		mg/Kg	1	10/9/2012 8:51:23 PM
Benzo(b)fluoranthene	ND	0.20		mg/Kg	1	10/9/2012 8:51:23 PM
Benzo(g,h,i)perylene	ND	0.20		mg/Kg	1	10/9/2012 8:51:23 PM
Benzo(k)fluoranthene	ND	0.20		mg/Kg	1	10/9/2012 8:51:23 PM
Benzoic acid	ND	0.50		mg/Kg	1	10/9/2012 8:51:23 PM
Benzyl alcohol	ND	0.20		mg/Kg	1	10/9/2012 8:51:23 PM
Bis(2-chloroethoxy)methane	ND	0.20		mg/Kg	1	10/9/2012 8:51:23 PM
Bis(2-chloroethyl)ether	ND	0.20		mg/Kg	1	10/9/2012 8:51:23 PM
Bis(2-chloroisopropyl)ether	ND	0.20		mg/Kg	1	10/9/2012 8:51:23 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210332

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-4 (8-10')

Project: SWMU NO.1

Collection Date: 10/3/2012 1:00:00 PM

Lab ID: 1210332-006

Matrix: SOIL

Received Date: 10/5/2012 6:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Bis(2-ethylhexyl)phthalate	ND	0.50		mg/Kg	1	10/9/2012 8:51:23 PM
4-Bromophenyl phenyl ether	ND	0.20		mg/Kg	1	10/9/2012 8:51:23 PM
Butyl benzyl phthalate	ND	0.20		mg/Kg	1	10/9/2012 8:51:23 PM
Carbazole	ND	0.20		mg/Kg	1	10/9/2012 8:51:23 PM
4-Chloro-3-methylphenol	ND	0.50		mg/Kg	1	10/9/2012 8:51:23 PM
4-Chloroaniline	ND	0.50		mg/Kg	1	10/9/2012 8:51:23 PM
2-Chloronaphthalene	ND	0.25		mg/Kg	1	10/9/2012 8:51:23 PM
2-Chlorophenol	ND	0.20		mg/Kg	1	10/9/2012 8:51:23 PM
4-Chlorophenyl phenyl ether	ND	0.20		mg/Kg	1	10/9/2012 8:51:23 PM
Chrysene	ND	0.20		mg/Kg	1	10/9/2012 8:51:23 PM
Di-n-butyl phthalate	ND	0.50		mg/Kg	1	10/9/2012 8:51:23 PM
Di-n-octyl phthalate	ND	0.25		mg/Kg	1	10/9/2012 8:51:23 PM
Dibenz(a,h)anthracene	ND	0.20		mg/Kg	1	10/9/2012 8:51:23 PM
Dibenzofuran	ND	0.20		mg/Kg	1	10/9/2012 8:51:23 PM
1,2-Dichlorobenzene	ND	0.20		mg/Kg	1	10/9/2012 8:51:23 PM
1,3-Dichlorobenzene	ND	0.20		mg/Kg	1	10/9/2012 8:51:23 PM
1,4-Dichlorobenzene	ND	0.20		mg/Kg	1	10/9/2012 8:51:23 PM
3,3'-Dichlorobenzidine	ND	0.25		mg/Kg	1	10/9/2012 8:51:23 PM
Diethyl phthalate	ND	0.20		mg/Kg	1	10/9/2012 8:51:23 PM
Dimethyl phthalate	ND	0.20		mg/Kg	1	10/9/2012 8:51:23 PM
2,4-Dichlorophenol	ND	0.40		mg/Kg	1	10/9/2012 8:51:23 PM
2,4-Dimethylphenol	ND	0.30		mg/Kg	1	10/9/2012 8:51:23 PM
4,6-Dinitro-2-methylphenol	ND	0.50		mg/Kg	1	10/9/2012 8:51:23 PM
2,4-Dinitrophenol	ND	0.40		mg/Kg	1	10/9/2012 8:51:23 PM
2,4-Dinitrotoluene	ND	0.50		mg/Kg	1	10/9/2012 8:51:23 PM
2,6-Dinitrotoluene	ND	0.50		mg/Kg	1	10/9/2012 8:51:23 PM
Fluoranthene	ND	0.20		mg/Kg	1	10/9/2012 8:51:23 PM
Fluorene	ND	0.20		mg/Kg	1	10/9/2012 8:51:23 PM
Hexachlorobenzene	ND	0.20		mg/Kg	1	10/9/2012 8:51:23 PM
Hexachlorobutadiene	ND	0.20		mg/Kg	1	10/9/2012 8:51:23 PM
Hexachlorocyclopentadiene	ND	0.20		mg/Kg	1	10/9/2012 8:51:23 PM
Hexachloroethane	ND	0.20		mg/Kg	1	10/9/2012 8:51:23 PM
Indeno(1,2,3-cd)pyrene	ND	0.20		mg/Kg	1	10/9/2012 8:51:23 PM
Isophorone	ND	0.50		mg/Kg	1	10/9/2012 8:51:23 PM
1-Methylnaphthalene	ND	0.20		mg/Kg	1	10/9/2012 8:51:23 PM
2-Methylnaphthalene	ND	0.20		mg/Kg	1	10/9/2012 8:51:23 PM
2-Methylphenol	ND	0.50		mg/Kg	1	10/9/2012 8:51:23 PM
3+4-Methylphenol	ND	0.20		mg/Kg	1	10/9/2012 8:51:23 PM
N-Nitrosodi-n-propylamine	ND	0.20		mg/Kg	1	10/9/2012 8:51:23 PM
N-Nitrosodiphenylamine	ND	0.20		mg/Kg	1	10/9/2012 8:51:23 PM
Naphthalene	ND	0.20		mg/Kg	1	10/9/2012 8:51:23 PM
2-Nitroaniline	ND	0.20		mg/Kg	1	10/9/2012 8:51:23 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210332

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-4 (8-10')

Project: SWMU NO.1

Collection Date: 10/3/2012 1:00:00 PM

Lab ID: 1210332-006

Matrix: SOIL

Received Date: 10/5/2012 6:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
3-Nitroaniline	ND	0.20		mg/Kg	1	10/9/2012 8:51:23 PM
4-Nitroaniline	ND	0.40		mg/Kg	1	10/9/2012 8:51:23 PM
Nitrobenzene	ND	0.50		mg/Kg	1	10/9/2012 8:51:23 PM
2-Nitrophenol	ND	0.20		mg/Kg	1	10/9/2012 8:51:23 PM
4-Nitrophenol	ND	0.25		mg/Kg	1	10/9/2012 8:51:23 PM
Pentachlorophenol	ND	0.40		mg/Kg	1	10/9/2012 8:51:23 PM
Phenanthrene	ND	0.20		mg/Kg	1	10/9/2012 8:51:23 PM
Phenol	ND	0.20		mg/Kg	1	10/9/2012 8:51:23 PM
Pyrene	ND	0.20		mg/Kg	1	10/9/2012 8:51:23 PM
Pyridine	ND	0.50		mg/Kg	1	10/9/2012 8:51:23 PM
1,2,4-Trichlorobenzene	ND	0.20		mg/Kg	1	10/9/2012 8:51:23 PM
2,4,5-Trichlorophenol	ND	0.20		mg/Kg	1	10/9/2012 8:51:23 PM
2,4,6-Trichlorophenol	ND	0.20		mg/Kg	1	10/9/2012 8:51:23 PM
Surr: 2,4,6-Tribromophenol	96.9	21.3-145		%REC	1	10/9/2012 8:51:23 PM
Surr: 2-Fluorobiphenyl	92.7	20-131		%REC	1	10/9/2012 8:51:23 PM
Surr: 2-Fluorophenol	84.5	11.9-130		%REC	1	10/9/2012 8:51:23 PM
Surr: 4-Terphenyl-d14	80.8	25.1-149		%REC	1	10/9/2012 8:51:23 PM
Surr: Nitrobenzene-d5	87.8	25.6-137		%REC	1	10/9/2012 8:51:23 PM
Surr: Phenol-d5	84.9	20.3-132		%REC	1	10/9/2012 8:51:23 PM
METHOD 8260B/5035LOW: VOLATILES						Analyst: RAA
Benzene	ND	0.000907		mg/Kg	1	10/8/2012 10:58:13 PM
Toluene	ND	0.000907		mg/Kg	1	10/8/2012 10:58:13 PM
Ethylbenzene	ND	0.000907		mg/Kg	1	10/8/2012 10:58:13 PM
Xylenes, Total	ND	0.00181		mg/Kg	1	10/8/2012 10:58:13 PM
Methyl tert-butyl ether (MTBE)	ND	0.000907		mg/Kg	1	10/8/2012 10:58:13 PM
1,2,4-Trimethylbenzene	ND	0.000907		mg/Kg	1	10/8/2012 10:58:13 PM
1,3,5-Trimethylbenzene	ND	0.000907		mg/Kg	1	10/8/2012 10:58:13 PM
1,2-Dichloroethane (EDC)	ND	0.000907		mg/Kg	1	10/8/2012 10:58:13 PM
1,2-Dibromoethane (EDB)	ND	0.000907		mg/Kg	1	10/8/2012 10:58:13 PM
Naphthalene	ND	0.00181		mg/Kg	1	10/8/2012 10:58:13 PM
1-Methylnaphthalene	ND	0.00363		mg/Kg	1	10/8/2012 10:58:13 PM
2-Methylnaphthalene	ND	0.00363		mg/Kg	1	10/8/2012 10:58:13 PM
Acetone	0.0314	0.00907		mg/Kg	1	10/8/2012 10:58:13 PM
Bromobenzene	ND	0.000907		mg/Kg	1	10/8/2012 10:58:13 PM
Bromodichloromethane	ND	0.000907		mg/Kg	1	10/8/2012 10:58:13 PM
Bromoform	ND	0.000907		mg/Kg	1	10/8/2012 10:58:13 PM
Bromomethane	ND	0.000907		mg/Kg	1	10/8/2012 10:58:13 PM
2-Butanone	ND	0.00907		mg/Kg	1	10/8/2012 10:58:13 PM
Carbon tetrachloride	ND	0.000907		mg/Kg	1	10/8/2012 10:58:13 PM
Chlorobenzene	ND	0.000907		mg/Kg	1	10/8/2012 10:58:13 PM
Chloroethane	ND	0.000907		mg/Kg	1	10/8/2012 10:58:13 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210332

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-4 (8-10')

Project: SWMU NO.1

Collection Date: 10/3/2012 1:00:00 PM

Lab ID: 1210332-006

Matrix: SOIL

Received Date: 10/5/2012 6:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
METHOD 8260B/5035LOW: VOLATILES						Analyst: RAA
Chloroform	ND	0.000907		mg/Kg	1	10/8/2012 10:58:13 PM
Chloromethane	ND	0.000907		mg/Kg	1	10/8/2012 10:58:13 PM
2-Chlorotoluene	ND	0.000907		mg/Kg	1	10/8/2012 10:58:13 PM
Carbon disulfide	ND	0.00907		mg/Kg	1	10/8/2012 10:58:13 PM
4-Chlorotoluene	ND	0.000907		mg/Kg	1	10/8/2012 10:58:13 PM
cis-1,2-DCE	ND	0.000907		mg/Kg	1	10/8/2012 10:58:13 PM
cis-1,3-Dichloropropene	ND	0.000907		mg/Kg	1	10/8/2012 10:58:13 PM
1,2-Dibromo-3-chloropropane	ND	0.000907		mg/Kg	1	10/8/2012 10:58:13 PM
Dibromochloromethane	ND	0.000907		mg/Kg	1	10/8/2012 10:58:13 PM
Dibromomethane	ND	0.000907		mg/Kg	1	10/8/2012 10:58:13 PM
1,2-Dichlorobenzene	ND	0.000907		mg/Kg	1	10/8/2012 10:58:13 PM
1,3-Dichlorobenzene	ND	0.000907		mg/Kg	1	10/8/2012 10:58:13 PM
1,4-Dichlorobenzene	ND	0.000907		mg/Kg	1	10/8/2012 10:58:13 PM
Dichlorodifluoromethane	ND	0.000907		mg/Kg	1	10/8/2012 10:58:13 PM
1,1-Dichloroethane	ND	0.000907		mg/Kg	1	10/8/2012 10:58:13 PM
1,1-Dichloroethene	ND	0.000907		mg/Kg	1	10/8/2012 10:58:13 PM
1,2-Dichloropropane	ND	0.000907		mg/Kg	1	10/8/2012 10:58:13 PM
1,3-Dichloropropane	ND	0.000907		mg/Kg	1	10/8/2012 10:58:13 PM
2,2-Dichloropropane	ND	0.000907		mg/Kg	1	10/8/2012 10:58:13 PM
1,1-Dichloropropene	ND	0.000907		mg/Kg	1	10/8/2012 10:58:13 PM
Hexachlorobutadiene	ND	0.000907		mg/Kg	1	10/8/2012 10:58:13 PM
Isopropylbenzene	ND	0.000907		mg/Kg	1	10/8/2012 10:58:13 PM
4-Isopropyltoluene	ND	0.000907		mg/Kg	1	10/8/2012 10:58:13 PM
Methylene chloride	ND	0.00272		mg/Kg	1	10/8/2012 10:58:13 PM
n-Butylbenzene	ND	0.000907		mg/Kg	1	10/8/2012 10:58:13 PM
2-Hexanone	ND	0.00907		mg/Kg	1	10/8/2012 10:58:13 PM
n-Propylbenzene	ND	0.000907		mg/Kg	1	10/8/2012 10:58:13 PM
sec-Butylbenzene	ND	0.000907		mg/Kg	1	10/8/2012 10:58:13 PM
Styrene	ND	0.000907		mg/Kg	1	10/8/2012 10:58:13 PM
4-Methyl-2-pentanone	ND	0.00907		mg/Kg	1	10/8/2012 10:58:13 PM
tert-Butylbenzene	ND	0.000907		mg/Kg	1	10/8/2012 10:58:13 PM
1,1,1,2-Tetrachloroethane	ND	0.000907		mg/Kg	1	10/8/2012 10:58:13 PM
1,1,2,2-Tetrachloroethane	ND	0.000907		mg/Kg	1	10/8/2012 10:58:13 PM
Tetrachloroethene (PCE)	ND	0.000907		mg/Kg	1	10/8/2012 10:58:13 PM
trans-1,2-DCE	ND	0.000907		mg/Kg	1	10/8/2012 10:58:13 PM
trans-1,3-Dichloropropene	ND	0.000907		mg/Kg	1	10/8/2012 10:58:13 PM
1,2,3-Trichlorobenzene	ND	0.000907		mg/Kg	1	10/8/2012 10:58:13 PM
1,2,4-Trichlorobenzene	ND	0.000907		mg/Kg	1	10/8/2012 10:58:13 PM
1,1,1-Trichloroethane	ND	0.000907		mg/Kg	1	10/8/2012 10:58:13 PM
1,1,2-Trichloroethane	ND	0.000907		mg/Kg	1	10/8/2012 10:58:13 PM
Trichloroethene (TCE)	ND	0.000907		mg/Kg	1	10/8/2012 10:58:13 PM
Trichlorofluoromethane	ND	0.000907		mg/Kg	1	10/8/2012 10:58:13 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210332

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-4 (8-10')

Project: SWMU NO.1

Collection Date: 10/3/2012 1:00:00 PM

Lab ID: 1210332-006

Matrix: SOIL

Received Date: 10/5/2012 6:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
METHOD 8260B/5035LOW: VOLATILES						Analyst: RAA
1,2,3-Trichloropropane	ND	0.000907		mg/Kg	1	10/8/2012 10:58:13 PM
Vinyl chloride	ND	0.000907		mg/Kg	1	10/8/2012 10:58:13 PM
Surr: 1,2-Dichloroethane-d4	94.8	70-130		%REC	1	10/8/2012 10:58:13 PM
Surr: 4-Bromofluorobenzene	91.4	70-130		%REC	1	10/8/2012 10:58:13 PM
Surr: Dibromofluoromethane	93.1	70-130		%REC	1	10/8/2012 10:58:13 PM
Surr: Toluene-d8	102	70-130		%REC	1	10/8/2012 10:58:13 PM

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2
RL Reporting Detection Limit

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210332

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-4 (10-12')

Project: SWMU NO.1

Collection Date: 10/3/2012 1:15:00 PM

Lab ID: 1210332-007

Matrix: SOIL

Received Date: 10/5/2012 6:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: JMP
Diesel Range Organics (DRO)	ND	16		mg/Kg	1	10/8/2012 9:56:53 AM
Motor Oil Range Organics (MRO)	ND	82		mg/Kg	1	10/8/2012 9:56:53 AM
Surr: DNOP	91.8	77.6-140		%REC	1	10/8/2012 9:56:53 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	10/6/2012 7:25:26 AM
Surr: BFB	96.1	84-116		%REC	1	10/6/2012 7:25:26 AM
EPA METHOD 7471: MERCURY						Analyst: IDC
Mercury	ND	0.033		mg/kg	1	10/9/2012 11:15:28 AM
EPA METHOD 6010B: SOIL METALS						Analyst: JLF
Antimony	ND	12		mg/Kg	5	10/11/2012 10:26:23 AM
Arsenic	ND	12		mg/Kg	5	10/11/2012 10:26:23 AM
Barium	360	5.0		mg/Kg	50	10/11/2012 12:16:30 PM
Beryllium	ND	0.75		mg/Kg	5	10/11/2012 10:26:23 AM
Cadmium	ND	0.50		mg/Kg	5	10/11/2012 10:26:23 AM
Chromium	3.7	1.5		mg/Kg	5	10/11/2012 10:26:23 AM
Cobalt	2.0	1.5		mg/Kg	5	10/11/2012 10:26:23 AM
Iron	5300	500		mg/Kg	500	10/11/2012 12:18:56 PM
Lead	3.1	1.2		mg/Kg	5	10/11/2012 10:26:23 AM
Manganese	550	5.0		mg/Kg	50	10/11/2012 12:16:30 PM
Nickel	2.9	2.5		mg/Kg	5	10/11/2012 10:26:23 AM
Selenium	ND	12		mg/Kg	5	10/11/2012 10:26:23 AM
Silver	ND	1.2		mg/Kg	5	10/11/2012 10:26:23 AM
Vanadium	ND	12		mg/Kg	5	10/11/2012 10:26:23 AM
Zinc	ND	12		mg/Kg	5	10/11/2012 10:26:23 AM
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Acenaphthene	ND	0.40		mg/Kg	1	10/9/2012 9:20:56 PM
Acenaphthylene	ND	0.40		mg/Kg	1	10/9/2012 9:20:56 PM
Aniline	ND	0.40		mg/Kg	1	10/9/2012 9:20:56 PM
Anthracene	ND	0.40		mg/Kg	1	10/9/2012 9:20:56 PM
Azobenzene	ND	0.40		mg/Kg	1	10/9/2012 9:20:56 PM
Benz(a)anthracene	ND	0.40		mg/Kg	1	10/9/2012 9:20:56 PM
Benzo(a)pyrene	ND	0.40		mg/Kg	1	10/9/2012 9:20:56 PM
Benzo(b)fluoranthene	ND	0.40		mg/Kg	1	10/9/2012 9:20:56 PM
Benzo(g,h,i)perylene	ND	0.40		mg/Kg	1	10/9/2012 9:20:56 PM
Benzo(k)fluoranthene	ND	0.40		mg/Kg	1	10/9/2012 9:20:56 PM
Benzoic acid	ND	1.0		mg/Kg	1	10/9/2012 9:20:56 PM
Benzyl alcohol	ND	0.40		mg/Kg	1	10/9/2012 9:20:56 PM
Bis(2-chloroethoxy)methane	ND	0.40		mg/Kg	1	10/9/2012 9:20:56 PM
Bis(2-chloroethyl)ether	ND	0.40		mg/Kg	1	10/9/2012 9:20:56 PM
Bis(2-chloroisopropyl)ether	ND	0.40		mg/Kg	1	10/9/2012 9:20:56 PM

Qualifiers:

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- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210332

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-4 (10-12')

Project: SWMU NO.1

Collection Date: 10/3/2012 1:15:00 PM

Lab ID: 1210332-007

Matrix: SOIL

Received Date: 10/5/2012 6:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Bis(2-ethylhexyl)phthalate	ND	1.0		mg/Kg	1	10/9/2012 9:20:56 PM
4-Bromophenyl phenyl ether	ND	0.40		mg/Kg	1	10/9/2012 9:20:56 PM
Butyl benzyl phthalate	ND	0.40		mg/Kg	1	10/9/2012 9:20:56 PM
Carbazole	ND	0.40		mg/Kg	1	10/9/2012 9:20:56 PM
4-Chloro-3-methylphenol	ND	1.0		mg/Kg	1	10/9/2012 9:20:56 PM
4-Chloroaniline	ND	1.0		mg/Kg	1	10/9/2012 9:20:56 PM
2-Chloronaphthalene	ND	0.50		mg/Kg	1	10/9/2012 9:20:56 PM
2-Chlorophenol	ND	0.40		mg/Kg	1	10/9/2012 9:20:56 PM
4-Chlorophenyl phenyl ether	ND	0.40		mg/Kg	1	10/9/2012 9:20:56 PM
Chrysene	ND	0.40		mg/Kg	1	10/9/2012 9:20:56 PM
Di-n-butyl phthalate	ND	1.0		mg/Kg	1	10/9/2012 9:20:56 PM
Di-n-octyl phthalate	ND	0.50		mg/Kg	1	10/9/2012 9:20:56 PM
Dibenz(a,h)anthracene	ND	0.40		mg/Kg	1	10/9/2012 9:20:56 PM
Dibenzofuran	ND	0.40		mg/Kg	1	10/9/2012 9:20:56 PM
1,2-Dichlorobenzene	ND	0.40		mg/Kg	1	10/9/2012 9:20:56 PM
1,3-Dichlorobenzene	ND	0.40		mg/Kg	1	10/9/2012 9:20:56 PM
1,4-Dichlorobenzene	ND	0.40		mg/Kg	1	10/9/2012 9:20:56 PM
3,3'-Dichlorobenzidine	ND	0.50		mg/Kg	1	10/9/2012 9:20:56 PM
Diethyl phthalate	ND	0.40		mg/Kg	1	10/9/2012 9:20:56 PM
Dimethyl phthalate	ND	0.40		mg/Kg	1	10/9/2012 9:20:56 PM
2,4-Dichlorophenol	ND	0.80		mg/Kg	1	10/9/2012 9:20:56 PM
2,4-Dimethylphenol	ND	0.60		mg/Kg	1	10/9/2012 9:20:56 PM
4,6-Dinitro-2-methylphenol	ND	1.0		mg/Kg	1	10/9/2012 9:20:56 PM
2,4-Dinitrophenol	ND	0.80		mg/Kg	1	10/9/2012 9:20:56 PM
2,4-Dinitrotoluene	ND	1.0		mg/Kg	1	10/9/2012 9:20:56 PM
2,6-Dinitrotoluene	ND	1.0		mg/Kg	1	10/9/2012 9:20:56 PM
Fluoranthene	ND	0.40		mg/Kg	1	10/9/2012 9:20:56 PM
Fluorene	ND	0.40		mg/Kg	1	10/9/2012 9:20:56 PM
Hexachlorobenzene	ND	0.40		mg/Kg	1	10/9/2012 9:20:56 PM
Hexachlorobutadiene	ND	0.40		mg/Kg	1	10/9/2012 9:20:56 PM
Hexachlorocyclopentadiene	ND	0.40		mg/Kg	1	10/9/2012 9:20:56 PM
Hexachloroethane	ND	0.40		mg/Kg	1	10/9/2012 9:20:56 PM
Indeno(1,2,3-cd)pyrene	ND	0.40		mg/Kg	1	10/9/2012 9:20:56 PM
Isophorone	ND	1.0		mg/Kg	1	10/9/2012 9:20:56 PM
1-Methylnaphthalene	ND	0.40		mg/Kg	1	10/9/2012 9:20:56 PM
2-Methylnaphthalene	ND	0.40		mg/Kg	1	10/9/2012 9:20:56 PM
2-Methylphenol	ND	1.0		mg/Kg	1	10/9/2012 9:20:56 PM
3+4-Methylphenol	ND	0.40		mg/Kg	1	10/9/2012 9:20:56 PM
N-Nitrosodi-n-propylamine	ND	0.40		mg/Kg	1	10/9/2012 9:20:56 PM
N-Nitrosodiphenylamine	ND	0.40		mg/Kg	1	10/9/2012 9:20:56 PM
Naphthalene	ND	0.40		mg/Kg	1	10/9/2012 9:20:56 PM
2-Nitroaniline	ND	0.40		mg/Kg	1	10/9/2012 9:20:56 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210332

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-4 (10-12')

Project: SWMU NO.1

Collection Date: 10/3/2012 1:15:00 PM

Lab ID: 1210332-007

Matrix: SOIL

Received Date: 10/5/2012 6:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
3-Nitroaniline	ND	0.40		mg/Kg	1	10/9/2012 9:20:56 PM
4-Nitroaniline	ND	0.80		mg/Kg	1	10/9/2012 9:20:56 PM
Nitrobenzene	ND	1.0		mg/Kg	1	10/9/2012 9:20:56 PM
2-Nitrophenol	ND	0.40		mg/Kg	1	10/9/2012 9:20:56 PM
4-Nitrophenol	ND	0.50		mg/Kg	1	10/9/2012 9:20:56 PM
Pentachlorophenol	ND	0.80		mg/Kg	1	10/9/2012 9:20:56 PM
Phenanthrene	ND	0.40		mg/Kg	1	10/9/2012 9:20:56 PM
Phenol	ND	0.40		mg/Kg	1	10/9/2012 9:20:56 PM
Pyrene	ND	0.40		mg/Kg	1	10/9/2012 9:20:56 PM
Pyridine	ND	1.0		mg/Kg	1	10/9/2012 9:20:56 PM
1,2,4-Trichlorobenzene	ND	0.40		mg/Kg	1	10/9/2012 9:20:56 PM
2,4,5-Trichlorophenol	ND	0.40		mg/Kg	1	10/9/2012 9:20:56 PM
2,4,6-Trichlorophenol	ND	0.40		mg/Kg	1	10/9/2012 9:20:56 PM
Surr: 2,4,6-Tribromophenol	97.4	21.3-145		%REC	1	10/9/2012 9:20:56 PM
Surr: 2-Fluorobiphenyl	90.6	20-131		%REC	1	10/9/2012 9:20:56 PM
Surr: 2-Fluorophenol	104	11.9-130		%REC	1	10/9/2012 9:20:56 PM
Surr: 4-Terphenyl-d14	79.0	25.1-149		%REC	1	10/9/2012 9:20:56 PM
Surr: Nitrobenzene-d5	92.0	25.6-137		%REC	1	10/9/2012 9:20:56 PM
Surr: Phenol-d5	95.8	20.3-132		%REC	1	10/9/2012 9:20:56 PM
METHOD 8260B/5035LOW: VOLATILES						Analyst: RAA
Benzene	ND	0.00113		mg/Kg	1	10/8/2012 11:29:01 PM
Toluene	ND	0.00113		mg/Kg	1	10/8/2012 11:29:01 PM
Ethylbenzene	ND	0.00113		mg/Kg	1	10/8/2012 11:29:01 PM
Xylenes, Total	ND	0.00227		mg/Kg	1	10/8/2012 11:29:01 PM
Methyl tert-butyl ether (MTBE)	ND	0.00113		mg/Kg	1	10/8/2012 11:29:01 PM
1,2,4-Trimethylbenzene	ND	0.00113		mg/Kg	1	10/8/2012 11:29:01 PM
1,3,5-Trimethylbenzene	ND	0.00113		mg/Kg	1	10/8/2012 11:29:01 PM
1,2-Dichloroethane (EDC)	ND	0.00113		mg/Kg	1	10/8/2012 11:29:01 PM
1,2-Dibromoethane (EDB)	ND	0.00113		mg/Kg	1	10/8/2012 11:29:01 PM
Naphthalene	ND	0.00227		mg/Kg	1	10/8/2012 11:29:01 PM
1-Methylnaphthalene	ND	0.00453		mg/Kg	1	10/8/2012 11:29:01 PM
2-Methylnaphthalene	ND	0.00453		mg/Kg	1	10/8/2012 11:29:01 PM
Acetone	0.0153	0.0113		mg/Kg	1	10/8/2012 11:29:01 PM
Bromobenzene	ND	0.00113		mg/Kg	1	10/8/2012 11:29:01 PM
Bromodichloromethane	ND	0.00113		mg/Kg	1	10/8/2012 11:29:01 PM
Bromoform	ND	0.00113		mg/Kg	1	10/8/2012 11:29:01 PM
Bromomethane	ND	0.00113		mg/Kg	1	10/8/2012 11:29:01 PM
2-Butanone	ND	0.0113		mg/Kg	1	10/8/2012 11:29:01 PM
Carbon tetrachloride	ND	0.00113		mg/Kg	1	10/8/2012 11:29:01 PM
Chlorobenzene	ND	0.00113		mg/Kg	1	10/8/2012 11:29:01 PM
Chloroethane	ND	0.00113		mg/Kg	1	10/8/2012 11:29:01 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210332

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-4 (10-12')

Project: SWMU NO.1

Collection Date: 10/3/2012 1:15:00 PM

Lab ID: 1210332-007

Matrix: SOIL

Received Date: 10/5/2012 6:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
METHOD 8260B/5035LOW: VOLATILES						Analyst: RAA
Chloroform	ND	0.00113		mg/Kg	1	10/8/2012 11:29:01 PM
Chloromethane	ND	0.00113		mg/Kg	1	10/8/2012 11:29:01 PM
2-Chlorotoluene	ND	0.00113		mg/Kg	1	10/8/2012 11:29:01 PM
Carbon disulfide	ND	0.0113		mg/Kg	1	10/8/2012 11:29:01 PM
4-Chlorotoluene	ND	0.00113		mg/Kg	1	10/8/2012 11:29:01 PM
cis-1,2-DCE	ND	0.00113		mg/Kg	1	10/8/2012 11:29:01 PM
cis-1,3-Dichloropropene	ND	0.00113		mg/Kg	1	10/8/2012 11:29:01 PM
1,2-Dibromo-3-chloropropane	ND	0.00113		mg/Kg	1	10/8/2012 11:29:01 PM
Dibromochloromethane	ND	0.00113		mg/Kg	1	10/8/2012 11:29:01 PM
Dibromomethane	ND	0.00113		mg/Kg	1	10/8/2012 11:29:01 PM
1,2-Dichlorobenzene	ND	0.00113		mg/Kg	1	10/8/2012 11:29:01 PM
1,3-Dichlorobenzene	ND	0.00113		mg/Kg	1	10/8/2012 11:29:01 PM
1,4-Dichlorobenzene	ND	0.00113		mg/Kg	1	10/8/2012 11:29:01 PM
Dichlorodifluoromethane	ND	0.00113		mg/Kg	1	10/8/2012 11:29:01 PM
1,1-Dichloroethane	ND	0.00113		mg/Kg	1	10/8/2012 11:29:01 PM
1,1-Dichloroethene	ND	0.00113		mg/Kg	1	10/8/2012 11:29:01 PM
1,2-Dichloropropane	ND	0.00113		mg/Kg	1	10/8/2012 11:29:01 PM
1,3-Dichloropropane	ND	0.00113		mg/Kg	1	10/8/2012 11:29:01 PM
2,2-Dichloropropane	ND	0.00113		mg/Kg	1	10/8/2012 11:29:01 PM
1,1-Dichloropropene	ND	0.00113		mg/Kg	1	10/8/2012 11:29:01 PM
Hexachlorobutadiene	ND	0.00113		mg/Kg	1	10/8/2012 11:29:01 PM
Isopropylbenzene	ND	0.00113		mg/Kg	1	10/8/2012 11:29:01 PM
4-Isopropyltoluene	ND	0.00113		mg/Kg	1	10/8/2012 11:29:01 PM
Methylene chloride	ND	0.00340		mg/Kg	1	10/8/2012 11:29:01 PM
n-Butylbenzene	ND	0.00113		mg/Kg	1	10/8/2012 11:29:01 PM
2-Hexanone	ND	0.0113		mg/Kg	1	10/8/2012 11:29:01 PM
n-Propylbenzene	ND	0.00113		mg/Kg	1	10/8/2012 11:29:01 PM
sec-Butylbenzene	ND	0.00113		mg/Kg	1	10/8/2012 11:29:01 PM
Styrene	ND	0.00113		mg/Kg	1	10/8/2012 11:29:01 PM
4-Methyl-2-pentanone	ND	0.0113		mg/Kg	1	10/8/2012 11:29:01 PM
tert-Butylbenzene	ND	0.00113		mg/Kg	1	10/8/2012 11:29:01 PM
1,1,1,2-Tetrachloroethane	ND	0.00113		mg/Kg	1	10/8/2012 11:29:01 PM
1,1,2,2-Tetrachloroethane	ND	0.00113		mg/Kg	1	10/8/2012 11:29:01 PM
Tetrachloroethene (PCE)	ND	0.00113		mg/Kg	1	10/8/2012 11:29:01 PM
trans-1,2-DCE	ND	0.00113		mg/Kg	1	10/8/2012 11:29:01 PM
trans-1,3-Dichloropropene	ND	0.00113		mg/Kg	1	10/8/2012 11:29:01 PM
1,2,3-Trichlorobenzene	ND	0.00113		mg/Kg	1	10/8/2012 11:29:01 PM
1,2,4-Trichlorobenzene	ND	0.00113		mg/Kg	1	10/8/2012 11:29:01 PM
1,1,1-Trichloroethane	ND	0.00113		mg/Kg	1	10/8/2012 11:29:01 PM
1,1,2-Trichloroethane	ND	0.00113		mg/Kg	1	10/8/2012 11:29:01 PM
Trichloroethene (TCE)	ND	0.00113		mg/Kg	1	10/8/2012 11:29:01 PM
Trichlorofluoromethane	ND	0.00113		mg/Kg	1	10/8/2012 11:29:01 PM

Qualifiers:

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- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210332

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-4 (10-12')

Project: SWMU NO.1

Collection Date: 10/3/2012 1:15:00 PM

Lab ID: 1210332-007

Matrix: SOIL

Received Date: 10/5/2012 6:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
METHOD 8260B/5035LOW: VOLATILES						Analyst: RAA
1,2,3-Trichloropropane	ND	0.00113		mg/Kg	1	10/8/2012 11:29:01 PM
Vinyl chloride	ND	0.00113		mg/Kg	1	10/8/2012 11:29:01 PM
Surr: 1,2-Dichloroethane-d4	95.2	70-130		%REC	1	10/8/2012 11:29:01 PM
Surr: 4-Bromofluorobenzene	87.2	70-130		%REC	1	10/8/2012 11:29:01 PM
Surr: Dibromofluoromethane	104	70-130		%REC	1	10/8/2012 11:29:01 PM
Surr: Toluene-d8	103	70-130		%REC	1	10/8/2012 11:29:01 PM

Qualifiers:

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J Analyte detected below quantitation limits
P Sample pH greater than 2
RL Reporting Detection Limit

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210332

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-5 (26-27')

Project: SWMU NO.1

Collection Date: 10/3/2012 6:20:00 PM

Lab ID: 1210332-008

Matrix: SOIL

Received Date: 10/5/2012 6:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: JMP
Diesel Range Organics (DRO)	ND	12		mg/Kg	1	10/6/2012 10:33:54 PM
Motor Oil Range Organics (MRO)	ND	59		mg/Kg	1	10/6/2012 10:33:54 PM
Surr: DNOP	88.2	77.6-140		%REC	1	10/6/2012 10:33:54 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	10/8/2012 6:56:09 PM
Surr: BFB	113	84-116		%REC	1	10/8/2012 6:56:09 PM
EPA METHOD 7471: MERCURY						Analyst: IDC
Mercury	ND	0.033		mg/kg	1	10/9/2012 11:17:13 AM
EPA METHOD 6010B: SOIL METALS						Analyst: JLF
Antimony	ND	2.5		mg/Kg	1	10/11/2012 10:28:52 AM
Arsenic	ND	2.5		mg/Kg	1	10/11/2012 10:28:52 AM
Barium	230	0.50		mg/Kg	5	10/11/2012 10:31:19 AM
Beryllium	0.30	0.15		mg/Kg	1	10/11/2012 10:28:52 AM
Cadmium	ND	0.10		mg/Kg	1	10/11/2012 10:28:52 AM
Chromium	5.1	0.30		mg/Kg	1	10/11/2012 10:28:52 AM
Cobalt	2.1	0.30		mg/Kg	1	10/11/2012 10:28:52 AM
Iron	5900	500		mg/Kg	500	10/11/2012 12:21:48 PM
Lead	0.57	0.25		mg/Kg	1	10/11/2012 10:28:52 AM
Manganese	200	0.50		mg/Kg	5	10/11/2012 10:31:19 AM
Nickel	3.5	0.50		mg/Kg	1	10/11/2012 10:28:52 AM
Selenium	ND	2.5		mg/Kg	1	10/11/2012 10:28:52 AM
Silver	ND	0.25		mg/Kg	1	10/11/2012 10:28:52 AM
Vanadium	8.6	2.5		mg/Kg	1	10/11/2012 10:28:52 AM
Zinc	8.5	2.5		mg/Kg	1	10/11/2012 10:28:52 AM
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Acenaphthene	ND	0.39		mg/Kg	1	10/9/2012 9:50:28 PM
Acenaphthylene	ND	0.39		mg/Kg	1	10/9/2012 9:50:28 PM
Aniline	ND	0.39		mg/Kg	1	10/9/2012 9:50:28 PM
Anthracene	ND	0.39		mg/Kg	1	10/9/2012 9:50:28 PM
Azobenzene	ND	0.39		mg/Kg	1	10/9/2012 9:50:28 PM
Benz(a)anthracene	ND	0.39		mg/Kg	1	10/9/2012 9:50:28 PM
Benzo(a)pyrene	ND	0.39		mg/Kg	1	10/9/2012 9:50:28 PM
Benzo(b)fluoranthene	ND	0.39		mg/Kg	1	10/9/2012 9:50:28 PM
Benzo(g,h,i)perylene	ND	0.39		mg/Kg	1	10/9/2012 9:50:28 PM
Benzo(k)fluoranthene	ND	0.39		mg/Kg	1	10/9/2012 9:50:28 PM
Benzoic acid	ND	0.99		mg/Kg	1	10/9/2012 9:50:28 PM
Benzyl alcohol	ND	0.39		mg/Kg	1	10/9/2012 9:50:28 PM
Bis(2-chloroethoxy)methane	ND	0.39		mg/Kg	1	10/9/2012 9:50:28 PM
Bis(2-chloroethyl)ether	ND	0.39		mg/Kg	1	10/9/2012 9:50:28 PM
Bis(2-chloroisopropyl)ether	ND	0.39		mg/Kg	1	10/9/2012 9:50:28 PM

Qualifiers:

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- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210332

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-5 (26-27')

Project: SWMU NO.1

Collection Date: 10/3/2012 6:20:00 PM

Lab ID: 1210332-008

Matrix: SOIL

Received Date: 10/5/2012 6:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Bis(2-ethylhexyl)phthalate	ND	0.99		mg/Kg	1	10/9/2012 9:50:28 PM
4-Bromophenyl phenyl ether	ND	0.39		mg/Kg	1	10/9/2012 9:50:28 PM
Butyl benzyl phthalate	ND	0.39		mg/Kg	1	10/9/2012 9:50:28 PM
Carbazole	ND	0.39		mg/Kg	1	10/9/2012 9:50:28 PM
4-Chloro-3-methylphenol	ND	0.99		mg/Kg	1	10/9/2012 9:50:28 PM
4-Chloroaniline	ND	0.99		mg/Kg	1	10/9/2012 9:50:28 PM
2-Chloronaphthalene	ND	0.49		mg/Kg	1	10/9/2012 9:50:28 PM
2-Chlorophenol	ND	0.39		mg/Kg	1	10/9/2012 9:50:28 PM
4-Chlorophenyl phenyl ether	ND	0.39		mg/Kg	1	10/9/2012 9:50:28 PM
Chrysene	ND	0.39		mg/Kg	1	10/9/2012 9:50:28 PM
Di-n-butyl phthalate	ND	0.99		mg/Kg	1	10/9/2012 9:50:28 PM
Di-n-octyl phthalate	ND	0.49		mg/Kg	1	10/9/2012 9:50:28 PM
Dibenz(a,h)anthracene	ND	0.39		mg/Kg	1	10/9/2012 9:50:28 PM
Dibenzofuran	ND	0.39		mg/Kg	1	10/9/2012 9:50:28 PM
1,2-Dichlorobenzene	ND	0.39		mg/Kg	1	10/9/2012 9:50:28 PM
1,3-Dichlorobenzene	ND	0.39		mg/Kg	1	10/9/2012 9:50:28 PM
1,4-Dichlorobenzene	ND	0.39		mg/Kg	1	10/9/2012 9:50:28 PM
3,3'-Dichlorobenzidine	ND	0.49		mg/Kg	1	10/9/2012 9:50:28 PM
Diethyl phthalate	ND	0.39		mg/Kg	1	10/9/2012 9:50:28 PM
Dimethyl phthalate	ND	0.39		mg/Kg	1	10/9/2012 9:50:28 PM
2,4-Dichlorophenol	ND	0.79		mg/Kg	1	10/9/2012 9:50:28 PM
2,4-Dimethylphenol	ND	0.59		mg/Kg	1	10/9/2012 9:50:28 PM
4,6-Dinitro-2-methylphenol	ND	0.99		mg/Kg	1	10/9/2012 9:50:28 PM
2,4-Dinitrophenol	ND	0.79		mg/Kg	1	10/9/2012 9:50:28 PM
2,4-Dinitrotoluene	ND	0.99		mg/Kg	1	10/9/2012 9:50:28 PM
2,6-Dinitrotoluene	ND	0.99		mg/Kg	1	10/9/2012 9:50:28 PM
Fluoranthene	ND	0.39		mg/Kg	1	10/9/2012 9:50:28 PM
Fluorene	ND	0.39		mg/Kg	1	10/9/2012 9:50:28 PM
Hexachlorobenzene	ND	0.39		mg/Kg	1	10/9/2012 9:50:28 PM
Hexachlorobutadiene	ND	0.39		mg/Kg	1	10/9/2012 9:50:28 PM
Hexachlorocyclopentadiene	ND	0.39		mg/Kg	1	10/9/2012 9:50:28 PM
Hexachloroethane	ND	0.39		mg/Kg	1	10/9/2012 9:50:28 PM
Indeno(1,2,3-cd)pyrene	ND	0.39		mg/Kg	1	10/9/2012 9:50:28 PM
Isophorone	ND	0.99		mg/Kg	1	10/9/2012 9:50:28 PM
1-Methylnaphthalene	ND	0.39		mg/Kg	1	10/9/2012 9:50:28 PM
2-Methylnaphthalene	ND	0.39		mg/Kg	1	10/9/2012 9:50:28 PM
2-Methylphenol	ND	0.99		mg/Kg	1	10/9/2012 9:50:28 PM
3+4-Methylphenol	ND	0.39		mg/Kg	1	10/9/2012 9:50:28 PM
N-Nitrosodi-n-propylamine	ND	0.39		mg/Kg	1	10/9/2012 9:50:28 PM
N-Nitrosodiphenylamine	ND	0.39		mg/Kg	1	10/9/2012 9:50:28 PM
Naphthalene	ND	0.39		mg/Kg	1	10/9/2012 9:50:28 PM
2-Nitroaniline	ND	0.39		mg/Kg	1	10/9/2012 9:50:28 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
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Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210332

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-5 (26-27')

Project: SWMU NO.1

Collection Date: 10/3/2012 6:20:00 PM

Lab ID: 1210332-008

Matrix: SOIL

Received Date: 10/5/2012 6:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
3-Nitroaniline	ND	0.39		mg/Kg	1	10/9/2012 9:50:28 PM
4-Nitroaniline	ND	0.79		mg/Kg	1	10/9/2012 9:50:28 PM
Nitrobenzene	ND	0.99		mg/Kg	1	10/9/2012 9:50:28 PM
2-Nitrophenol	ND	0.39		mg/Kg	1	10/9/2012 9:50:28 PM
4-Nitrophenol	ND	0.49		mg/Kg	1	10/9/2012 9:50:28 PM
Pentachlorophenol	ND	0.79		mg/Kg	1	10/9/2012 9:50:28 PM
Phenanthrene	ND	0.39		mg/Kg	1	10/9/2012 9:50:28 PM
Phenol	ND	0.39		mg/Kg	1	10/9/2012 9:50:28 PM
Pyrene	ND	0.39		mg/Kg	1	10/9/2012 9:50:28 PM
Pyridine	ND	0.99		mg/Kg	1	10/9/2012 9:50:28 PM
1,2,4-Trichlorobenzene	ND	0.39		mg/Kg	1	10/9/2012 9:50:28 PM
2,4,5-Trichlorophenol	ND	0.39		mg/Kg	1	10/9/2012 9:50:28 PM
2,4,6-Trichlorophenol	ND	0.39		mg/Kg	1	10/9/2012 9:50:28 PM
Surr: 2,4,6-Tribromophenol	70.4	21.3-145		%REC	1	10/9/2012 9:50:28 PM
Surr: 2-Fluorobiphenyl	65.2	20-131		%REC	1	10/9/2012 9:50:28 PM
Surr: 2-Fluorophenol	65.4	11.9-130		%REC	1	10/9/2012 9:50:28 PM
Surr: 4-Terphenyl-d14	61.6	25.1-149		%REC	1	10/9/2012 9:50:28 PM
Surr: Nitrobenzene-d5	64.1	25.6-137		%REC	1	10/9/2012 9:50:28 PM
Surr: Phenol-d5	66.6	20.3-132		%REC	1	10/9/2012 9:50:28 PM
METHOD 8260B/5035LOW: VOLATILES						Analyst: RAA
Benzene	0.00594	0.00101		mg/Kg	1	10/8/2012 11:59:48 PM
Toluene	0.00831	0.00101		mg/Kg	1	10/8/2012 11:59:48 PM
Ethylbenzene	ND	0.00101		mg/Kg	1	10/8/2012 11:59:48 PM
Xylenes, Total	ND	0.00202		mg/Kg	1	10/8/2012 11:59:48 PM
Methyl tert-butyl ether (MTBE)	ND	0.00101		mg/Kg	1	10/8/2012 11:59:48 PM
1,2,4-Trimethylbenzene	ND	0.00101		mg/Kg	1	10/8/2012 11:59:48 PM
1,3,5-Trimethylbenzene	ND	0.00101		mg/Kg	1	10/8/2012 11:59:48 PM
1,2-Dichloroethane (EDC)	ND	0.00101		mg/Kg	1	10/8/2012 11:59:48 PM
1,2-Dibromoethane (EDB)	ND	0.00101		mg/Kg	1	10/8/2012 11:59:48 PM
Naphthalene	ND	0.00202		mg/Kg	1	10/8/2012 11:59:48 PM
1-Methylnaphthalene	ND	0.00404		mg/Kg	1	10/8/2012 11:59:48 PM
2-Methylnaphthalene	ND	0.00404		mg/Kg	1	10/8/2012 11:59:48 PM
Acetone	0.0233	0.0101		mg/Kg	1	10/8/2012 11:59:48 PM
Bromobenzene	ND	0.00101		mg/Kg	1	10/8/2012 11:59:48 PM
Bromodichloromethane	ND	0.00101		mg/Kg	1	10/8/2012 11:59:48 PM
Bromoform	ND	0.00101		mg/Kg	1	10/8/2012 11:59:48 PM
Bromomethane	ND	0.00101		mg/Kg	1	10/8/2012 11:59:48 PM
2-Butanone	ND	0.0101		mg/Kg	1	10/8/2012 11:59:48 PM
Carbon tetrachloride	ND	0.00101		mg/Kg	1	10/8/2012 11:59:48 PM
Chlorobenzene	ND	0.00101		mg/Kg	1	10/8/2012 11:59:48 PM
Chloroethane	ND	0.00101		mg/Kg	1	10/8/2012 11:59:48 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210332

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-5 (26-27')

Project: SWMU NO.1

Collection Date: 10/3/2012 6:20:00 PM

Lab ID: 1210332-008

Matrix: SOIL

Received Date: 10/5/2012 6:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
METHOD 8260B/5035LOW: VOLATILES						Analyst: RAA
Chloroform	ND	0.00101		mg/Kg	1	10/8/2012 11:59:48 PM
Chloromethane	ND	0.00101		mg/Kg	1	10/8/2012 11:59:48 PM
2-Chlorotoluene	ND	0.00101		mg/Kg	1	10/8/2012 11:59:48 PM
Carbon disulfide	ND	0.0101		mg/Kg	1	10/8/2012 11:59:48 PM
4-Chlorotoluene	ND	0.00101		mg/Kg	1	10/8/2012 11:59:48 PM
cis-1,2-DCE	ND	0.00101		mg/Kg	1	10/8/2012 11:59:48 PM
cis-1,3-Dichloropropene	ND	0.00101		mg/Kg	1	10/8/2012 11:59:48 PM
1,2-Dibromo-3-chloropropane	ND	0.00101		mg/Kg	1	10/8/2012 11:59:48 PM
Dibromochloromethane	ND	0.00101		mg/Kg	1	10/8/2012 11:59:48 PM
Dibromomethane	ND	0.00101		mg/Kg	1	10/8/2012 11:59:48 PM
1,2-Dichlorobenzene	ND	0.00101		mg/Kg	1	10/8/2012 11:59:48 PM
1,3-Dichlorobenzene	ND	0.00101		mg/Kg	1	10/8/2012 11:59:48 PM
1,4-Dichlorobenzene	ND	0.00101		mg/Kg	1	10/8/2012 11:59:48 PM
Dichlorodifluoromethane	ND	0.00101		mg/Kg	1	10/8/2012 11:59:48 PM
1,1-Dichloroethane	ND	0.00101		mg/Kg	1	10/8/2012 11:59:48 PM
1,1-Dichloroethene	ND	0.00101		mg/Kg	1	10/8/2012 11:59:48 PM
1,2-Dichloropropane	ND	0.00101		mg/Kg	1	10/8/2012 11:59:48 PM
1,3-Dichloropropane	ND	0.00101		mg/Kg	1	10/8/2012 11:59:48 PM
2,2-Dichloropropane	ND	0.00101		mg/Kg	1	10/8/2012 11:59:48 PM
1,1-Dichloropropene	ND	0.00101		mg/Kg	1	10/8/2012 11:59:48 PM
Hexachlorobutadiene	ND	0.00101		mg/Kg	1	10/8/2012 11:59:48 PM
Isopropylbenzene	ND	0.00101		mg/Kg	1	10/8/2012 11:59:48 PM
4-Isopropyltoluene	ND	0.00101		mg/Kg	1	10/8/2012 11:59:48 PM
Methylene chloride	ND	0.00303		mg/Kg	1	10/8/2012 11:59:48 PM
n-Butylbenzene	ND	0.00101		mg/Kg	1	10/8/2012 11:59:48 PM
2-Hexanone	ND	0.0101		mg/Kg	1	10/8/2012 11:59:48 PM
n-Propylbenzene	ND	0.00101		mg/Kg	1	10/8/2012 11:59:48 PM
sec-Butylbenzene	ND	0.00101		mg/Kg	1	10/8/2012 11:59:48 PM
Styrene	ND	0.00101		mg/Kg	1	10/8/2012 11:59:48 PM
4-Methyl-2-pentanone	ND	0.0101		mg/Kg	1	10/8/2012 11:59:48 PM
tert-Butylbenzene	ND	0.00101		mg/Kg	1	10/8/2012 11:59:48 PM
1,1,1,2-Tetrachloroethane	ND	0.00101		mg/Kg	1	10/8/2012 11:59:48 PM
1,1,2,2-Tetrachloroethane	ND	0.00101		mg/Kg	1	10/8/2012 11:59:48 PM
Tetrachloroethene (PCE)	ND	0.00101		mg/Kg	1	10/8/2012 11:59:48 PM
trans-1,2-DCE	ND	0.00101		mg/Kg	1	10/8/2012 11:59:48 PM
trans-1,3-Dichloropropene	ND	0.00101		mg/Kg	1	10/8/2012 11:59:48 PM
1,2,3-Trichlorobenzene	ND	0.00101		mg/Kg	1	10/8/2012 11:59:48 PM
1,2,4-Trichlorobenzene	ND	0.00101		mg/Kg	1	10/8/2012 11:59:48 PM
1,1,1-Trichloroethane	ND	0.00101		mg/Kg	1	10/8/2012 11:59:48 PM
1,1,2-Trichloroethane	ND	0.00101		mg/Kg	1	10/8/2012 11:59:48 PM
Trichloroethene (TCE)	ND	0.00101		mg/Kg	1	10/8/2012 11:59:48 PM
Trichlorofluoromethane	ND	0.00101		mg/Kg	1	10/8/2012 11:59:48 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210332

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-5 (26-27')

Project: SWMU NO.1

Collection Date: 10/3/2012 6:20:00 PM

Lab ID: 1210332-008

Matrix: SOIL

Received Date: 10/5/2012 6:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
METHOD 8260B/5035LOW: VOLATILES						Analyst: RAA
1,2,3-Trichloropropane	ND	0.00101		mg/Kg	1	10/8/2012 11:59:48 PM
Vinyl chloride	ND	0.00101		mg/Kg	1	10/8/2012 11:59:48 PM
Surr: 1,2-Dichloroethane-d4	105	70-130		%REC	1	10/8/2012 11:59:48 PM
Surr: 4-Bromofluorobenzene	87.5	70-130		%REC	1	10/8/2012 11:59:48 PM
Surr: Dibromofluoromethane	100	70-130		%REC	1	10/8/2012 11:59:48 PM
Surr: Toluene-d8	95.7	70-130		%REC	1	10/8/2012 11:59:48 PM

Qualifiers:

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RL Reporting Detection Limit

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210332

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-5 (27-28')

Project: SWMU NO.1

Collection Date: 10/3/2012 6:30:00 PM

Lab ID: 1210332-009

Matrix: SOIL

Received Date: 10/5/2012 6:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: JMP
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	10/6/2012 10:58:59 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	10/6/2012 10:58:59 PM
Surr: DNOP	89.3	77.6-140		%REC	1	10/6/2012 10:58:59 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	10/6/2012 7:40:09 PM
Surr: BFB	98.1	84-116		%REC	1	10/6/2012 7:40:09 PM
EPA METHOD 7471: MERCURY						Analyst: IDC
Mercury	ND	0.033		mg/kg	1	10/9/2012 11:19:00 AM
EPA METHOD 6010B: SOIL METALS						Analyst: JLF
Antimony	ND	12		mg/Kg	5	10/11/2012 2:31:31 PM
Arsenic	ND	12		mg/Kg	5	10/11/2012 2:31:31 PM
Barium	380	5.0		mg/Kg	50	10/11/2012 12:24:38 PM
Beryllium	1.1	0.75		mg/Kg	5	10/11/2012 10:45:59 AM
Cadmium	ND	0.50		mg/Kg	5	10/11/2012 10:45:59 AM
Chromium	15	1.5		mg/Kg	5	10/11/2012 10:45:59 AM
Cobalt	7.8	1.5		mg/Kg	5	10/11/2012 10:45:59 AM
Iron	17000	500		mg/Kg	500	10/11/2012 12:27:03 PM
Lead	ND	1.2		mg/Kg	5	10/11/2012 10:45:59 AM
Manganese	640	5.0		mg/Kg	50	10/11/2012 12:24:38 PM
Nickel	12	2.5		mg/Kg	5	10/11/2012 10:45:59 AM
Selenium	ND	12		mg/Kg	5	10/11/2012 10:45:59 AM
Silver	ND	1.2		mg/Kg	5	10/11/2012 10:45:59 AM
Vanadium	22	12		mg/Kg	5	10/11/2012 10:45:59 AM
Zinc	31	12		mg/Kg	5	10/11/2012 10:45:59 AM
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Acenaphthene	ND	0.20		mg/Kg	1	10/9/2012 10:19:57 PM
Acenaphthylene	ND	0.20		mg/Kg	1	10/9/2012 10:19:57 PM
Aniline	ND	0.20		mg/Kg	1	10/9/2012 10:19:57 PM
Anthracene	ND	0.20		mg/Kg	1	10/9/2012 10:19:57 PM
Azobenzene	ND	0.20		mg/Kg	1	10/9/2012 10:19:57 PM
Benz(a)anthracene	ND	0.20		mg/Kg	1	10/9/2012 10:19:57 PM
Benzo(a)pyrene	ND	0.20		mg/Kg	1	10/9/2012 10:19:57 PM
Benzo(b)fluoranthene	ND	0.20		mg/Kg	1	10/9/2012 10:19:57 PM
Benzo(g,h,i)perylene	ND	0.20		mg/Kg	1	10/9/2012 10:19:57 PM
Benzo(k)fluoranthene	ND	0.20		mg/Kg	1	10/9/2012 10:19:57 PM
Benzoic acid	ND	0.50		mg/Kg	1	10/9/2012 10:19:57 PM
Benzyl alcohol	ND	0.20		mg/Kg	1	10/9/2012 10:19:57 PM
Bis(2-chloroethoxy)methane	ND	0.20		mg/Kg	1	10/9/2012 10:19:57 PM
Bis(2-chloroethyl)ether	ND	0.20		mg/Kg	1	10/9/2012 10:19:57 PM
Bis(2-chloroisopropyl)ether	ND	0.20		mg/Kg	1	10/9/2012 10:19:57 PM

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- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210332

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-5 (27-28')

Project: SWMU NO.1

Collection Date: 10/3/2012 6:30:00 PM

Lab ID: 1210332-009

Matrix: SOIL

Received Date: 10/5/2012 6:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Bis(2-ethylhexyl)phthalate	ND	0.50		mg/Kg	1	10/9/2012 10:19:57 PM
4-Bromophenyl phenyl ether	ND	0.20		mg/Kg	1	10/9/2012 10:19:57 PM
Butyl benzyl phthalate	ND	0.20		mg/Kg	1	10/9/2012 10:19:57 PM
Carbazole	ND	0.20		mg/Kg	1	10/9/2012 10:19:57 PM
4-Chloro-3-methylphenol	ND	0.50		mg/Kg	1	10/9/2012 10:19:57 PM
4-Chloroaniline	ND	0.50		mg/Kg	1	10/9/2012 10:19:57 PM
2-Chloronaphthalene	ND	0.25		mg/Kg	1	10/9/2012 10:19:57 PM
2-Chlorophenol	ND	0.20		mg/Kg	1	10/9/2012 10:19:57 PM
4-Chlorophenyl phenyl ether	ND	0.20		mg/Kg	1	10/9/2012 10:19:57 PM
Chrysene	ND	0.20		mg/Kg	1	10/9/2012 10:19:57 PM
Di-n-butyl phthalate	ND	0.50		mg/Kg	1	10/9/2012 10:19:57 PM
Di-n-octyl phthalate	ND	0.25		mg/Kg	1	10/9/2012 10:19:57 PM
Dibenz(a,h)anthracene	ND	0.20		mg/Kg	1	10/9/2012 10:19:57 PM
Dibenzofuran	ND	0.20		mg/Kg	1	10/9/2012 10:19:57 PM
1,2-Dichlorobenzene	ND	0.20		mg/Kg	1	10/9/2012 10:19:57 PM
1,3-Dichlorobenzene	ND	0.20		mg/Kg	1	10/9/2012 10:19:57 PM
1,4-Dichlorobenzene	ND	0.20		mg/Kg	1	10/9/2012 10:19:57 PM
3,3'-Dichlorobenzidine	ND	0.25		mg/Kg	1	10/9/2012 10:19:57 PM
Diethyl phthalate	ND	0.20		mg/Kg	1	10/9/2012 10:19:57 PM
Dimethyl phthalate	ND	0.20		mg/Kg	1	10/9/2012 10:19:57 PM
2,4-Dichlorophenol	ND	0.40		mg/Kg	1	10/9/2012 10:19:57 PM
2,4-Dimethylphenol	ND	0.30		mg/Kg	1	10/9/2012 10:19:57 PM
4,6-Dinitro-2-methylphenol	ND	0.50		mg/Kg	1	10/9/2012 10:19:57 PM
2,4-Dinitrophenol	ND	0.40		mg/Kg	1	10/9/2012 10:19:57 PM
2,4-Dinitrotoluene	ND	0.50		mg/Kg	1	10/9/2012 10:19:57 PM
2,6-Dinitrotoluene	ND	0.50		mg/Kg	1	10/9/2012 10:19:57 PM
Fluoranthene	ND	0.20		mg/Kg	1	10/9/2012 10:19:57 PM
Fluorene	ND	0.20		mg/Kg	1	10/9/2012 10:19:57 PM
Hexachlorobenzene	ND	0.20		mg/Kg	1	10/9/2012 10:19:57 PM
Hexachlorobutadiene	ND	0.20		mg/Kg	1	10/9/2012 10:19:57 PM
Hexachlorocyclopentadiene	ND	0.20		mg/Kg	1	10/9/2012 10:19:57 PM
Hexachloroethane	ND	0.20		mg/Kg	1	10/9/2012 10:19:57 PM
Indeno(1,2,3-cd)pyrene	ND	0.20		mg/Kg	1	10/9/2012 10:19:57 PM
Isophorone	ND	0.50		mg/Kg	1	10/9/2012 10:19:57 PM
1-Methylnaphthalene	ND	0.20		mg/Kg	1	10/9/2012 10:19:57 PM
2-Methylnaphthalene	ND	0.20		mg/Kg	1	10/9/2012 10:19:57 PM
2-Methylphenol	ND	0.50		mg/Kg	1	10/9/2012 10:19:57 PM
3+4-Methylphenol	ND	0.20		mg/Kg	1	10/9/2012 10:19:57 PM
N-Nitrosodi-n-propylamine	ND	0.20		mg/Kg	1	10/9/2012 10:19:57 PM
N-Nitrosodiphenylamine	ND	0.20		mg/Kg	1	10/9/2012 10:19:57 PM
Naphthalene	ND	0.20		mg/Kg	1	10/9/2012 10:19:57 PM
2-Nitroaniline	ND	0.20		mg/Kg	1	10/9/2012 10:19:57 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210332

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-5 (27-28')

Project: SWMU NO.1

Collection Date: 10/3/2012 6:30:00 PM

Lab ID: 1210332-009

Matrix: SOIL

Received Date: 10/5/2012 6:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
3-Nitroaniline	ND	0.20		mg/Kg	1	10/9/2012 10:19:57 PM
4-Nitroaniline	ND	0.40		mg/Kg	1	10/9/2012 10:19:57 PM
Nitrobenzene	ND	0.50		mg/Kg	1	10/9/2012 10:19:57 PM
2-Nitrophenol	ND	0.20		mg/Kg	1	10/9/2012 10:19:57 PM
4-Nitrophenol	ND	0.25		mg/Kg	1	10/9/2012 10:19:57 PM
Pentachlorophenol	ND	0.40		mg/Kg	1	10/9/2012 10:19:57 PM
Phenanthrene	ND	0.20		mg/Kg	1	10/9/2012 10:19:57 PM
Phenol	ND	0.20		mg/Kg	1	10/9/2012 10:19:57 PM
Pyrene	ND	0.20		mg/Kg	1	10/9/2012 10:19:57 PM
Pyridine	ND	0.50		mg/Kg	1	10/9/2012 10:19:57 PM
1,2,4-Trichlorobenzene	ND	0.20		mg/Kg	1	10/9/2012 10:19:57 PM
2,4,5-Trichlorophenol	ND	0.20		mg/Kg	1	10/9/2012 10:19:57 PM
2,4,6-Trichlorophenol	ND	0.20		mg/Kg	1	10/9/2012 10:19:57 PM
Surr: 2,4,6-Tribromophenol	84.9	21.3-145		%REC	1	10/9/2012 10:19:57 PM
Surr: 2-Fluorobiphenyl	77.2	20-131		%REC	1	10/9/2012 10:19:57 PM
Surr: 2-Fluorophenol	79.7	11.9-130		%REC	1	10/9/2012 10:19:57 PM
Surr: 4-Terphenyl-d14	76.5	25.1-149		%REC	1	10/9/2012 10:19:57 PM
Surr: Nitrobenzene-d5	87.1	25.6-137		%REC	1	10/9/2012 10:19:57 PM
Surr: Phenol-d5	79.7	20.3-132		%REC	1	10/9/2012 10:19:57 PM
METHOD 8260B/5035LOW: VOLATILES						Analyst: RAA
Benzene	0.00158	0.000995		mg/Kg	1	10/9/2012 12:30:33 AM
Toluene	0.00101	0.000995		mg/Kg	1	10/9/2012 12:30:33 AM
Ethylbenzene	ND	0.000995		mg/Kg	1	10/9/2012 12:30:33 AM
Xylenes, Total	ND	0.00199		mg/Kg	1	10/9/2012 12:30:33 AM
Methyl tert-butyl ether (MTBE)	ND	0.000995		mg/Kg	1	10/9/2012 12:30:33 AM
1,2,4-Trimethylbenzene	ND	0.000995		mg/Kg	1	10/9/2012 12:30:33 AM
1,3,5-Trimethylbenzene	ND	0.000995		mg/Kg	1	10/9/2012 12:30:33 AM
1,2-Dichloroethane (EDC)	ND	0.000995		mg/Kg	1	10/9/2012 12:30:33 AM
1,2-Dibromoethane (EDB)	ND	0.000995		mg/Kg	1	10/9/2012 12:30:33 AM
Naphthalene	ND	0.00199		mg/Kg	1	10/9/2012 12:30:33 AM
1-Methylnaphthalene	ND	0.00398		mg/Kg	1	10/9/2012 12:30:33 AM
2-Methylnaphthalene	ND	0.00398		mg/Kg	1	10/9/2012 12:30:33 AM
Acetone	ND	0.00995		mg/Kg	1	10/9/2012 12:30:33 AM
Bromobenzene	ND	0.000995		mg/Kg	1	10/9/2012 12:30:33 AM
Bromodichloromethane	ND	0.000995		mg/Kg	1	10/9/2012 12:30:33 AM
Bromoform	ND	0.000995		mg/Kg	1	10/9/2012 12:30:33 AM
Bromomethane	ND	0.000995		mg/Kg	1	10/9/2012 12:30:33 AM
2-Butanone	ND	0.00995		mg/Kg	1	10/9/2012 12:30:33 AM
Carbon tetrachloride	ND	0.000995		mg/Kg	1	10/9/2012 12:30:33 AM
Chlorobenzene	ND	0.000995		mg/Kg	1	10/9/2012 12:30:33 AM
Chloroethane	ND	0.000995		mg/Kg	1	10/9/2012 12:30:33 AM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210332

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-5 (27-28')

Project: SWMU NO.1

Collection Date: 10/3/2012 6:30:00 PM

Lab ID: 1210332-009

Matrix: SOIL

Received Date: 10/5/2012 6:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
METHOD 8260B/5035LOW: VOLATILES						Analyst: RAA
Chloroform	ND	0.000995		mg/Kg	1	10/9/2012 12:30:33 AM
Chloromethane	ND	0.000995		mg/Kg	1	10/9/2012 12:30:33 AM
2-Chlorotoluene	ND	0.000995		mg/Kg	1	10/9/2012 12:30:33 AM
Carbon disulfide	ND	0.000995		mg/Kg	1	10/9/2012 12:30:33 AM
4-Chlorotoluene	ND	0.000995		mg/Kg	1	10/9/2012 12:30:33 AM
cis-1,2-DCE	ND	0.000995		mg/Kg	1	10/9/2012 12:30:33 AM
cis-1,3-Dichloropropene	ND	0.000995		mg/Kg	1	10/9/2012 12:30:33 AM
1,2-Dibromo-3-chloropropane	ND	0.000995		mg/Kg	1	10/9/2012 12:30:33 AM
Dibromochloromethane	ND	0.000995		mg/Kg	1	10/9/2012 12:30:33 AM
Dibromomethane	ND	0.000995		mg/Kg	1	10/9/2012 12:30:33 AM
1,2-Dichlorobenzene	ND	0.000995		mg/Kg	1	10/9/2012 12:30:33 AM
1,3-Dichlorobenzene	ND	0.000995		mg/Kg	1	10/9/2012 12:30:33 AM
1,4-Dichlorobenzene	ND	0.000995		mg/Kg	1	10/9/2012 12:30:33 AM
Dichlorodifluoromethane	ND	0.000995		mg/Kg	1	10/9/2012 12:30:33 AM
1,1-Dichloroethane	ND	0.000995		mg/Kg	1	10/9/2012 12:30:33 AM
1,1-Dichloroethene	ND	0.000995		mg/Kg	1	10/9/2012 12:30:33 AM
1,2-Dichloropropane	ND	0.000995		mg/Kg	1	10/9/2012 12:30:33 AM
1,3-Dichloropropane	ND	0.000995		mg/Kg	1	10/9/2012 12:30:33 AM
2,2-Dichloropropane	ND	0.000995		mg/Kg	1	10/9/2012 12:30:33 AM
1,1-Dichloropropene	ND	0.000995		mg/Kg	1	10/9/2012 12:30:33 AM
Hexachlorobutadiene	ND	0.000995		mg/Kg	1	10/9/2012 12:30:33 AM
Isopropylbenzene	ND	0.000995		mg/Kg	1	10/9/2012 12:30:33 AM
4-Isopropyltoluene	ND	0.000995		mg/Kg	1	10/9/2012 12:30:33 AM
Methylene chloride	ND	0.00299		mg/Kg	1	10/9/2012 12:30:33 AM
n-Butylbenzene	ND	0.000995		mg/Kg	1	10/9/2012 12:30:33 AM
2-Hexanone	ND	0.000995		mg/Kg	1	10/9/2012 12:30:33 AM
n-Propylbenzene	ND	0.000995		mg/Kg	1	10/9/2012 12:30:33 AM
sec-Butylbenzene	ND	0.000995		mg/Kg	1	10/9/2012 12:30:33 AM
Styrene	ND	0.000995		mg/Kg	1	10/9/2012 12:30:33 AM
4-Methyl-2-pentanone	ND	0.000995		mg/Kg	1	10/9/2012 12:30:33 AM
tert-Butylbenzene	ND	0.000995		mg/Kg	1	10/9/2012 12:30:33 AM
1,1,1,2-Tetrachloroethane	ND	0.000995		mg/Kg	1	10/9/2012 12:30:33 AM
1,1,2,2-Tetrachloroethane	ND	0.000995		mg/Kg	1	10/9/2012 12:30:33 AM
Tetrachloroethene (PCE)	ND	0.000995		mg/Kg	1	10/9/2012 12:30:33 AM
trans-1,2-DCE	ND	0.000995		mg/Kg	1	10/9/2012 12:30:33 AM
trans-1,3-Dichloropropene	ND	0.000995		mg/Kg	1	10/9/2012 12:30:33 AM
1,2,3-Trichlorobenzene	ND	0.000995		mg/Kg	1	10/9/2012 12:30:33 AM
1,2,4-Trichlorobenzene	ND	0.000995		mg/Kg	1	10/9/2012 12:30:33 AM
1,1,1-Trichloroethane	ND	0.000995		mg/Kg	1	10/9/2012 12:30:33 AM
1,1,2-Trichloroethane	ND	0.000995		mg/Kg	1	10/9/2012 12:30:33 AM
Trichloroethene (TCE)	ND	0.000995		mg/Kg	1	10/9/2012 12:30:33 AM
Trichlorofluoromethane	ND	0.000995		mg/Kg	1	10/9/2012 12:30:33 AM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210332

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-5 (27-28')

Project: SWMU NO.1

Collection Date: 10/3/2012 6:30:00 PM

Lab ID: 1210332-009

Matrix: SOIL

Received Date: 10/5/2012 6:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
METHOD 8260B/5035LOW: VOLATILES						Analyst: RAA
1,2,3-Trichloropropane	ND	0.000995		mg/Kg	1	10/9/2012 12:30:33 AM
Vinyl chloride	ND	0.000995		mg/Kg	1	10/9/2012 12:30:33 AM
Surr: 1,2-Dichloroethane-d4	98.7	70-130		%REC	1	10/9/2012 12:30:33 AM
Surr: 4-Bromofluorobenzene	97.4	70-130		%REC	1	10/9/2012 12:30:33 AM
Surr: Dibromofluoromethane	104	70-130		%REC	1	10/9/2012 12:30:33 AM
Surr: Toluene-d8	97.1	70-130		%REC	1	10/9/2012 12:30:33 AM

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2
RL Reporting Detection Limit

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210332

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: EB100312

Project: SWMU NO.1

Collection Date: 10/3/2012 6:44:00 PM

Lab ID: 1210332-010

Matrix: AQUEOUS

Received Date: 10/5/2012 6:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: JMP
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	10/8/2012 1:14:39 PM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	10/8/2012 1:14:39 PM
Surr: DNOP	118	79.5-166		%REC	1	10/8/2012 1:14:39 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	10/5/2012 11:51:04 PM
Surr: BFB	113	69.8-119		%REC	1	10/5/2012 11:51:04 PM
EPA METHOD 300.0: ANIONS						Analyst: JRR
Fluoride	ND	0.10		mg/L	1	10/5/2012 9:12:18 PM
Chloride	ND	0.50		mg/L	1	10/5/2012 9:12:18 PM
Sulfate	ND	0.50		mg/L	1	10/5/2012 9:12:18 PM
EPA METHOD 200.7: METALS						Analyst: JLF
Barium	ND	0.0020		mg/L	1	10/10/2012 8:08:55 PM
Beryllium	ND	0.0020		mg/L	1	10/10/2012 8:08:55 PM
Cadmium	ND	0.0020		mg/L	1	10/10/2012 8:08:55 PM
Chromium	ND	0.0060		mg/L	1	10/12/2012 7:42:29 AM
Cobalt	ND	0.0060		mg/L	1	10/10/2012 8:08:55 PM
Iron	0.025	0.020		mg/L	1	10/10/2012 8:08:55 PM
Manganese	ND	0.0020		mg/L	1	10/10/2012 8:08:55 PM
Nickel	ND	0.010		mg/L	1	10/10/2012 8:08:55 PM
Silver	ND	0.0050		mg/L	1	10/10/2012 8:08:55 PM
Vanadium	ND	0.050		mg/L	1	10/10/2012 8:08:55 PM
Zinc	ND	0.010		mg/L	1	10/12/2012 7:42:29 AM
EPA 200.8: METALS						Analyst: DBD
Antimony	ND	0.0010		mg/L	1	10/17/2012 11:13:21 AM
Arsenic	ND	0.0010		mg/L	1	10/17/2012 11:13:21 AM
Lead	ND	0.0010		mg/L	1	10/17/2012 11:13:21 AM
Selenium	ND	0.0010		mg/L	1	10/17/2012 11:13:21 AM
EPA METHOD 245.1: MERCURY						Analyst: JLF
Mercury	ND	0.00020		mg/L	1	10/12/2012 4:36:48 PM
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Acenaphthene	ND	10		µg/L	1	10/5/2012 3:09:51 PM
Acenaphthylene	ND	10		µg/L	1	10/5/2012 3:09:51 PM
Aniline	ND	10		µg/L	1	10/5/2012 3:09:51 PM
Anthracene	ND	10		µg/L	1	10/5/2012 3:09:51 PM
Azobenzene	ND	10		µg/L	1	10/5/2012 3:09:51 PM
Benz(a)anthracene	ND	10		µg/L	1	10/5/2012 3:09:51 PM
Benzo(a)pyrene	ND	10		µg/L	1	10/5/2012 3:09:51 PM
Benzo(b)fluoranthene	ND	10		µg/L	1	10/5/2012 3:09:51 PM
Benzo(g,h,i)perylene	ND	10		µg/L	1	10/5/2012 3:09:51 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210332

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: EB100312

Project: SWMU NO.1

Collection Date: 10/3/2012 6:44:00 PM

Lab ID: 1210332-010

Matrix: AQUEOUS

Received Date: 10/5/2012 6:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Benzo(k)fluoranthene	ND	10		µg/L	1	10/5/2012 3:09:51 PM
Benzoic acid	ND	20		µg/L	1	10/5/2012 3:09:51 PM
Benzyl alcohol	ND	10		µg/L	1	10/5/2012 3:09:51 PM
Bis(2-chloroethoxy)methane	ND	10		µg/L	1	10/5/2012 3:09:51 PM
Bis(2-chloroethyl)ether	ND	10		µg/L	1	10/5/2012 3:09:51 PM
Bis(2-chloroisopropyl)ether	ND	10		µg/L	1	10/5/2012 3:09:51 PM
Bis(2-ethylhexyl)phthalate	ND	10		µg/L	1	10/5/2012 3:09:51 PM
4-Bromophenyl phenyl ether	ND	10		µg/L	1	10/5/2012 3:09:51 PM
Butyl benzyl phthalate	ND	10		µg/L	1	10/5/2012 3:09:51 PM
Carbazole	ND	10		µg/L	1	10/5/2012 3:09:51 PM
4-Chloro-3-methylphenol	ND	10		µg/L	1	10/5/2012 3:09:51 PM
4-Chloroaniline	ND	10		µg/L	1	10/5/2012 3:09:51 PM
2-Chloronaphthalene	ND	10		µg/L	1	10/5/2012 3:09:51 PM
2-Chlorophenol	ND	10		µg/L	1	10/5/2012 3:09:51 PM
4-Chlorophenyl phenyl ether	ND	10		µg/L	1	10/5/2012 3:09:51 PM
Chrysene	ND	10		µg/L	1	10/5/2012 3:09:51 PM
Di-n-butyl phthalate	ND	10		µg/L	1	10/5/2012 3:09:51 PM
Di-n-octyl phthalate	ND	10		µg/L	1	10/5/2012 3:09:51 PM
Dibenz(a,h)anthracene	ND	10		µg/L	1	10/5/2012 3:09:51 PM
Dibenzofuran	ND	10		µg/L	1	10/5/2012 3:09:51 PM
1,2-Dichlorobenzene	ND	10		µg/L	1	10/5/2012 3:09:51 PM
1,3-Dichlorobenzene	ND	10		µg/L	1	10/5/2012 3:09:51 PM
1,4-Dichlorobenzene	ND	10		µg/L	1	10/5/2012 3:09:51 PM
3,3'-Dichlorobenzidine	ND	10		µg/L	1	10/5/2012 3:09:51 PM
Diethyl phthalate	ND	10		µg/L	1	10/5/2012 3:09:51 PM
Dimethyl phthalate	ND	10		µg/L	1	10/5/2012 3:09:51 PM
2,4-Dichlorophenol	ND	20		µg/L	1	10/5/2012 3:09:51 PM
2,4-Dimethylphenol	ND	10		µg/L	1	10/5/2012 3:09:51 PM
4,6-Dinitro-2-methylphenol	ND	20		µg/L	1	10/5/2012 3:09:51 PM
2,4-Dinitrophenol	ND	20		µg/L	1	10/5/2012 3:09:51 PM
2,4-Dinitrotoluene	ND	10		µg/L	1	10/5/2012 3:09:51 PM
2,6-Dinitrotoluene	ND	10		µg/L	1	10/5/2012 3:09:51 PM
Fluoranthene	ND	10		µg/L	1	10/5/2012 3:09:51 PM
Fluorene	ND	10		µg/L	1	10/5/2012 3:09:51 PM
Hexachlorobenzene	ND	10		µg/L	1	10/5/2012 3:09:51 PM
Hexachlorobutadiene	ND	10		µg/L	1	10/5/2012 3:09:51 PM
Hexachlorocyclopentadiene	ND	10		µg/L	1	10/5/2012 3:09:51 PM
Hexachloroethane	ND	10		µg/L	1	10/5/2012 3:09:51 PM
Indeno(1,2,3-cd)pyrene	ND	10		µg/L	1	10/5/2012 3:09:51 PM
Isophorone	ND	10		µg/L	1	10/5/2012 3:09:51 PM
1-Methylnaphthalene	ND	10		µg/L	1	10/5/2012 3:09:51 PM
2-Methylnaphthalene	ND	10		µg/L	1	10/5/2012 3:09:51 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210332

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: EB100312

Project: SWMU NO.1

Collection Date: 10/3/2012 6:44:00 PM

Lab ID: 1210332-010

Matrix: AQUEOUS

Received Date: 10/5/2012 6:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
2-Methylphenol	ND	10		µg/L	1	10/5/2012 3:09:51 PM
3+4-Methylphenol	ND	10		µg/L	1	10/5/2012 3:09:51 PM
N-Nitrosodi-n-propylamine	ND	10		µg/L	1	10/5/2012 3:09:51 PM
N-Nitrosodimethylamine	ND	10		µg/L	1	10/5/2012 3:09:51 PM
N-Nitrosodiphenylamine	ND	10		µg/L	1	10/5/2012 3:09:51 PM
Naphthalene	ND	10		µg/L	1	10/5/2012 3:09:51 PM
2-Nitroaniline	ND	10		µg/L	1	10/5/2012 3:09:51 PM
3-Nitroaniline	ND	10		µg/L	1	10/5/2012 3:09:51 PM
4-Nitroaniline	ND	20		µg/L	1	10/5/2012 3:09:51 PM
Nitrobenzene	ND	10		µg/L	1	10/5/2012 3:09:51 PM
2-Nitrophenol	ND	10		µg/L	1	10/5/2012 3:09:51 PM
4-Nitrophenol	ND	10		µg/L	1	10/5/2012 3:09:51 PM
Pentachlorophenol	ND	20		µg/L	1	10/5/2012 3:09:51 PM
Phenanthrene	ND	10		µg/L	1	10/5/2012 3:09:51 PM
Phenol	ND	10		µg/L	1	10/5/2012 3:09:51 PM
Pyrene	ND	10		µg/L	1	10/5/2012 3:09:51 PM
Pyridine	ND	10		µg/L	1	10/5/2012 3:09:51 PM
1,2,4-Trichlorobenzene	ND	10		µg/L	1	10/5/2012 3:09:51 PM
2,4,5-Trichlorophenol	ND	10		µg/L	1	10/5/2012 3:09:51 PM
2,4,6-Trichlorophenol	ND	10		µg/L	1	10/5/2012 3:09:51 PM
Surr: 2,4,6-Tribromophenol	92.9	44.2-126		%REC	1	10/5/2012 3:09:51 PM
Surr: 2-Fluorobiphenyl	89.6	37-114		%REC	1	10/5/2012 3:09:51 PM
Surr: 2-Fluorophenol	69.2	23.4-98		%REC	1	10/5/2012 3:09:51 PM
Surr: 4-Terphenyl-d14	83.7	41.3-116		%REC	1	10/5/2012 3:09:51 PM
Surr: Nitrobenzene-d5	91.5	39.5-118		%REC	1	10/5/2012 3:09:51 PM
Surr: Phenol-d5	51.7	20.9-95.9		%REC	1	10/5/2012 3:09:51 PM
EPA METHOD 8260B: VOLATILES						Analyst: RAA
Benzene	ND	1.0		µg/L	1	10/5/2012 8:29:24 PM
Toluene	ND	1.0		µg/L	1	10/5/2012 8:29:24 PM
Ethylbenzene	ND	1.0		µg/L	1	10/5/2012 8:29:24 PM
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	10/5/2012 8:29:24 PM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	10/5/2012 8:29:24 PM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	10/5/2012 8:29:24 PM
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	10/5/2012 8:29:24 PM
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	10/5/2012 8:29:24 PM
Naphthalene	ND	2.0		µg/L	1	10/5/2012 8:29:24 PM
1-Methylnaphthalene	ND	4.0		µg/L	1	10/5/2012 8:29:24 PM
2-Methylnaphthalene	ND	4.0		µg/L	1	10/5/2012 8:29:24 PM
Acetone	ND	10		µg/L	1	10/5/2012 8:29:24 PM
Bromobenzene	ND	1.0		µg/L	1	10/5/2012 8:29:24 PM
Bromodichloromethane	ND	1.0		µg/L	1	10/5/2012 8:29:24 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210332

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: EB100312

Project: SWMU NO.1

Collection Date: 10/3/2012 6:44:00 PM

Lab ID: 1210332-010

Matrix: AQUEOUS

Received Date: 10/5/2012 6:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: RAA
Bromoform	ND	1.0		µg/L	1	10/5/2012 8:29:24 PM
Bromomethane	ND	3.0		µg/L	1	10/5/2012 8:29:24 PM
2-Butanone	ND	10		µg/L	1	10/5/2012 8:29:24 PM
Carbon disulfide	ND	10		µg/L	1	10/5/2012 8:29:24 PM
Carbon Tetrachloride	ND	1.0		µg/L	1	10/5/2012 8:29:24 PM
Chlorobenzene	ND	1.0		µg/L	1	10/5/2012 8:29:24 PM
Chloroethane	ND	2.0		µg/L	1	10/5/2012 8:29:24 PM
Chloroform	ND	1.0		µg/L	1	10/5/2012 8:29:24 PM
Chloromethane	ND	3.0		µg/L	1	10/5/2012 8:29:24 PM
2-Chlorotoluene	ND	1.0		µg/L	1	10/5/2012 8:29:24 PM
4-Chlorotoluene	ND	1.0		µg/L	1	10/5/2012 8:29:24 PM
cis-1,2-DCE	ND	1.0		µg/L	1	10/5/2012 8:29:24 PM
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	10/5/2012 8:29:24 PM
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	10/5/2012 8:29:24 PM
Dibromochloromethane	ND	1.0		µg/L	1	10/5/2012 8:29:24 PM
Dibromomethane	ND	1.0		µg/L	1	10/5/2012 8:29:24 PM
1,2-Dichlorobenzene	ND	1.0		µg/L	1	10/5/2012 8:29:24 PM
1,3-Dichlorobenzene	ND	1.0		µg/L	1	10/5/2012 8:29:24 PM
1,4-Dichlorobenzene	ND	1.0		µg/L	1	10/5/2012 8:29:24 PM
Dichlorodifluoromethane	ND	1.0		µg/L	1	10/5/2012 8:29:24 PM
1,1-Dichloroethane	ND	1.0		µg/L	1	10/5/2012 8:29:24 PM
1,1-Dichloroethene	ND	1.0		µg/L	1	10/5/2012 8:29:24 PM
1,2-Dichloropropane	ND	1.0		µg/L	1	10/5/2012 8:29:24 PM
1,3-Dichloropropane	ND	1.0		µg/L	1	10/5/2012 8:29:24 PM
2,2-Dichloropropane	ND	2.0		µg/L	1	10/5/2012 8:29:24 PM
1,1-Dichloropropene	ND	1.0		µg/L	1	10/5/2012 8:29:24 PM
Hexachlorobutadiene	ND	1.0		µg/L	1	10/5/2012 8:29:24 PM
2-Hexanone	ND	10		µg/L	1	10/5/2012 8:29:24 PM
Isopropylbenzene	ND	1.0		µg/L	1	10/5/2012 8:29:24 PM
4-Isopropyltoluene	ND	1.0		µg/L	1	10/5/2012 8:29:24 PM
4-Methyl-2-pentanone	ND	10		µg/L	1	10/5/2012 8:29:24 PM
Methylene Chloride	ND	3.0		µg/L	1	10/5/2012 8:29:24 PM
n-Butylbenzene	ND	3.0		µg/L	1	10/5/2012 8:29:24 PM
n-Propylbenzene	ND	1.0		µg/L	1	10/5/2012 8:29:24 PM
sec-Butylbenzene	ND	1.0		µg/L	1	10/5/2012 8:29:24 PM
Styrene	ND	1.0		µg/L	1	10/5/2012 8:29:24 PM
tert-Butylbenzene	ND	1.0		µg/L	1	10/5/2012 8:29:24 PM
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	10/5/2012 8:29:24 PM
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	10/5/2012 8:29:24 PM
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	10/5/2012 8:29:24 PM
trans-1,2-DCE	ND	1.0		µg/L	1	10/5/2012 8:29:24 PM
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	10/5/2012 8:29:24 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210332

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: EB100312

Project: SWMU NO.1

Collection Date: 10/3/2012 6:44:00 PM

Lab ID: 1210332-010

Matrix: AQUEOUS

Received Date: 10/5/2012 6:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: RAA
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	10/5/2012 8:29:24 PM
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	10/5/2012 8:29:24 PM
1,1,1-Trichloroethane	ND	1.0		µg/L	1	10/5/2012 8:29:24 PM
1,1,2-Trichloroethane	ND	1.0		µg/L	1	10/5/2012 8:29:24 PM
Trichloroethene (TCE)	ND	1.0		µg/L	1	10/5/2012 8:29:24 PM
Trichlorofluoromethane	ND	1.0		µg/L	1	10/5/2012 8:29:24 PM
1,2,3-Trichloropropane	ND	2.0		µg/L	1	10/5/2012 8:29:24 PM
Vinyl chloride	ND	1.0		µg/L	1	10/5/2012 8:29:24 PM
Xylenes, Total	ND	1.5		µg/L	1	10/5/2012 8:29:24 PM
Surr: 1,2-Dichloroethane-d4	82.3	70-130		%REC	1	10/5/2012 8:29:24 PM
Surr: 4-Bromofluorobenzene	80.0	70-130		%REC	1	10/5/2012 8:29:24 PM
Surr: Dibromofluoromethane	89.2	70-130		%REC	1	10/5/2012 8:29:24 PM
Surr: Toluene-d8	80.0	70-130		%REC	1	10/5/2012 8:29:24 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210332

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: MeOH Blank 100312

Project: SWMU NO.1

Collection Date:

Lab ID: 1210332-011

Matrix: MEOH BLAN

Received Date: 10/5/2012 6:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	10/6/2012 8:10:15 PM
Surr: BFB	77.0	84-116	S	%REC	1	10/6/2012 8:10:15 PM
EPA METHOD 8260B: VOLATILES						Analyst: DJF
Benzene	ND	0.050		mg/Kg	1	10/15/2012 8:46:00 PM
Toluene	ND	0.050		mg/Kg	1	10/15/2012 8:46:00 PM
Ethylbenzene	ND	0.050		mg/Kg	1	10/15/2012 8:46:00 PM
Methyl tert-butyl ether (MTBE)	ND	0.050		mg/Kg	1	10/15/2012 8:46:00 PM
1,2,4-Trimethylbenzene	ND	0.050		mg/Kg	1	10/15/2012 8:46:00 PM
1,3,5-Trimethylbenzene	ND	0.050		mg/Kg	1	10/15/2012 8:46:00 PM
1,2-Dichloroethane (EDC)	ND	0.050		mg/Kg	1	10/15/2012 8:46:00 PM
1,2-Dibromoethane (EDB)	ND	0.050		mg/Kg	1	10/15/2012 8:46:00 PM
Naphthalene	ND	0.10		mg/Kg	1	10/15/2012 8:46:00 PM
1-Methylnaphthalene	ND	0.20		mg/Kg	1	10/15/2012 8:46:00 PM
2-Methylnaphthalene	ND	0.20		mg/Kg	1	10/15/2012 8:46:00 PM
Acetone	ND	0.75		mg/Kg	1	10/15/2012 8:46:00 PM
Bromobenzene	ND	0.050		mg/Kg	1	10/15/2012 8:46:00 PM
Bromodichloromethane	ND	0.050		mg/Kg	1	10/15/2012 8:46:00 PM
Bromoform	ND	0.050		mg/Kg	1	10/15/2012 8:46:00 PM
Bromomethane	ND	0.15		mg/Kg	1	10/15/2012 8:46:00 PM
2-Butanone	ND	0.50		mg/Kg	1	10/15/2012 8:46:00 PM
Carbon disulfide	ND	0.50		mg/Kg	1	10/15/2012 8:46:00 PM
Carbon tetrachloride	ND	0.10		mg/Kg	1	10/15/2012 8:46:00 PM
Chlorobenzene	ND	0.050		mg/Kg	1	10/15/2012 8:46:00 PM
Chloroethane	ND	0.10		mg/Kg	1	10/15/2012 8:46:00 PM
Chloroform	ND	0.050		mg/Kg	1	10/15/2012 8:46:00 PM
Chloromethane	ND	0.15		mg/Kg	1	10/15/2012 8:46:00 PM
2-Chlorotoluene	ND	0.050		mg/Kg	1	10/15/2012 8:46:00 PM
4-Chlorotoluene	ND	0.050		mg/Kg	1	10/15/2012 8:46:00 PM
cis-1,2-DCE	ND	0.050		mg/Kg	1	10/15/2012 8:46:00 PM
cis-1,3-Dichloropropene	ND	0.050		mg/Kg	1	10/15/2012 8:46:00 PM
1,2-Dibromo-3-chloropropane	ND	0.10		mg/Kg	1	10/15/2012 8:46:00 PM
Dibromochloromethane	ND	0.050		mg/Kg	1	10/15/2012 8:46:00 PM
Dibromomethane	ND	0.10		mg/Kg	1	10/15/2012 8:46:00 PM
1,2-Dichlorobenzene	ND	0.050		mg/Kg	1	10/15/2012 8:46:00 PM
1,3-Dichlorobenzene	ND	0.050		mg/Kg	1	10/15/2012 8:46:00 PM
1,4-Dichlorobenzene	ND	0.050		mg/Kg	1	10/15/2012 8:46:00 PM
Dichlorodifluoromethane	ND	0.050		mg/Kg	1	10/15/2012 8:46:00 PM
1,1-Dichloroethane	ND	0.10		mg/Kg	1	10/15/2012 8:46:00 PM
1,1-Dichloroethene	ND	0.050		mg/Kg	1	10/15/2012 8:46:00 PM
1,2-Dichloropropane	ND	0.050		mg/Kg	1	10/15/2012 8:46:00 PM
1,3-Dichloropropane	ND	0.050		mg/Kg	1	10/15/2012 8:46:00 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210332

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: MeOH Blank 100312

Project: SWMU NO.1

Collection Date:

Lab ID: 1210332-011

Matrix: MEOH BLAN

Received Date: 10/5/2012 6:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: DJF
2,2-Dichloropropane	ND	0.10		mg/Kg	1	10/15/2012 8:46:00 PM
1,1-Dichloropropene	ND	0.10		mg/Kg	1	10/15/2012 8:46:00 PM
Hexachlorobutadiene	ND	0.10		mg/Kg	1	10/15/2012 8:46:00 PM
2-Hexanone	ND	0.50		mg/Kg	1	10/15/2012 8:46:00 PM
Isopropylbenzene	ND	0.050		mg/Kg	1	10/15/2012 8:46:00 PM
4-Isopropyltoluene	ND	0.050		mg/Kg	1	10/15/2012 8:46:00 PM
4-Methyl-2-pentanone	ND	0.50		mg/Kg	1	10/15/2012 8:46:00 PM
Methylene chloride	ND	0.15		mg/Kg	1	10/15/2012 8:46:00 PM
n-Butylbenzene	ND	0.15		mg/Kg	1	10/15/2012 8:46:00 PM
n-Propylbenzene	ND	0.050		mg/Kg	1	10/15/2012 8:46:00 PM
sec-Butylbenzene	ND	0.050		mg/Kg	1	10/15/2012 8:46:00 PM
Styrene	ND	0.050		mg/Kg	1	10/15/2012 8:46:00 PM
tert-Butylbenzene	ND	0.050		mg/Kg	1	10/15/2012 8:46:00 PM
1,1,1,2-Tetrachloroethane	ND	0.050		mg/Kg	1	10/15/2012 8:46:00 PM
1,1,2,2-Tetrachloroethane	ND	0.050		mg/Kg	1	10/15/2012 8:46:00 PM
Tetrachloroethene (PCE)	ND	0.050		mg/Kg	1	10/15/2012 8:46:00 PM
trans-1,2-DCE	ND	0.050		mg/Kg	1	10/15/2012 8:46:00 PM
trans-1,3-Dichloropropene	ND	0.050		mg/Kg	1	10/15/2012 8:46:00 PM
1,2,3-Trichlorobenzene	ND	0.10		mg/Kg	1	10/15/2012 8:46:00 PM
1,2,4-Trichlorobenzene	ND	0.050		mg/Kg	1	10/15/2012 8:46:00 PM
1,1,1-Trichloroethane	ND	0.050		mg/Kg	1	10/15/2012 8:46:00 PM
1,1,2-Trichloroethane	ND	0.050		mg/Kg	1	10/15/2012 8:46:00 PM
Trichloroethene (TCE)	ND	0.050		mg/Kg	1	10/15/2012 8:46:00 PM
Trichlorofluoromethane	ND	0.050		mg/Kg	1	10/15/2012 8:46:00 PM
1,2,3-Trichloropropane	ND	0.10		mg/Kg	1	10/15/2012 8:46:00 PM
Vinyl chloride	ND	0.050		mg/Kg	1	10/15/2012 8:46:00 PM
Xylenes, Total	ND	0.10		mg/Kg	1	10/15/2012 8:46:00 PM
Surr: 1,2-Dichloroethane-d4	93.6	70-130		%REC	1	10/15/2012 8:46:00 PM
Surr: 4-Bromofluorobenzene	92.2	70-130		%REC	1	10/15/2012 8:46:00 PM
Surr: Dibromofluoromethane	94.4	70-130		%REC	1	10/15/2012 8:46:00 PM
Surr: Toluene-d8	99.2	70-130		%REC	1	10/15/2012 8:46:00 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210332

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-5 (10-12')

Project: SWMU NO.1

Collection Date: 10/3/2012 5:30:00 PM

Lab ID: 1210332-012

Matrix: SOIL

Received Date: 10/5/2012 6:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: JMP
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	10/8/2012 10:22:00 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	10/8/2012 10:22:00 AM
Surr: DNOP	99.0	77.6-140		%REC	1	10/8/2012 10:22:00 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	10/6/2012 8:40:29 PM
Surr: BFB	103	84-116		%REC	1	10/6/2012 8:40:29 PM
EPA METHOD 7471: MERCURY						Analyst: IDC
Mercury	ND	0.033		mg/kg	1	10/9/2012 11:38:40 AM
EPA METHOD 6010B: SOIL METALS						Analyst: JLF
Antimony	ND	12		mg/Kg	5	10/11/2012 11:00:15 AM
Arsenic	ND	12		mg/Kg	5	10/11/2012 11:00:15 AM
Barium	610	5.0		mg/Kg	50	10/11/2012 12:31:20 PM
Beryllium	ND	0.75		mg/Kg	5	10/11/2012 11:00:15 AM
Cadmium	ND	0.50		mg/Kg	5	10/11/2012 11:00:15 AM
Chromium	11	1.5		mg/Kg	5	10/11/2012 11:00:15 AM
Cobalt	3.3	1.5		mg/Kg	5	10/11/2012 11:00:15 AM
Iron	9200	500		mg/Kg	500	10/11/2012 12:44:37 PM
Lead	3.9	1.2		mg/Kg	5	10/11/2012 11:00:15 AM
Manganese	1300	5.0		mg/Kg	50	10/11/2012 12:31:20 PM
Nickel	4.5	2.5		mg/Kg	5	10/11/2012 11:00:15 AM
Selenium	ND	12		mg/Kg	5	10/11/2012 11:00:15 AM
Silver	ND	1.2		mg/Kg	5	10/11/2012 11:00:15 AM
Vanadium	15	12		mg/Kg	5	10/11/2012 11:00:15 AM
Zinc	ND	12		mg/Kg	5	10/11/2012 11:00:15 AM
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Acenaphthene	ND	0.20		mg/Kg	1	10/9/2012 10:49:25 PM
Acenaphthylene	ND	0.20		mg/Kg	1	10/9/2012 10:49:25 PM
Aniline	ND	0.20		mg/Kg	1	10/9/2012 10:49:25 PM
Anthracene	ND	0.20		mg/Kg	1	10/9/2012 10:49:25 PM
Azobenzene	ND	0.20		mg/Kg	1	10/9/2012 10:49:25 PM
Benz(a)anthracene	ND	0.20		mg/Kg	1	10/9/2012 10:49:25 PM
Benzo(a)pyrene	ND	0.20		mg/Kg	1	10/9/2012 10:49:25 PM
Benzo(b)fluoranthene	ND	0.20		mg/Kg	1	10/9/2012 10:49:25 PM
Benzo(g,h,i)perylene	ND	0.20		mg/Kg	1	10/9/2012 10:49:25 PM
Benzo(k)fluoranthene	ND	0.20		mg/Kg	1	10/9/2012 10:49:25 PM
Benzoic acid	ND	0.50		mg/Kg	1	10/9/2012 10:49:25 PM
Benzyl alcohol	ND	0.20		mg/Kg	1	10/9/2012 10:49:25 PM
Bis(2-chloroethoxy)methane	ND	0.20		mg/Kg	1	10/9/2012 10:49:25 PM
Bis(2-chloroethyl)ether	ND	0.20		mg/Kg	1	10/9/2012 10:49:25 PM
Bis(2-chloroisopropyl)ether	ND	0.20		mg/Kg	1	10/9/2012 10:49:25 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210332

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-5 (10-12')

Project: SWMU NO.1

Collection Date: 10/3/2012 5:30:00 PM

Lab ID: 1210332-012

Matrix: SOIL

Received Date: 10/5/2012 6:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Bis(2-ethylhexyl)phthalate	ND	0.50		mg/Kg	1	10/9/2012 10:49:25 PM
4-Bromophenyl phenyl ether	ND	0.20		mg/Kg	1	10/9/2012 10:49:25 PM
Butyl benzyl phthalate	ND	0.20		mg/Kg	1	10/9/2012 10:49:25 PM
Carbazole	ND	0.20		mg/Kg	1	10/9/2012 10:49:25 PM
4-Chloro-3-methylphenol	ND	0.50		mg/Kg	1	10/9/2012 10:49:25 PM
4-Chloroaniline	ND	0.50		mg/Kg	1	10/9/2012 10:49:25 PM
2-Chloronaphthalene	ND	0.25		mg/Kg	1	10/9/2012 10:49:25 PM
2-Chlorophenol	ND	0.20		mg/Kg	1	10/9/2012 10:49:25 PM
4-Chlorophenyl phenyl ether	ND	0.20		mg/Kg	1	10/9/2012 10:49:25 PM
Chrysene	ND	0.20		mg/Kg	1	10/9/2012 10:49:25 PM
Di-n-butyl phthalate	ND	0.50		mg/Kg	1	10/9/2012 10:49:25 PM
Di-n-octyl phthalate	ND	0.25		mg/Kg	1	10/9/2012 10:49:25 PM
Dibenz(a,h)anthracene	ND	0.20		mg/Kg	1	10/9/2012 10:49:25 PM
Dibenzofuran	ND	0.20		mg/Kg	1	10/9/2012 10:49:25 PM
1,2-Dichlorobenzene	ND	0.20		mg/Kg	1	10/9/2012 10:49:25 PM
1,3-Dichlorobenzene	ND	0.20		mg/Kg	1	10/9/2012 10:49:25 PM
1,4-Dichlorobenzene	ND	0.20		mg/Kg	1	10/9/2012 10:49:25 PM
3,3'-Dichlorobenzidine	ND	0.25		mg/Kg	1	10/9/2012 10:49:25 PM
Diethyl phthalate	ND	0.20		mg/Kg	1	10/9/2012 10:49:25 PM
Dimethyl phthalate	ND	0.20		mg/Kg	1	10/9/2012 10:49:25 PM
2,4-Dichlorophenol	ND	0.40		mg/Kg	1	10/9/2012 10:49:25 PM
2,4-Dimethylphenol	ND	0.30		mg/Kg	1	10/9/2012 10:49:25 PM
4,6-Dinitro-2-methylphenol	ND	0.50		mg/Kg	1	10/9/2012 10:49:25 PM
2,4-Dinitrophenol	ND	0.40		mg/Kg	1	10/9/2012 10:49:25 PM
2,4-Dinitrotoluene	ND	0.50		mg/Kg	1	10/9/2012 10:49:25 PM
2,6-Dinitrotoluene	ND	0.50		mg/Kg	1	10/9/2012 10:49:25 PM
Fluoranthene	ND	0.20		mg/Kg	1	10/9/2012 10:49:25 PM
Fluorene	ND	0.20		mg/Kg	1	10/9/2012 10:49:25 PM
Hexachlorobenzene	ND	0.20		mg/Kg	1	10/9/2012 10:49:25 PM
Hexachlorobutadiene	ND	0.20		mg/Kg	1	10/9/2012 10:49:25 PM
Hexachlorocyclopentadiene	ND	0.20		mg/Kg	1	10/9/2012 10:49:25 PM
Hexachloroethane	ND	0.20		mg/Kg	1	10/9/2012 10:49:25 PM
Indeno(1,2,3-cd)pyrene	ND	0.20		mg/Kg	1	10/9/2012 10:49:25 PM
Isophorone	ND	0.50		mg/Kg	1	10/9/2012 10:49:25 PM
1-Methylnaphthalene	ND	0.20		mg/Kg	1	10/9/2012 10:49:25 PM
2-Methylnaphthalene	ND	0.20		mg/Kg	1	10/9/2012 10:49:25 PM
2-Methylphenol	ND	0.50		mg/Kg	1	10/9/2012 10:49:25 PM
3+4-Methylphenol	ND	0.20		mg/Kg	1	10/9/2012 10:49:25 PM
N-Nitrosodi-n-propylamine	ND	0.20		mg/Kg	1	10/9/2012 10:49:25 PM
N-Nitrosodiphenylamine	ND	0.20		mg/Kg	1	10/9/2012 10:49:25 PM
Naphthalene	ND	0.20		mg/Kg	1	10/9/2012 10:49:25 PM
2-Nitroaniline	ND	0.20		mg/Kg	1	10/9/2012 10:49:25 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210332

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-5 (10-12')

Project: SWMU NO.1

Collection Date: 10/3/2012 5:30:00 PM

Lab ID: 1210332-012

Matrix: SOIL

Received Date: 10/5/2012 6:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
3-Nitroaniline	ND	0.20		mg/Kg	1	10/9/2012 10:49:25 PM
4-Nitroaniline	ND	0.40		mg/Kg	1	10/9/2012 10:49:25 PM
Nitrobenzene	ND	0.50		mg/Kg	1	10/9/2012 10:49:25 PM
2-Nitrophenol	ND	0.20		mg/Kg	1	10/9/2012 10:49:25 PM
4-Nitrophenol	ND	0.25		mg/Kg	1	10/9/2012 10:49:25 PM
Pentachlorophenol	ND	0.40		mg/Kg	1	10/9/2012 10:49:25 PM
Phenanthrene	ND	0.20		mg/Kg	1	10/9/2012 10:49:25 PM
Phenol	ND	0.20		mg/Kg	1	10/9/2012 10:49:25 PM
Pyrene	ND	0.20		mg/Kg	1	10/9/2012 10:49:25 PM
Pyridine	ND	0.50		mg/Kg	1	10/9/2012 10:49:25 PM
1,2,4-Trichlorobenzene	ND	0.20		mg/Kg	1	10/9/2012 10:49:25 PM
2,4,5-Trichlorophenol	ND	0.20		mg/Kg	1	10/9/2012 10:49:25 PM
2,4,6-Trichlorophenol	ND	0.20		mg/Kg	1	10/9/2012 10:49:25 PM
Surr: 2,4,6-Tribromophenol	96.0	21.3-145		%REC	1	10/9/2012 10:49:25 PM
Surr: 2-Fluorobiphenyl	82.9	20-131		%REC	1	10/9/2012 10:49:25 PM
Surr: 2-Fluorophenol	82.0	11.9-130		%REC	1	10/9/2012 10:49:25 PM
Surr: 4-Terphenyl-d14	76.7	25.1-149		%REC	1	10/9/2012 10:49:25 PM
Surr: Nitrobenzene-d5	80.1	25.6-137		%REC	1	10/9/2012 10:49:25 PM
Surr: Phenol-d5	80.7	20.3-132		%REC	1	10/9/2012 10:49:25 PM
METHOD 8260B/5035LOW: VOLATILES						Analyst: RAA
Benzene	ND	0.000909		mg/Kg	1	10/9/2012 1:01:16 AM
Toluene	ND	0.000909		mg/Kg	1	10/9/2012 1:01:16 AM
Ethylbenzene	ND	0.000909		mg/Kg	1	10/9/2012 1:01:16 AM
Xylenes, Total	ND	0.00182		mg/Kg	1	10/9/2012 1:01:16 AM
Methyl tert-butyl ether (MTBE)	ND	0.000909		mg/Kg	1	10/9/2012 1:01:16 AM
1,2,4-Trimethylbenzene	ND	0.000909		mg/Kg	1	10/9/2012 1:01:16 AM
1,3,5-Trimethylbenzene	ND	0.000909		mg/Kg	1	10/9/2012 1:01:16 AM
1,2-Dichloroethane (EDC)	ND	0.000909		mg/Kg	1	10/9/2012 1:01:16 AM
1,2-Dibromoethane (EDB)	ND	0.000909		mg/Kg	1	10/9/2012 1:01:16 AM
Naphthalene	ND	0.00182		mg/Kg	1	10/9/2012 1:01:16 AM
1-Methylnaphthalene	ND	0.00363		mg/Kg	1	10/9/2012 1:01:16 AM
2-Methylnaphthalene	ND	0.00363		mg/Kg	1	10/9/2012 1:01:16 AM
Acetone	0.0614	0.00909		mg/Kg	1	10/9/2012 1:01:16 AM
Bromobenzene	ND	0.000909		mg/Kg	1	10/9/2012 1:01:16 AM
Bromodichloromethane	ND	0.000909		mg/Kg	1	10/9/2012 1:01:16 AM
Bromoform	ND	0.000909		mg/Kg	1	10/9/2012 1:01:16 AM
Bromomethane	ND	0.000909		mg/Kg	1	10/9/2012 1:01:16 AM
2-Butanone	0.0142	0.00909		mg/Kg	1	10/9/2012 1:01:16 AM
Carbon tetrachloride	ND	0.000909		mg/Kg	1	10/9/2012 1:01:16 AM
Chlorobenzene	ND	0.000909		mg/Kg	1	10/9/2012 1:01:16 AM
Chloroethane	ND	0.000909		mg/Kg	1	10/9/2012 1:01:16 AM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210332

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-5 (10-12')

Project: SWMU NO.1

Collection Date: 10/3/2012 5:30:00 PM

Lab ID: 1210332-012

Matrix: SOIL

Received Date: 10/5/2012 6:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
METHOD 8260B/5035LOW: VOLATILES						Analyst: RAA
Chloroform	ND	0.000909		mg/Kg	1	10/9/2012 1:01:16 AM
Chloromethane	ND	0.000909		mg/Kg	1	10/9/2012 1:01:16 AM
2-Chlorotoluene	ND	0.000909		mg/Kg	1	10/9/2012 1:01:16 AM
Carbon disulfide	ND	0.00909		mg/Kg	1	10/9/2012 1:01:16 AM
4-Chlorotoluene	ND	0.000909		mg/Kg	1	10/9/2012 1:01:16 AM
cis-1,2-DCE	ND	0.000909		mg/Kg	1	10/9/2012 1:01:16 AM
cis-1,3-Dichloropropene	ND	0.000909		mg/Kg	1	10/9/2012 1:01:16 AM
1,2-Dibromo-3-chloropropane	ND	0.000909		mg/Kg	1	10/9/2012 1:01:16 AM
Dibromochloromethane	ND	0.000909		mg/Kg	1	10/9/2012 1:01:16 AM
Dibromomethane	ND	0.000909		mg/Kg	1	10/9/2012 1:01:16 AM
1,2-Dichlorobenzene	ND	0.000909		mg/Kg	1	10/9/2012 1:01:16 AM
1,3-Dichlorobenzene	ND	0.000909		mg/Kg	1	10/9/2012 1:01:16 AM
1,4-Dichlorobenzene	ND	0.000909		mg/Kg	1	10/9/2012 1:01:16 AM
Dichlorodifluoromethane	ND	0.000909		mg/Kg	1	10/9/2012 1:01:16 AM
1,1-Dichloroethane	ND	0.000909		mg/Kg	1	10/9/2012 1:01:16 AM
1,1-Dichloroethene	ND	0.000909		mg/Kg	1	10/9/2012 1:01:16 AM
1,2-Dichloropropane	ND	0.000909		mg/Kg	1	10/9/2012 1:01:16 AM
1,3-Dichloropropane	ND	0.000909		mg/Kg	1	10/9/2012 1:01:16 AM
2,2-Dichloropropane	ND	0.000909		mg/Kg	1	10/9/2012 1:01:16 AM
1,1-Dichloropropene	ND	0.000909		mg/Kg	1	10/9/2012 1:01:16 AM
Hexachlorobutadiene	ND	0.000909		mg/Kg	1	10/9/2012 1:01:16 AM
Isopropylbenzene	ND	0.000909		mg/Kg	1	10/9/2012 1:01:16 AM
4-Isopropyltoluene	ND	0.000909		mg/Kg	1	10/9/2012 1:01:16 AM
Methylene chloride	ND	0.00273		mg/Kg	1	10/9/2012 1:01:16 AM
n-Butylbenzene	ND	0.000909		mg/Kg	1	10/9/2012 1:01:16 AM
2-Hexanone	ND	0.00909		mg/Kg	1	10/9/2012 1:01:16 AM
n-Propylbenzene	ND	0.000909		mg/Kg	1	10/9/2012 1:01:16 AM
sec-Butylbenzene	ND	0.000909		mg/Kg	1	10/9/2012 1:01:16 AM
Styrene	ND	0.000909		mg/Kg	1	10/9/2012 1:01:16 AM
4-Methyl-2-pentanone	ND	0.00909		mg/Kg	1	10/9/2012 1:01:16 AM
tert-Butylbenzene	ND	0.000909		mg/Kg	1	10/9/2012 1:01:16 AM
1,1,1,2-Tetrachloroethane	ND	0.000909		mg/Kg	1	10/9/2012 1:01:16 AM
1,1,2,2-Tetrachloroethane	ND	0.000909		mg/Kg	1	10/9/2012 1:01:16 AM
Tetrachloroethene (PCE)	ND	0.000909		mg/Kg	1	10/9/2012 1:01:16 AM
trans-1,2-DCE	ND	0.000909		mg/Kg	1	10/9/2012 1:01:16 AM
trans-1,3-Dichloropropene	ND	0.000909		mg/Kg	1	10/9/2012 1:01:16 AM
1,2,3-Trichlorobenzene	ND	0.000909		mg/Kg	1	10/9/2012 1:01:16 AM
1,2,4-Trichlorobenzene	ND	0.000909		mg/Kg	1	10/9/2012 1:01:16 AM
1,1,1-Trichloroethane	ND	0.000909		mg/Kg	1	10/9/2012 1:01:16 AM
1,1,2-Trichloroethane	ND	0.000909		mg/Kg	1	10/9/2012 1:01:16 AM
Trichloroethene (TCE)	ND	0.000909		mg/Kg	1	10/9/2012 1:01:16 AM
Trichlorofluoromethane	ND	0.000909		mg/Kg	1	10/9/2012 1:01:16 AM

Qualifiers:

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- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210332

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-5 (10-12')

Project: SWMU NO.1

Collection Date: 10/3/2012 5:30:00 PM

Lab ID: 1210332-012

Matrix: SOIL

Received Date: 10/5/2012 6:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
METHOD 8260B/5035LOW: VOLATILES						Analyst: RAA
1,2,3-Trichloropropane	ND	0.000909		mg/Kg	1	10/9/2012 1:01:16 AM
Vinyl chloride	ND	0.000909		mg/Kg	1	10/9/2012 1:01:16 AM
Surr: 1,2-Dichloroethane-d4	100	70-130		%REC	1	10/9/2012 1:01:16 AM
Surr: 4-Bromofluorobenzene	106	70-130		%REC	1	10/9/2012 1:01:16 AM
Surr: Dibromofluoromethane	105	70-130		%REC	1	10/9/2012 1:01:16 AM
Surr: Toluene-d8	106	70-130		%REC	1	10/9/2012 1:01:16 AM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210332

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-5 (14-16')

Project: SWMU NO.1

Collection Date: 10/3/2012 5:45:00 PM

Lab ID: 1210332-013

Matrix: SOIL

Received Date: 10/5/2012 6:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: JMP
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	10/6/2012 11:24:06 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	10/6/2012 11:24:06 PM
Surr: DNOP	99.0	77.6-140		%REC	1	10/6/2012 11:24:06 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	10/6/2012 9:40:48 PM
Surr: BFB	95.0	84-116		%REC	1	10/6/2012 9:40:48 PM
EPA METHOD 7471: MERCURY						Analyst: IDC
Mercury	ND	0.033		mg/kg	1	10/9/2012 11:40:27 AM
EPA METHOD 6010B: SOIL METALS						Analyst: JLF
Antimony	ND	12		mg/Kg	5	10/11/2012 11:05:28 AM
Arsenic	ND	12		mg/Kg	5	10/11/2012 11:05:28 AM
Barium	640	5.0		mg/Kg	50	10/11/2012 12:47:28 PM
Beryllium	ND	0.75		mg/Kg	5	10/11/2012 11:05:28 AM
Cadmium	ND	0.50		mg/Kg	5	10/11/2012 11:05:28 AM
Chromium	11	1.5		mg/Kg	5	10/11/2012 11:05:28 AM
Cobalt	3.9	1.5		mg/Kg	5	10/11/2012 11:05:28 AM
Iron	11000	500		mg/Kg	500	10/11/2012 12:49:54 PM
Lead	4.4	1.2		mg/Kg	5	10/11/2012 11:05:28 AM
Manganese	1200	5.0		mg/Kg	50	10/11/2012 12:47:28 PM
Nickel	5.9	2.5		mg/Kg	5	10/11/2012 11:05:28 AM
Selenium	ND	12		mg/Kg	5	10/11/2012 11:05:28 AM
Silver	ND	1.2		mg/Kg	5	10/11/2012 11:05:28 AM
Vanadium	19	12		mg/Kg	5	10/11/2012 11:05:28 AM
Zinc	14	12		mg/Kg	5	10/11/2012 11:05:28 AM
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Acenaphthene	ND	0.20		mg/Kg	1	10/9/2012 11:18:52 PM
Acenaphthylene	ND	0.20		mg/Kg	1	10/9/2012 11:18:52 PM
Aniline	ND	0.20		mg/Kg	1	10/9/2012 11:18:52 PM
Anthracene	ND	0.20		mg/Kg	1	10/9/2012 11:18:52 PM
Azobenzene	ND	0.20		mg/Kg	1	10/9/2012 11:18:52 PM
Benz(a)anthracene	ND	0.20		mg/Kg	1	10/9/2012 11:18:52 PM
Benzo(a)pyrene	ND	0.20		mg/Kg	1	10/9/2012 11:18:52 PM
Benzo(b)fluoranthene	ND	0.20		mg/Kg	1	10/9/2012 11:18:52 PM
Benzo(g,h,i)perylene	ND	0.20		mg/Kg	1	10/9/2012 11:18:52 PM
Benzo(k)fluoranthene	ND	0.20		mg/Kg	1	10/9/2012 11:18:52 PM
Benzoic acid	ND	0.50		mg/Kg	1	10/9/2012 11:18:52 PM
Benzyl alcohol	ND	0.20		mg/Kg	1	10/9/2012 11:18:52 PM
Bis(2-chloroethoxy)methane	ND	0.20		mg/Kg	1	10/9/2012 11:18:52 PM
Bis(2-chloroethyl)ether	ND	0.20		mg/Kg	1	10/9/2012 11:18:52 PM
Bis(2-chloroisopropyl)ether	ND	0.20		mg/Kg	1	10/9/2012 11:18:52 PM

Qualifiers:

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- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210332

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-5 (14-16')

Project: SWMU NO.1

Collection Date: 10/3/2012 5:45:00 PM

Lab ID: 1210332-013

Matrix: SOIL

Received Date: 10/5/2012 6:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Bis(2-ethylhexyl)phthalate	ND	0.50		mg/Kg	1	10/9/2012 11:18:52 PM
4-Bromophenyl phenyl ether	ND	0.20		mg/Kg	1	10/9/2012 11:18:52 PM
Butyl benzyl phthalate	ND	0.20		mg/Kg	1	10/9/2012 11:18:52 PM
Carbazole	ND	0.20		mg/Kg	1	10/9/2012 11:18:52 PM
4-Chloro-3-methylphenol	ND	0.50		mg/Kg	1	10/9/2012 11:18:52 PM
4-Chloroaniline	ND	0.50		mg/Kg	1	10/9/2012 11:18:52 PM
2-Chloronaphthalene	ND	0.25		mg/Kg	1	10/9/2012 11:18:52 PM
2-Chlorophenol	ND	0.20		mg/Kg	1	10/9/2012 11:18:52 PM
4-Chlorophenyl phenyl ether	ND	0.20		mg/Kg	1	10/9/2012 11:18:52 PM
Chrysene	ND	0.20		mg/Kg	1	10/9/2012 11:18:52 PM
Di-n-butyl phthalate	ND	0.50		mg/Kg	1	10/9/2012 11:18:52 PM
Di-n-octyl phthalate	ND	0.25		mg/Kg	1	10/9/2012 11:18:52 PM
Dibenz(a,h)anthracene	ND	0.20		mg/Kg	1	10/9/2012 11:18:52 PM
Dibenzofuran	ND	0.20		mg/Kg	1	10/9/2012 11:18:52 PM
1,2-Dichlorobenzene	ND	0.20		mg/Kg	1	10/9/2012 11:18:52 PM
1,3-Dichlorobenzene	ND	0.20		mg/Kg	1	10/9/2012 11:18:52 PM
1,4-Dichlorobenzene	ND	0.20		mg/Kg	1	10/9/2012 11:18:52 PM
3,3'-Dichlorobenzidine	ND	0.25		mg/Kg	1	10/9/2012 11:18:52 PM
Diethyl phthalate	ND	0.20		mg/Kg	1	10/9/2012 11:18:52 PM
Dimethyl phthalate	ND	0.20		mg/Kg	1	10/9/2012 11:18:52 PM
2,4-Dichlorophenol	ND	0.40		mg/Kg	1	10/9/2012 11:18:52 PM
2,4-Dimethylphenol	ND	0.30		mg/Kg	1	10/9/2012 11:18:52 PM
4,6-Dinitro-2-methylphenol	ND	0.50		mg/Kg	1	10/9/2012 11:18:52 PM
2,4-Dinitrophenol	ND	0.40		mg/Kg	1	10/9/2012 11:18:52 PM
2,4-Dinitrotoluene	ND	0.50		mg/Kg	1	10/9/2012 11:18:52 PM
2,6-Dinitrotoluene	ND	0.50		mg/Kg	1	10/9/2012 11:18:52 PM
Fluoranthene	ND	0.20		mg/Kg	1	10/9/2012 11:18:52 PM
Fluorene	ND	0.20		mg/Kg	1	10/9/2012 11:18:52 PM
Hexachlorobenzene	ND	0.20		mg/Kg	1	10/9/2012 11:18:52 PM
Hexachlorobutadiene	ND	0.20		mg/Kg	1	10/9/2012 11:18:52 PM
Hexachlorocyclopentadiene	ND	0.20		mg/Kg	1	10/9/2012 11:18:52 PM
Hexachloroethane	ND	0.20		mg/Kg	1	10/9/2012 11:18:52 PM
Indeno(1,2,3-cd)pyrene	ND	0.20		mg/Kg	1	10/9/2012 11:18:52 PM
Isophorone	ND	0.50		mg/Kg	1	10/9/2012 11:18:52 PM
1-Methylnaphthalene	ND	0.20		mg/Kg	1	10/9/2012 11:18:52 PM
2-Methylnaphthalene	ND	0.20		mg/Kg	1	10/9/2012 11:18:52 PM
2-Methylphenol	ND	0.50		mg/Kg	1	10/9/2012 11:18:52 PM
3+4-Methylphenol	ND	0.20		mg/Kg	1	10/9/2012 11:18:52 PM
N-Nitrosodi-n-propylamine	ND	0.20		mg/Kg	1	10/9/2012 11:18:52 PM
N-Nitrosodiphenylamine	ND	0.20		mg/Kg	1	10/9/2012 11:18:52 PM
Naphthalene	ND	0.20		mg/Kg	1	10/9/2012 11:18:52 PM
2-Nitroaniline	ND	0.20		mg/Kg	1	10/9/2012 11:18:52 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210332

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-5 (14-16')

Project: SWMU NO.1

Collection Date: 10/3/2012 5:45:00 PM

Lab ID: 1210332-013

Matrix: SOIL

Received Date: 10/5/2012 6:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
3-Nitroaniline	ND	0.20		mg/Kg	1	10/9/2012 11:18:52 PM
4-Nitroaniline	ND	0.40		mg/Kg	1	10/9/2012 11:18:52 PM
Nitrobenzene	ND	0.50		mg/Kg	1	10/9/2012 11:18:52 PM
2-Nitrophenol	ND	0.20		mg/Kg	1	10/9/2012 11:18:52 PM
4-Nitrophenol	ND	0.25		mg/Kg	1	10/9/2012 11:18:52 PM
Pentachlorophenol	ND	0.40		mg/Kg	1	10/9/2012 11:18:52 PM
Phenanthrene	ND	0.20		mg/Kg	1	10/9/2012 11:18:52 PM
Phenol	ND	0.20		mg/Kg	1	10/9/2012 11:18:52 PM
Pyrene	ND	0.20		mg/Kg	1	10/9/2012 11:18:52 PM
Pyridine	ND	0.50		mg/Kg	1	10/9/2012 11:18:52 PM
1,2,4-Trichlorobenzene	ND	0.20		mg/Kg	1	10/9/2012 11:18:52 PM
2,4,5-Trichlorophenol	ND	0.20		mg/Kg	1	10/9/2012 11:18:52 PM
2,4,6-Trichlorophenol	ND	0.20		mg/Kg	1	10/9/2012 11:18:52 PM
Surr: 2,4,6-Tribromophenol	99.8	21.3-145		%REC	1	10/9/2012 11:18:52 PM
Surr: 2-Fluorobiphenyl	87.7	20-131		%REC	1	10/9/2012 11:18:52 PM
Surr: 2-Fluorophenol	94.2	11.9-130		%REC	1	10/9/2012 11:18:52 PM
Surr: 4-Terphenyl-d14	78.0	25.1-149		%REC	1	10/9/2012 11:18:52 PM
Surr: Nitrobenzene-d5	91.1	25.6-137		%REC	1	10/9/2012 11:18:52 PM
Surr: Phenol-d5	93.7	20.3-132		%REC	1	10/9/2012 11:18:52 PM
METHOD 8260B/5035LOW: VOLATILES						Analyst: RAA
Benzene	ND	0.000947		mg/Kg	1	10/9/2012 1:32:00 AM
Toluene	ND	0.000947		mg/Kg	1	10/9/2012 1:32:00 AM
Ethylbenzene	ND	0.000947		mg/Kg	1	10/9/2012 1:32:00 AM
Xylenes, Total	ND	0.00189		mg/Kg	1	10/9/2012 1:32:00 AM
Methyl tert-butyl ether (MTBE)	ND	0.000947		mg/Kg	1	10/9/2012 1:32:00 AM
1,2,4-Trimethylbenzene	ND	0.000947		mg/Kg	1	10/9/2012 1:32:00 AM
1,3,5-Trimethylbenzene	ND	0.000947		mg/Kg	1	10/9/2012 1:32:00 AM
1,2-Dichloroethane (EDC)	ND	0.000947		mg/Kg	1	10/9/2012 1:32:00 AM
1,2-Dibromoethane (EDB)	ND	0.000947		mg/Kg	1	10/9/2012 1:32:00 AM
Naphthalene	ND	0.00189		mg/Kg	1	10/9/2012 1:32:00 AM
1-Methylnaphthalene	ND	0.00379		mg/Kg	1	10/9/2012 1:32:00 AM
2-Methylnaphthalene	ND	0.00379		mg/Kg	1	10/9/2012 1:32:00 AM
Acetone	0.0891	0.00947		mg/Kg	1	10/9/2012 1:32:00 AM
Bromobenzene	ND	0.000947		mg/Kg	1	10/9/2012 1:32:00 AM
Bromodichloromethane	ND	0.000947		mg/Kg	1	10/9/2012 1:32:00 AM
Bromoform	ND	0.000947		mg/Kg	1	10/9/2012 1:32:00 AM
Bromomethane	ND	0.000947		mg/Kg	1	10/9/2012 1:32:00 AM
2-Butanone	0.0179	0.00947		mg/Kg	1	10/9/2012 1:32:00 AM
Carbon tetrachloride	ND	0.000947		mg/Kg	1	10/9/2012 1:32:00 AM
Chlorobenzene	ND	0.000947		mg/Kg	1	10/9/2012 1:32:00 AM
Chloroethane	ND	0.000947		mg/Kg	1	10/9/2012 1:32:00 AM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210332

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-5 (14-16')

Project: SWMU NO.1

Collection Date: 10/3/2012 5:45:00 PM

Lab ID: 1210332-013

Matrix: SOIL

Received Date: 10/5/2012 6:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
METHOD 8260B/5035LOW: VOLATILES						Analyst: RAA
Chloroform	ND	0.000947		mg/Kg	1	10/9/2012 1:32:00 AM
Chloromethane	ND	0.000947		mg/Kg	1	10/9/2012 1:32:00 AM
2-Chlorotoluene	ND	0.000947		mg/Kg	1	10/9/2012 1:32:00 AM
Carbon disulfide	ND	0.00947		mg/Kg	1	10/9/2012 1:32:00 AM
4-Chlorotoluene	ND	0.000947		mg/Kg	1	10/9/2012 1:32:00 AM
cis-1,2-DCE	ND	0.000947		mg/Kg	1	10/9/2012 1:32:00 AM
cis-1,3-Dichloropropene	ND	0.000947		mg/Kg	1	10/9/2012 1:32:00 AM
1,2-Dibromo-3-chloropropane	ND	0.000947		mg/Kg	1	10/9/2012 1:32:00 AM
Dibromochloromethane	ND	0.000947		mg/Kg	1	10/9/2012 1:32:00 AM
Dibromomethane	ND	0.000947		mg/Kg	1	10/9/2012 1:32:00 AM
1,2-Dichlorobenzene	ND	0.000947		mg/Kg	1	10/9/2012 1:32:00 AM
1,3-Dichlorobenzene	ND	0.000947		mg/Kg	1	10/9/2012 1:32:00 AM
1,4-Dichlorobenzene	ND	0.000947		mg/Kg	1	10/9/2012 1:32:00 AM
Dichlorodifluoromethane	ND	0.000947		mg/Kg	1	10/9/2012 1:32:00 AM
1,1-Dichloroethane	ND	0.000947		mg/Kg	1	10/9/2012 1:32:00 AM
1,1-Dichloroethene	ND	0.000947		mg/Kg	1	10/9/2012 1:32:00 AM
1,2-Dichloropropane	ND	0.000947		mg/Kg	1	10/9/2012 1:32:00 AM
1,3-Dichloropropane	ND	0.000947		mg/Kg	1	10/9/2012 1:32:00 AM
2,2-Dichloropropane	ND	0.000947		mg/Kg	1	10/9/2012 1:32:00 AM
1,1-Dichloropropene	ND	0.000947		mg/Kg	1	10/9/2012 1:32:00 AM
Hexachlorobutadiene	ND	0.000947		mg/Kg	1	10/9/2012 1:32:00 AM
Isopropylbenzene	ND	0.000947		mg/Kg	1	10/9/2012 1:32:00 AM
4-Isopropyltoluene	ND	0.000947		mg/Kg	1	10/9/2012 1:32:00 AM
Methylene chloride	ND	0.00284		mg/Kg	1	10/9/2012 1:32:00 AM
n-Butylbenzene	ND	0.000947		mg/Kg	1	10/9/2012 1:32:00 AM
2-Hexanone	ND	0.00947		mg/Kg	1	10/9/2012 1:32:00 AM
n-Propylbenzene	ND	0.000947		mg/Kg	1	10/9/2012 1:32:00 AM
sec-Butylbenzene	ND	0.000947		mg/Kg	1	10/9/2012 1:32:00 AM
Styrene	ND	0.000947		mg/Kg	1	10/9/2012 1:32:00 AM
4-Methyl-2-pentanone	ND	0.00947		mg/Kg	1	10/9/2012 1:32:00 AM
tert-Butylbenzene	ND	0.000947		mg/Kg	1	10/9/2012 1:32:00 AM
1,1,1,2-Tetrachloroethane	ND	0.000947		mg/Kg	1	10/9/2012 1:32:00 AM
1,1,2,2-Tetrachloroethane	ND	0.000947		mg/Kg	1	10/9/2012 1:32:00 AM
Tetrachloroethene (PCE)	ND	0.000947		mg/Kg	1	10/9/2012 1:32:00 AM
trans-1,2-DCE	ND	0.000947		mg/Kg	1	10/9/2012 1:32:00 AM
trans-1,3-Dichloropropene	ND	0.000947		mg/Kg	1	10/9/2012 1:32:00 AM
1,2,3-Trichlorobenzene	ND	0.000947		mg/Kg	1	10/9/2012 1:32:00 AM
1,2,4-Trichlorobenzene	ND	0.000947		mg/Kg	1	10/9/2012 1:32:00 AM
1,1,1-Trichloroethane	ND	0.000947		mg/Kg	1	10/9/2012 1:32:00 AM
1,1,2-Trichloroethane	ND	0.000947		mg/Kg	1	10/9/2012 1:32:00 AM
Trichloroethene (TCE)	ND	0.000947		mg/Kg	1	10/9/2012 1:32:00 AM
Trichlorofluoromethane	ND	0.000947		mg/Kg	1	10/9/2012 1:32:00 AM

Qualifiers:

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- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210332

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-5 (14-16')

Project: SWMU NO.1

Collection Date: 10/3/2012 5:45:00 PM

Lab ID: 1210332-013

Matrix: SOIL

Received Date: 10/5/2012 6:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
METHOD 8260B/5035LOW: VOLATILES						Analyst: RAA
1,2,3-Trichloropropane	ND	0.000947		mg/Kg	1	10/9/2012 1:32:00 AM
Vinyl chloride	ND	0.000947		mg/Kg	1	10/9/2012 1:32:00 AM
Surr: 1,2-Dichloroethane-d4	96.1	70-130		%REC	1	10/9/2012 1:32:00 AM
Surr: 4-Bromofluorobenzene	99.3	70-130		%REC	1	10/9/2012 1:32:00 AM
Surr: Dibromofluoromethane	98.0	70-130		%REC	1	10/9/2012 1:32:00 AM
Surr: Toluene-d8	96.4	70-130		%REC	1	10/9/2012 1:32:00 AM

Qualifiers:

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RL Reporting Detection Limit

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210332

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-5 (16-18')

Project: SWMU NO.1

Collection Date: 10/3/2012 6:00:00 PM

Lab ID: 1210332-014

Matrix: SOIL

Received Date: 10/5/2012 6:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: JMP
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	10/6/2012 11:49:13 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	10/6/2012 11:49:13 PM
Surr: DNOP	97.4	77.6-140		%REC	1	10/6/2012 11:49:13 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	10/8/2012 7:26:27 PM
Surr: BFB	81.7	84-116	S	%REC	1	10/8/2012 7:26:27 PM
EPA METHOD 7471: MERCURY						Analyst: IDC
Mercury	ND	0.033		mg/kg	1	10/9/2012 11:42:19 AM
EPA METHOD 6010B: SOIL METALS						Analyst: JLF
Antimony	ND	12		mg/Kg	5	10/11/2012 11:10:31 AM
Arsenic	ND	12		mg/Kg	5	10/11/2012 11:10:31 AM
Barium	690	5.0		mg/Kg	50	10/11/2012 12:52:45 PM
Beryllium	ND	0.75		mg/Kg	5	10/11/2012 11:10:31 AM
Cadmium	ND	0.50		mg/Kg	5	10/11/2012 11:10:31 AM
Chromium	7.9	1.5		mg/Kg	5	10/11/2012 11:10:31 AM
Cobalt	3.7	1.5		mg/Kg	5	10/11/2012 11:10:31 AM
Iron	15000	500		mg/Kg	500	10/11/2012 12:55:08 PM
Lead	7.7	1.2		mg/Kg	5	10/11/2012 11:10:31 AM
Manganese	1400	5.0		mg/Kg	50	10/11/2012 12:52:45 PM
Nickel	5.1	2.5		mg/Kg	5	10/11/2012 11:10:31 AM
Selenium	ND	12		mg/Kg	5	10/11/2012 11:10:31 AM
Silver	ND	1.2		mg/Kg	5	10/11/2012 11:10:31 AM
Vanadium	34	12		mg/Kg	5	10/11/2012 11:10:31 AM
Zinc	ND	12		mg/Kg	5	10/11/2012 11:10:31 AM
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Acenaphthene	ND	0.20		mg/Kg	1	10/10/2012 10:20:31 AM
Acenaphthylene	ND	0.20		mg/Kg	1	10/10/2012 10:20:31 AM
Aniline	ND	0.20		mg/Kg	1	10/10/2012 10:20:31 AM
Anthracene	ND	0.20		mg/Kg	1	10/10/2012 10:20:31 AM
Azobenzene	ND	0.20		mg/Kg	1	10/10/2012 10:20:31 AM
Benz(a)anthracene	ND	0.20		mg/Kg	1	10/10/2012 10:20:31 AM
Benzo(a)pyrene	ND	0.20		mg/Kg	1	10/10/2012 10:20:31 AM
Benzo(b)fluoranthene	ND	0.20		mg/Kg	1	10/10/2012 10:20:31 AM
Benzo(g,h,i)perylene	ND	0.20		mg/Kg	1	10/10/2012 10:20:31 AM
Benzo(k)fluoranthene	ND	0.20		mg/Kg	1	10/10/2012 10:20:31 AM
Benzoic acid	ND	0.50		mg/Kg	1	10/10/2012 10:20:31 AM
Benzyl alcohol	ND	0.20		mg/Kg	1	10/10/2012 10:20:31 AM
Bis(2-chloroethoxy)methane	ND	0.20		mg/Kg	1	10/10/2012 10:20:31 AM
Bis(2-chloroethyl)ether	ND	0.20		mg/Kg	1	10/10/2012 10:20:31 AM
Bis(2-chloroisopropyl)ether	ND	0.20		mg/Kg	1	10/10/2012 10:20:31 AM

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- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210332

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-5 (16-18')

Project: SWMU NO.1

Collection Date: 10/3/2012 6:00:00 PM

Lab ID: 1210332-014

Matrix: SOIL

Received Date: 10/5/2012 6:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Bis(2-ethylhexyl)phthalate	ND	0.50		mg/Kg	1	10/10/2012 10:20:31 AM
4-Bromophenyl phenyl ether	ND	0.20		mg/Kg	1	10/10/2012 10:20:31 AM
Butyl benzyl phthalate	ND	0.20		mg/Kg	1	10/10/2012 10:20:31 AM
Carbazole	ND	0.20		mg/Kg	1	10/10/2012 10:20:31 AM
4-Chloro-3-methylphenol	ND	0.50		mg/Kg	1	10/10/2012 10:20:31 AM
4-Chloroaniline	ND	0.50		mg/Kg	1	10/10/2012 10:20:31 AM
2-Chloronaphthalene	ND	0.25		mg/Kg	1	10/10/2012 10:20:31 AM
2-Chlorophenol	ND	0.20		mg/Kg	1	10/10/2012 10:20:31 AM
4-Chlorophenyl phenyl ether	ND	0.20		mg/Kg	1	10/10/2012 10:20:31 AM
Chrysene	ND	0.20		mg/Kg	1	10/10/2012 10:20:31 AM
Di-n-butyl phthalate	ND	0.50		mg/Kg	1	10/10/2012 10:20:31 AM
Di-n-octyl phthalate	ND	0.25		mg/Kg	1	10/10/2012 10:20:31 AM
Dibenz(a,h)anthracene	ND	0.20		mg/Kg	1	10/10/2012 10:20:31 AM
Dibenzofuran	ND	0.20		mg/Kg	1	10/10/2012 10:20:31 AM
1,2-Dichlorobenzene	ND	0.20		mg/Kg	1	10/10/2012 10:20:31 AM
1,3-Dichlorobenzene	ND	0.20		mg/Kg	1	10/10/2012 10:20:31 AM
1,4-Dichlorobenzene	ND	0.20		mg/Kg	1	10/10/2012 10:20:31 AM
3,3'-Dichlorobenzidine	ND	0.25		mg/Kg	1	10/10/2012 10:20:31 AM
Diethyl phthalate	ND	0.20		mg/Kg	1	10/10/2012 10:20:31 AM
Dimethyl phthalate	ND	0.20		mg/Kg	1	10/10/2012 10:20:31 AM
2,4-Dichlorophenol	ND	0.40		mg/Kg	1	10/10/2012 10:20:31 AM
2,4-Dimethylphenol	ND	0.30		mg/Kg	1	10/10/2012 10:20:31 AM
4,6-Dinitro-2-methylphenol	ND	0.50		mg/Kg	1	10/10/2012 10:20:31 AM
2,4-Dinitrophenol	ND	0.40		mg/Kg	1	10/10/2012 10:20:31 AM
2,4-Dinitrotoluene	ND	0.50		mg/Kg	1	10/10/2012 10:20:31 AM
2,6-Dinitrotoluene	ND	0.50		mg/Kg	1	10/10/2012 10:20:31 AM
Fluoranthene	ND	0.20		mg/Kg	1	10/10/2012 10:20:31 AM
Fluorene	ND	0.20		mg/Kg	1	10/10/2012 10:20:31 AM
Hexachlorobenzene	ND	0.20		mg/Kg	1	10/10/2012 10:20:31 AM
Hexachlorobutadiene	ND	0.20		mg/Kg	1	10/10/2012 10:20:31 AM
Hexachlorocyclopentadiene	ND	0.20		mg/Kg	1	10/10/2012 10:20:31 AM
Hexachloroethane	ND	0.20		mg/Kg	1	10/10/2012 10:20:31 AM
Indeno(1,2,3-cd)pyrene	ND	0.20		mg/Kg	1	10/10/2012 10:20:31 AM
Isophorone	ND	0.50		mg/Kg	1	10/10/2012 10:20:31 AM
1-Methylnaphthalene	ND	0.20		mg/Kg	1	10/10/2012 10:20:31 AM
2-Methylnaphthalene	ND	0.20		mg/Kg	1	10/10/2012 10:20:31 AM
2-Methylphenol	ND	0.50		mg/Kg	1	10/10/2012 10:20:31 AM
3+4-Methylphenol	ND	0.20		mg/Kg	1	10/10/2012 10:20:31 AM
N-Nitrosodi-n-propylamine	ND	0.20		mg/Kg	1	10/10/2012 10:20:31 AM
N-Nitrosodiphenylamine	ND	0.20		mg/Kg	1	10/10/2012 10:20:31 AM
Naphthalene	ND	0.20		mg/Kg	1	10/10/2012 10:20:31 AM
2-Nitroaniline	ND	0.20		mg/Kg	1	10/10/2012 10:20:31 AM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210332

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-5 (16-18')

Project: SWMU NO.1

Collection Date: 10/3/2012 6:00:00 PM

Lab ID: 1210332-014

Matrix: SOIL

Received Date: 10/5/2012 6:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
3-Nitroaniline	ND	0.20		mg/Kg	1	10/10/2012 10:20:31 AM
4-Nitroaniline	ND	0.40		mg/Kg	1	10/10/2012 10:20:31 AM
Nitrobenzene	ND	0.50		mg/Kg	1	10/10/2012 10:20:31 AM
2-Nitrophenol	ND	0.20		mg/Kg	1	10/10/2012 10:20:31 AM
4-Nitrophenol	ND	0.25		mg/Kg	1	10/10/2012 10:20:31 AM
Pentachlorophenol	ND	0.40		mg/Kg	1	10/10/2012 10:20:31 AM
Phenanthrene	ND	0.20		mg/Kg	1	10/10/2012 10:20:31 AM
Phenol	ND	0.20		mg/Kg	1	10/10/2012 10:20:31 AM
Pyrene	ND	0.20		mg/Kg	1	10/10/2012 10:20:31 AM
Pyridine	ND	0.50		mg/Kg	1	10/10/2012 10:20:31 AM
1,2,4-Trichlorobenzene	ND	0.20		mg/Kg	1	10/10/2012 10:20:31 AM
2,4,5-Trichlorophenol	ND	0.20		mg/Kg	1	10/10/2012 10:20:31 AM
2,4,6-Trichlorophenol	ND	0.20		mg/Kg	1	10/10/2012 10:20:31 AM
Surr: 2,4,6-Tribromophenol	89.7	21.3-145		%REC	1	10/10/2012 10:20:31 AM
Surr: 2-Fluorobiphenyl	83.9	20-131		%REC	1	10/10/2012 10:20:31 AM
Surr: 2-Fluorophenol	98.1	11.9-130		%REC	1	10/10/2012 10:20:31 AM
Surr: 4-Terphenyl-d14	70.5	25.1-149		%REC	1	10/10/2012 10:20:31 AM
Surr: Nitrobenzene-d5	91.1	25.6-137		%REC	1	10/10/2012 10:20:31 AM
Surr: Phenol-d5	95.7	20.3-132		%REC	1	10/10/2012 10:20:31 AM
METHOD 8260B/5035LOW: VOLATILES						Analyst: RAA
Benzene	ND	0.00104		mg/Kg	1	10/9/2012 2:02:39 AM
Toluene	ND	0.00104		mg/Kg	1	10/9/2012 2:02:39 AM
Ethylbenzene	ND	0.00104		mg/Kg	1	10/9/2012 2:02:39 AM
Xylenes, Total	ND	0.00208		mg/Kg	1	10/9/2012 2:02:39 AM
Methyl tert-butyl ether (MTBE)	ND	0.00104		mg/Kg	1	10/9/2012 2:02:39 AM
1,2,4-Trimethylbenzene	ND	0.00104		mg/Kg	1	10/9/2012 2:02:39 AM
1,3,5-Trimethylbenzene	ND	0.00104		mg/Kg	1	10/9/2012 2:02:39 AM
1,2-Dichloroethane (EDC)	ND	0.00104		mg/Kg	1	10/9/2012 2:02:39 AM
1,2-Dibromoethane (EDB)	ND	0.00104		mg/Kg	1	10/9/2012 2:02:39 AM
Naphthalene	ND	0.00208		mg/Kg	1	10/9/2012 2:02:39 AM
1-Methylnaphthalene	ND	0.00417		mg/Kg	1	10/9/2012 2:02:39 AM
2-Methylnaphthalene	ND	0.00417		mg/Kg	1	10/9/2012 2:02:39 AM
Acetone	0.0379	0.0104		mg/Kg	1	10/9/2012 2:02:39 AM
Bromobenzene	ND	0.00104		mg/Kg	1	10/9/2012 2:02:39 AM
Bromodichloromethane	ND	0.00104		mg/Kg	1	10/9/2012 2:02:39 AM
Bromoform	ND	0.00104		mg/Kg	1	10/9/2012 2:02:39 AM
Bromomethane	ND	0.00104		mg/Kg	1	10/9/2012 2:02:39 AM
2-Butanone	ND	0.0104		mg/Kg	1	10/9/2012 2:02:39 AM
Carbon tetrachloride	ND	0.00104		mg/Kg	1	10/9/2012 2:02:39 AM
Chlorobenzene	ND	0.00104		mg/Kg	1	10/9/2012 2:02:39 AM
Chloroethane	ND	0.00104		mg/Kg	1	10/9/2012 2:02:39 AM

Qualifiers:

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- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
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Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210332

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-5 (16-18')

Project: SWMU NO.1

Collection Date: 10/3/2012 6:00:00 PM

Lab ID: 1210332-014

Matrix: SOIL

Received Date: 10/5/2012 6:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
METHOD 8260B/5035LOW: VOLATILES						Analyst: RAA
Chloroform	ND	0.00104		mg/Kg	1	10/9/2012 2:02:39 AM
Chloromethane	ND	0.00104		mg/Kg	1	10/9/2012 2:02:39 AM
2-Chlorotoluene	ND	0.00104		mg/Kg	1	10/9/2012 2:02:39 AM
Carbon disulfide	ND	0.0104		mg/Kg	1	10/9/2012 2:02:39 AM
4-Chlorotoluene	ND	0.00104		mg/Kg	1	10/9/2012 2:02:39 AM
cis-1,2-DCE	ND	0.00104		mg/Kg	1	10/9/2012 2:02:39 AM
cis-1,3-Dichloropropene	ND	0.00104		mg/Kg	1	10/9/2012 2:02:39 AM
1,2-Dibromo-3-chloropropane	ND	0.00104		mg/Kg	1	10/9/2012 2:02:39 AM
Dibromochloromethane	ND	0.00104		mg/Kg	1	10/9/2012 2:02:39 AM
Dibromomethane	ND	0.00104		mg/Kg	1	10/9/2012 2:02:39 AM
1,2-Dichlorobenzene	ND	0.00104		mg/Kg	1	10/9/2012 2:02:39 AM
1,3-Dichlorobenzene	ND	0.00104		mg/Kg	1	10/9/2012 2:02:39 AM
1,4-Dichlorobenzene	ND	0.00104		mg/Kg	1	10/9/2012 2:02:39 AM
Dichlorodifluoromethane	ND	0.00104		mg/Kg	1	10/9/2012 2:02:39 AM
1,1-Dichloroethane	ND	0.00104		mg/Kg	1	10/9/2012 2:02:39 AM
1,1-Dichloroethene	ND	0.00104		mg/Kg	1	10/9/2012 2:02:39 AM
1,2-Dichloropropane	ND	0.00104		mg/Kg	1	10/9/2012 2:02:39 AM
1,3-Dichloropropane	ND	0.00104		mg/Kg	1	10/9/2012 2:02:39 AM
2,2-Dichloropropane	ND	0.00104		mg/Kg	1	10/9/2012 2:02:39 AM
1,1-Dichloropropene	ND	0.00104		mg/Kg	1	10/9/2012 2:02:39 AM
Hexachlorobutadiene	ND	0.00104		mg/Kg	1	10/9/2012 2:02:39 AM
Isopropylbenzene	ND	0.00104		mg/Kg	1	10/9/2012 2:02:39 AM
4-Isopropyltoluene	ND	0.00104		mg/Kg	1	10/9/2012 2:02:39 AM
Methylene chloride	ND	0.00313		mg/Kg	1	10/9/2012 2:02:39 AM
n-Butylbenzene	ND	0.00104		mg/Kg	1	10/9/2012 2:02:39 AM
2-Hexanone	ND	0.0104		mg/Kg	1	10/9/2012 2:02:39 AM
n-Propylbenzene	ND	0.00104		mg/Kg	1	10/9/2012 2:02:39 AM
sec-Butylbenzene	ND	0.00104		mg/Kg	1	10/9/2012 2:02:39 AM
Styrene	ND	0.00104		mg/Kg	1	10/9/2012 2:02:39 AM
4-Methyl-2-pentanone	ND	0.0104		mg/Kg	1	10/9/2012 2:02:39 AM
tert-Butylbenzene	ND	0.00104		mg/Kg	1	10/9/2012 2:02:39 AM
1,1,1,2-Tetrachloroethane	ND	0.00104		mg/Kg	1	10/9/2012 2:02:39 AM
1,1,2,2-Tetrachloroethane	ND	0.00104		mg/Kg	1	10/9/2012 2:02:39 AM
Tetrachloroethene (PCE)	ND	0.00104		mg/Kg	1	10/9/2012 2:02:39 AM
trans-1,2-DCE	ND	0.00104		mg/Kg	1	10/9/2012 2:02:39 AM
trans-1,3-Dichloropropene	ND	0.00104		mg/Kg	1	10/9/2012 2:02:39 AM
1,2,3-Trichlorobenzene	ND	0.00104		mg/Kg	1	10/9/2012 2:02:39 AM
1,2,4-Trichlorobenzene	ND	0.00104		mg/Kg	1	10/9/2012 2:02:39 AM
1,1,1-Trichloroethane	ND	0.00104		mg/Kg	1	10/9/2012 2:02:39 AM
1,1,2-Trichloroethane	ND	0.00104		mg/Kg	1	10/9/2012 2:02:39 AM
Trichloroethene (TCE)	ND	0.00104		mg/Kg	1	10/9/2012 2:02:39 AM
Trichlorofluoromethane	ND	0.00104		mg/Kg	1	10/9/2012 2:02:39 AM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210332

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-5 (16-18')

Project: SWMU NO.1

Collection Date: 10/3/2012 6:00:00 PM

Lab ID: 1210332-014

Matrix: SOIL

Received Date: 10/5/2012 6:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
METHOD 8260B/5035LOW: VOLATILES						Analyst: RAA
1,2,3-Trichloropropane	ND	0.00104		mg/Kg	1	10/9/2012 2:02:39 AM
Vinyl chloride	ND	0.00104		mg/Kg	1	10/9/2012 2:02:39 AM
Surr: 1,2-Dichloroethane-d4	99.7	70-130		%REC	1	10/9/2012 2:02:39 AM
Surr: 4-Bromofluorobenzene	94.4	70-130		%REC	1	10/9/2012 2:02:39 AM
Surr: Dibromofluoromethane	101	70-130		%REC	1	10/9/2012 2:02:39 AM
Surr: Toluene-d8	102	70-130		%REC	1	10/9/2012 2:02:39 AM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210332

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-5 (24-25')

Project: SWMU NO.1

Collection Date: 10/3/2012 6:10:00 PM

Lab ID: 1210332-015

Matrix: SOIL

Received Date: 10/5/2012 6:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: JMP
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	10/7/2012 12:14:21 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	10/7/2012 12:14:21 AM
Surr: DNOP	95.8	77.6-140		%REC	1	10/7/2012 12:14:21 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	10/8/2012 7:56:22 PM
Surr: BFB	88.5	84-116		%REC	1	10/8/2012 7:56:22 PM
EPA METHOD 7471: MERCURY						Analyst: IDC
Mercury	ND	0.033		mg/kg	1	10/9/2012 11:29:40 AM
EPA METHOD 6010B: SOIL METALS						Analyst: JLF
Antimony	ND	12		mg/Kg	5	10/11/2012 2:22:14 PM
Arsenic	ND	12		mg/Kg	5	10/11/2012 11:29:11 AM
Barium	630	5.0		mg/Kg	50	10/11/2012 12:57:46 PM
Beryllium	ND	0.75		mg/Kg	5	10/11/2012 11:29:11 AM
Cadmium	ND	0.50		mg/Kg	5	10/11/2012 11:29:11 AM
Chromium	7.7	1.5		mg/Kg	5	10/11/2012 11:29:11 AM
Cobalt	3.5	1.5		mg/Kg	5	10/11/2012 11:29:11 AM
Iron	8700	500		mg/Kg	500	10/11/2012 1:00:09 PM
Lead	3.5	1.2		mg/Kg	5	10/11/2012 11:29:11 AM
Manganese	1200	5.0		mg/Kg	50	10/11/2012 12:57:46 PM
Nickel	4.9	2.5		mg/Kg	5	10/11/2012 11:29:11 AM
Selenium	ND	12		mg/Kg	5	10/11/2012 11:29:11 AM
Silver	ND	1.2		mg/Kg	5	10/11/2012 11:29:11 AM
Vanadium	14	12		mg/Kg	5	10/11/2012 11:29:11 AM
Zinc	ND	12		mg/Kg	5	10/11/2012 11:29:11 AM
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Acenaphthene	ND	0.20		mg/Kg	1	10/10/2012 2:35:58 AM
Acenaphthylene	ND	0.20		mg/Kg	1	10/10/2012 2:35:58 AM
Aniline	ND	0.20		mg/Kg	1	10/10/2012 2:35:58 AM
Anthracene	ND	0.20		mg/Kg	1	10/10/2012 2:35:58 AM
Azobenzene	ND	0.20		mg/Kg	1	10/10/2012 2:35:58 AM
Benz(a)anthracene	ND	0.20		mg/Kg	1	10/10/2012 2:35:58 AM
Benzo(a)pyrene	ND	0.20		mg/Kg	1	10/10/2012 2:35:58 AM
Benzo(b)fluoranthene	ND	0.20		mg/Kg	1	10/10/2012 2:35:58 AM
Benzo(g,h,i)perylene	ND	0.20		mg/Kg	1	10/10/2012 2:35:58 AM
Benzo(k)fluoranthene	ND	0.20		mg/Kg	1	10/10/2012 2:35:58 AM
Benzoic acid	ND	0.50		mg/Kg	1	10/10/2012 2:35:58 AM
Benzyl alcohol	ND	0.20		mg/Kg	1	10/10/2012 2:35:58 AM
Bis(2-chloroethoxy)methane	ND	0.20		mg/Kg	1	10/10/2012 2:35:58 AM
Bis(2-chloroethyl)ether	ND	0.20		mg/Kg	1	10/10/2012 2:35:58 AM
Bis(2-chloroisopropyl)ether	ND	0.20		mg/Kg	1	10/10/2012 2:35:58 AM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210332

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-5 (24-25')

Project: SWMU NO.1

Collection Date: 10/3/2012 6:10:00 PM

Lab ID: 1210332-015

Matrix: SOIL

Received Date: 10/5/2012 6:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Bis(2-ethylhexyl)phthalate	ND	0.50		mg/Kg	1	10/10/2012 2:35:58 AM
4-Bromophenyl phenyl ether	ND	0.20		mg/Kg	1	10/10/2012 2:35:58 AM
Butyl benzyl phthalate	ND	0.20		mg/Kg	1	10/10/2012 2:35:58 AM
Carbazole	ND	0.20		mg/Kg	1	10/10/2012 2:35:58 AM
4-Chloro-3-methylphenol	ND	0.50		mg/Kg	1	10/10/2012 2:35:58 AM
4-Chloroaniline	ND	0.50		mg/Kg	1	10/10/2012 2:35:58 AM
2-Chloronaphthalene	ND	0.25		mg/Kg	1	10/10/2012 2:35:58 AM
2-Chlorophenol	ND	0.20		mg/Kg	1	10/10/2012 2:35:58 AM
4-Chlorophenyl phenyl ether	ND	0.20		mg/Kg	1	10/10/2012 2:35:58 AM
Chrysene	ND	0.20		mg/Kg	1	10/10/2012 2:35:58 AM
Di-n-butyl phthalate	ND	0.50		mg/Kg	1	10/10/2012 2:35:58 AM
Di-n-octyl phthalate	ND	0.25		mg/Kg	1	10/10/2012 2:35:58 AM
Dibenz(a,h)anthracene	ND	0.20		mg/Kg	1	10/10/2012 2:35:58 AM
Dibenzofuran	ND	0.20		mg/Kg	1	10/10/2012 2:35:58 AM
1,2-Dichlorobenzene	ND	0.20		mg/Kg	1	10/10/2012 2:35:58 AM
1,3-Dichlorobenzene	ND	0.20		mg/Kg	1	10/10/2012 2:35:58 AM
1,4-Dichlorobenzene	ND	0.20		mg/Kg	1	10/10/2012 2:35:58 AM
3,3'-Dichlorobenzidine	ND	0.25		mg/Kg	1	10/10/2012 2:35:58 AM
Diethyl phthalate	ND	0.20		mg/Kg	1	10/10/2012 2:35:58 AM
Dimethyl phthalate	ND	0.20		mg/Kg	1	10/10/2012 2:35:58 AM
2,4-Dichlorophenol	ND	0.40		mg/Kg	1	10/10/2012 2:35:58 AM
2,4-Dimethylphenol	ND	0.30		mg/Kg	1	10/10/2012 2:35:58 AM
4,6-Dinitro-2-methylphenol	ND	0.50		mg/Kg	1	10/10/2012 2:35:58 AM
2,4-Dinitrophenol	ND	0.40		mg/Kg	1	10/10/2012 2:35:58 AM
2,4-Dinitrotoluene	ND	0.50		mg/Kg	1	10/10/2012 2:35:58 AM
2,6-Dinitrotoluene	ND	0.50		mg/Kg	1	10/10/2012 2:35:58 AM
Fluoranthene	ND	0.20		mg/Kg	1	10/10/2012 2:35:58 AM
Fluorene	ND	0.20		mg/Kg	1	10/10/2012 2:35:58 AM
Hexachlorobenzene	ND	0.20		mg/Kg	1	10/10/2012 2:35:58 AM
Hexachlorobutadiene	ND	0.20		mg/Kg	1	10/10/2012 2:35:58 AM
Hexachlorocyclopentadiene	ND	0.20		mg/Kg	1	10/10/2012 2:35:58 AM
Hexachloroethane	ND	0.20		mg/Kg	1	10/10/2012 2:35:58 AM
Indeno(1,2,3-cd)pyrene	ND	0.20		mg/Kg	1	10/10/2012 2:35:58 AM
Isophorone	ND	0.50		mg/Kg	1	10/10/2012 2:35:58 AM
1-Methylnaphthalene	ND	0.20		mg/Kg	1	10/10/2012 2:35:58 AM
2-Methylnaphthalene	ND	0.20		mg/Kg	1	10/10/2012 2:35:58 AM
2-Methylphenol	ND	0.50		mg/Kg	1	10/10/2012 2:35:58 AM
3+4-Methylphenol	ND	0.20		mg/Kg	1	10/10/2012 2:35:58 AM
N-Nitrosodi-n-propylamine	ND	0.20		mg/Kg	1	10/10/2012 2:35:58 AM
N-Nitrosodiphenylamine	ND	0.20		mg/Kg	1	10/10/2012 2:35:58 AM
Naphthalene	ND	0.20		mg/Kg	1	10/10/2012 2:35:58 AM
2-Nitroaniline	ND	0.20		mg/Kg	1	10/10/2012 2:35:58 AM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210332

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-5 (24-25')

Project: SWMU NO.1

Collection Date: 10/3/2012 6:10:00 PM

Lab ID: 1210332-015

Matrix: SOIL

Received Date: 10/5/2012 6:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
3-Nitroaniline	ND	0.20		mg/Kg	1	10/10/2012 2:35:58 AM
4-Nitroaniline	ND	0.40		mg/Kg	1	10/10/2012 2:35:58 AM
Nitrobenzene	ND	0.50		mg/Kg	1	10/10/2012 2:35:58 AM
2-Nitrophenol	ND	0.20		mg/Kg	1	10/10/2012 2:35:58 AM
4-Nitrophenol	ND	0.25		mg/Kg	1	10/10/2012 2:35:58 AM
Pentachlorophenol	ND	0.40		mg/Kg	1	10/10/2012 2:35:58 AM
Phenanthrene	ND	0.20		mg/Kg	1	10/10/2012 2:35:58 AM
Phenol	ND	0.20		mg/Kg	1	10/10/2012 2:35:58 AM
Pyrene	ND	0.20		mg/Kg	1	10/10/2012 2:35:58 AM
Pyridine	ND	0.50		mg/Kg	1	10/10/2012 2:35:58 AM
1,2,4-Trichlorobenzene	ND	0.20		mg/Kg	1	10/10/2012 2:35:58 AM
2,4,5-Trichlorophenol	ND	0.20		mg/Kg	1	10/10/2012 2:35:58 AM
2,4,6-Trichlorophenol	ND	0.20		mg/Kg	1	10/10/2012 2:35:58 AM
Surr: 2,4,6-Tribromophenol	84.6	21.3-145		%REC	1	10/10/2012 2:35:58 AM
Surr: 2-Fluorobiphenyl	87.7	20-131		%REC	1	10/10/2012 2:35:58 AM
Surr: 2-Fluorophenol	84.5	11.9-130		%REC	1	10/10/2012 2:35:58 AM
Surr: 4-Terphenyl-d14	80.6	25.1-149		%REC	1	10/10/2012 2:35:58 AM
Surr: Nitrobenzene-d5	101	25.6-137		%REC	1	10/10/2012 2:35:58 AM
Surr: Phenol-d5	92.9	20.3-132		%REC	1	10/10/2012 2:35:58 AM
METHOD 8260B/5035LOW: VOLATILES						Analyst: RAA
Benzene	0.00403	0.00104		mg/Kg	1	10/9/2012 2:33:23 AM
Toluene	0.00910	0.00104		mg/Kg	1	10/9/2012 2:33:23 AM
Ethylbenzene	ND	0.00104		mg/Kg	1	10/9/2012 2:33:23 AM
Xylenes, Total	ND	0.00207		mg/Kg	1	10/9/2012 2:33:23 AM
Methyl tert-butyl ether (MTBE)	ND	0.00104		mg/Kg	1	10/9/2012 2:33:23 AM
1,2,4-Trimethylbenzene	ND	0.00104		mg/Kg	1	10/9/2012 2:33:23 AM
1,3,5-Trimethylbenzene	ND	0.00104		mg/Kg	1	10/9/2012 2:33:23 AM
1,2-Dichloroethane (EDC)	ND	0.00104		mg/Kg	1	10/9/2012 2:33:23 AM
1,2-Dibromoethane (EDB)	ND	0.00104		mg/Kg	1	10/9/2012 2:33:23 AM
Naphthalene	ND	0.00207		mg/Kg	1	10/9/2012 2:33:23 AM
1-Methylnaphthalene	ND	0.00414		mg/Kg	1	10/9/2012 2:33:23 AM
2-Methylnaphthalene	ND	0.00414		mg/Kg	1	10/9/2012 2:33:23 AM
Acetone	0.0485	0.0104		mg/Kg	1	10/9/2012 2:33:23 AM
Bromobenzene	ND	0.00104		mg/Kg	1	10/9/2012 2:33:23 AM
Bromodichloromethane	ND	0.00104		mg/Kg	1	10/9/2012 2:33:23 AM
Bromoform	ND	0.00104		mg/Kg	1	10/9/2012 2:33:23 AM
Bromomethane	ND	0.00104		mg/Kg	1	10/9/2012 2:33:23 AM
2-Butanone	ND	0.0104		mg/Kg	1	10/9/2012 2:33:23 AM
Carbon tetrachloride	ND	0.00104		mg/Kg	1	10/9/2012 2:33:23 AM
Chlorobenzene	ND	0.00104		mg/Kg	1	10/9/2012 2:33:23 AM
Chloroethane	ND	0.00104		mg/Kg	1	10/9/2012 2:33:23 AM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210332

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-5 (24-25')

Project: SWMU NO.1

Collection Date: 10/3/2012 6:10:00 PM

Lab ID: 1210332-015

Matrix: SOIL

Received Date: 10/5/2012 6:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
METHOD 8260B/5035LOW: VOLATILES						Analyst: RAA
Chloroform	ND	0.00104		mg/Kg	1	10/9/2012 2:33:23 AM
Chloromethane	ND	0.00104		mg/Kg	1	10/9/2012 2:33:23 AM
2-Chlorotoluene	ND	0.00104		mg/Kg	1	10/9/2012 2:33:23 AM
Carbon disulfide	ND	0.0104		mg/Kg	1	10/9/2012 2:33:23 AM
4-Chlorotoluene	ND	0.00104		mg/Kg	1	10/9/2012 2:33:23 AM
cis-1,2-DCE	ND	0.00104		mg/Kg	1	10/9/2012 2:33:23 AM
cis-1,3-Dichloropropene	ND	0.00104		mg/Kg	1	10/9/2012 2:33:23 AM
1,2-Dibromo-3-chloropropane	ND	0.00104		mg/Kg	1	10/9/2012 2:33:23 AM
Dibromochloromethane	ND	0.00104		mg/Kg	1	10/9/2012 2:33:23 AM
Dibromomethane	ND	0.00104		mg/Kg	1	10/9/2012 2:33:23 AM
1,2-Dichlorobenzene	ND	0.00104		mg/Kg	1	10/9/2012 2:33:23 AM
1,3-Dichlorobenzene	ND	0.00104		mg/Kg	1	10/9/2012 2:33:23 AM
1,4-Dichlorobenzene	ND	0.00104		mg/Kg	1	10/9/2012 2:33:23 AM
Dichlorodifluoromethane	ND	0.00104		mg/Kg	1	10/9/2012 2:33:23 AM
1,1-Dichloroethane	ND	0.00104		mg/Kg	1	10/9/2012 2:33:23 AM
1,1-Dichloroethene	ND	0.00104		mg/Kg	1	10/9/2012 2:33:23 AM
1,2-Dichloropropane	ND	0.00104		mg/Kg	1	10/9/2012 2:33:23 AM
1,3-Dichloropropane	ND	0.00104		mg/Kg	1	10/9/2012 2:33:23 AM
2,2-Dichloropropane	ND	0.00104		mg/Kg	1	10/9/2012 2:33:23 AM
1,1-Dichloropropene	ND	0.00104		mg/Kg	1	10/9/2012 2:33:23 AM
Hexachlorobutadiene	ND	0.00104		mg/Kg	1	10/9/2012 2:33:23 AM
Isopropylbenzene	ND	0.00104		mg/Kg	1	10/9/2012 2:33:23 AM
4-Isopropyltoluene	ND	0.00104		mg/Kg	1	10/9/2012 2:33:23 AM
Methylene chloride	ND	0.00311		mg/Kg	1	10/9/2012 2:33:23 AM
n-Butylbenzene	ND	0.00104		mg/Kg	1	10/9/2012 2:33:23 AM
2-Hexanone	ND	0.0104		mg/Kg	1	10/9/2012 2:33:23 AM
n-Propylbenzene	ND	0.00104		mg/Kg	1	10/9/2012 2:33:23 AM
sec-Butylbenzene	ND	0.00104		mg/Kg	1	10/9/2012 2:33:23 AM
Styrene	ND	0.00104		mg/Kg	1	10/9/2012 2:33:23 AM
4-Methyl-2-pentanone	ND	0.0104		mg/Kg	1	10/9/2012 2:33:23 AM
tert-Butylbenzene	ND	0.00104		mg/Kg	1	10/9/2012 2:33:23 AM
1,1,1,2-Tetrachloroethane	ND	0.00104		mg/Kg	1	10/9/2012 2:33:23 AM
1,1,2,2-Tetrachloroethane	ND	0.00104		mg/Kg	1	10/9/2012 2:33:23 AM
Tetrachloroethene (PCE)	ND	0.00104		mg/Kg	1	10/9/2012 2:33:23 AM
trans-1,2-DCE	ND	0.00104		mg/Kg	1	10/9/2012 2:33:23 AM
trans-1,3-Dichloropropene	ND	0.00104		mg/Kg	1	10/9/2012 2:33:23 AM
1,2,3-Trichlorobenzene	ND	0.00104		mg/Kg	1	10/9/2012 2:33:23 AM
1,2,4-Trichlorobenzene	ND	0.00104		mg/Kg	1	10/9/2012 2:33:23 AM
1,1,1-Trichloroethane	ND	0.00104		mg/Kg	1	10/9/2012 2:33:23 AM
1,1,2-Trichloroethane	ND	0.00104		mg/Kg	1	10/9/2012 2:33:23 AM
Trichloroethene (TCE)	ND	0.00104		mg/Kg	1	10/9/2012 2:33:23 AM
Trichlorofluoromethane	ND	0.00104		mg/Kg	1	10/9/2012 2:33:23 AM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210332

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-5 (24-25')

Project: SWMU NO.1

Collection Date: 10/3/2012 6:10:00 PM

Lab ID: 1210332-015

Matrix: SOIL

Received Date: 10/5/2012 6:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
METHOD 8260B/5035LOW: VOLATILES						Analyst: RAA
1,2,3-Trichloropropane	ND	0.00104		mg/Kg	1	10/9/2012 2:33:23 AM
Vinyl chloride	ND	0.00104		mg/Kg	1	10/9/2012 2:33:23 AM
Surr: 1,2-Dichloroethane-d4	118	70-130		%REC	1	10/9/2012 2:33:23 AM
Surr: 4-Bromofluorobenzene	81.0	70-130		%REC	1	10/9/2012 2:33:23 AM
Surr: Dibromofluoromethane	99.8	70-130		%REC	1	10/9/2012 2:33:23 AM
Surr: Toluene-d8	97.9	70-130		%REC	1	10/9/2012 2:33:23 AM

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2
RL Reporting Detection Limit

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 121009047
Project Name: 1210332

Analytical Results Report

Sample Number	121009047-001	Sampling Date	10/3/2012	Date/Time Received	10/9/2012 12:00 P
Client Sample ID	1210332-001D / SWMU 1-4 (10-12)DUP			Sampling Time	1:15 PM
Matrix	Soil	Sample Location			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/Kg	0.3	10/15/2012	CRW	EPA 335.4	
%moisture	11.8	Percent				%moisture	

Sample Number	121009047-002	Sampling Date	10/3/2012	Date/Time Received	10/9/2012 12:00 P
Client Sample ID	1210332-002D / SWMU 1-4 (17-18)			Sampling Time	1:45 PM
Matrix	Soil	Sample Location			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	1.59	mg/Kg	0.3	10/15/2012	CRW	EPA 335.4	
%moisture	21	Percent				%moisture	

Sample Number	121009047-003	Sampling Date	10/3/2012	Date/Time Received	10/9/2012 12:00 P
Client Sample ID	1210332-003D / SWMU 1-4 (23-24)			Sampling Time	2:00 PM
Matrix	Soil	Sample Location			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/Kg	0.3	10/15/2012	CRW	EPA 335.4	
%moisture	16.4	Percent				%moisture	

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 121009047
Project Name: 1210332

Analytical Results Report

Sample Number	121009047-004	Sampling Date	10/3/2012	Date/Time Received	10/9/2012 12:00 P
Client Sample ID	1210332-005F / SWMU 1-3 GW			Sampling Time	9:30 AM
Matrix	Water	Sample Location			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	0.0325	mg/L	0.01	10/16/2012	CRW	EPA 335.4	

Sample Number	121009047-005	Sampling Date	10/3/2012	Date/Time Received	10/9/2012 12:00 P
Client Sample ID	1210332-006D / SWMU 1-4 (8-10)			Sampling Time	1:00 PM
Matrix	Soil	Sample Location			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/Kg	0.3	10/15/2012	CRW	EPA 335.4	
%moisture	13.2	Percent				%moisture	

Sample Number	121009047-006	Sampling Date	10/3/2012	Date/Time Received	10/9/2012 12:00 P
Client Sample ID	1210332-007D / SWMU 1-4 (10-12)			Sampling Time	1:15 PM
Matrix	Soil	Sample Location			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/Kg	0.3	10/17/2012	CRW	EPA 335.4	
%moisture	10.5	Percent				%moisture	

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 121009047
Project Name: 1210332

Analytical Results Report

Sample Number	121009047-007	Sampling Date	10/3/2012	Date/Time Received	10/9/2012	12:00 P	
Client Sample ID	1210332-008D / SWMU 1-5 (26-27)			Sampling Time	6:20 PM		
Matrix	Soil	Sample Location					
Comments							
Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/Kg	0.3	10/17/2012	CRW	EPA 335.4	
%moisture	19	Percent				%moisture	

Sample Number	121009047-008	Sampling Date	10/3/2012	Date/Time Received	10/9/2012	12:00 P	
Client Sample ID	1210332-009D / SWMU 1-5 (27-28)			Sampling Time	6:30 PM		
Matrix	Soil	Sample Location					
Comments							
Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/Kg	0.3	10/17/2012	CRW	EPA 335.4	
%moisture	12.5	Percent				%moisture	

Sample Number	121009047-009	Sampling Date	10/3/2012	Date/Time Received	10/9/2012	12:00 P
Client Sample ID	1210332-010F / EB100312			Sampling Time	6:44 PM	
Matrix	Water	Sample Location				
Comments						

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 121009047
Project Name: 1210332

Analytical Results Report

Sample Number	121009047-010	Sampling Date	10/3/2012	Date/Time Received	10/9/2012 12:00 P
Client Sample ID	1210332-012D / SWMU 1-5 (10-12)			Sampling Time	5:30 PM
Matrix	Soil	Sample Location			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/Kg	0.3	10/17/2012	CRW	EPA 335.4	
%moisture	8.5	Percent				%moisture	

Sample Number	121009047-011	Sampling Date	10/3/2012	Date/Time Received	10/9/2012 12:00 P
Client Sample ID	1210332-013D / SWMU 1-5 (14-16)			Sampling Time	5:45 PM
Matrix	Soil	Sample Location			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/Kg	0.3	10/17/2012	CRW	EPA 335.4	
%moisture	12.6	Percent				%moisture	

Sample Number	121009047-012	Sampling Date	10/3/2012	Date/Time Received	10/9/2012 12:00 P
Client Sample ID	1210332-014D / SWMU 1-5 (16-18)			Sampling Time	6:00 PM
Matrix	Soil	Sample Location			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/Kg	0.3	10/17/2012	CRW	EPA 335.4	
%moisture	10.9	Percent				%moisture	

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
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Attn: ANDY FREEMAN

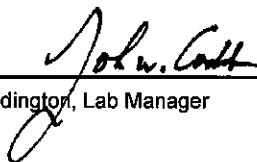
Batch #: 121009047
Project Name: 1210332

Analytical Results Report

Sample Number	121009047-013	Sampling Date	10/3/2012	Date/Time Received	10/9/2012 12:00 P
Client Sample ID	1210332-015D / SWMU 1-5 (24-25)	Sampling Time	6:10 PM		
Matrix	Soil	Sample Location			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/Kg	0.3	10/17/2012	CRW	EPA 335.4	
%moisture	16.1	Percent				%moisture	

Authorized Signature


John Coddington, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

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The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1210332

14-Nov-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.1

Sample ID	MB		SampType:	MBLK		TestCode:	EPA Method 200.7: Metals			
Client ID:	PBW		Batch ID:	R6141		RunNo:	6141			
Prep Date:			Analysis Date:	10/10/2012		SeqNo:	176939		Units: mg/L	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Beryllium	ND	0.0020								
Cadmium	ND	0.0020								
Cobalt	ND	0.0060								
Iron	ND	0.020								
Manganese	ND	0.0020								
Nickel	ND	0.010								
Silver	ND	0.0050								
Vanadium	ND	0.050								

Sample ID	LCS		SampType:	LCS		TestCode:	EPA Method 200.7: Metals			
Client ID:	LCSW		Batch ID:	R6141		RunNo:	6141			
Prep Date:			Analysis Date:	10/10/2012		SeqNo:	176940		Units: mg/L	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.49	0.0020	0.5000	0	98.6	85	115			
Beryllium	0.51	0.0020	0.5000	0	101	85	115			
Cadmium	0.50	0.0020	0.5000	0	100	85	115			
Cobalt	0.48	0.0060	0.5000	0	96.2	85	115			
Iron	0.49	0.020	0.5000	0	98.1	85	115			
Manganese	0.49	0.0020	0.5000	0	97.7	85	115			
Nickel	0.47	0.010	0.5000	0	94.9	85	115			
Silver	0.10	0.0050	0.1000	0	102	85	115			
Vanadium	0.51	0.050	0.5000	0	101	85	115			

Sample ID	1210368-001BMS		SampType:	MS		TestCode:	EPA Method 200.7: Metals			
Client ID:	BatchQC		Batch ID:	R6141		RunNo:	6141			
Prep Date:			Analysis Date:	10/10/2012		SeqNo:	177005		Units: mg/L	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.51	0.0020	0.5000	0.02430	96.8	70	130			
Beryllium	0.51	0.0020	0.5000	0	102	70	130			
Cadmium	0.49	0.0020	0.5000	0	97.8	70	130			

Sample ID	1210368-001BMSD		SampType:	MSD		TestCode:	EPA Method 200.7: Metals			
Client ID:	BatchQC		Batch ID:	R6141		RunNo:	6141			
Prep Date:			Analysis Date:	10/10/2012		SeqNo:	177006		Units: mg/L	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.51	0.0020	0.5000	0.02430	97.1	70	130	0.302	20	
Beryllium	0.52	0.0020	0.5000	0	103	70	130	0.724	20	
Cadmium	0.50	0.0020	0.5000	0	99.0	70	130	1.24	20	

Qualifiers:

* Value exceeds Maximum Contaminant Level.

E Value above quantitation range

J Analyte detected below quantitation limits

P Sample pH greater than 2

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1210332

14-Nov-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.1

Sample ID	MB	SampType: MBLK			TestCode: EPA Method 200.7: Metals					
Client ID:	PBW	Batch ID: R6212			RunNo: 6212					
Prep Date:		Analysis Date: 10/12/2012			SeqNo: 178907		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chromium	ND	0.0060								
Zinc	ND	0.010								

Sample ID	LCS		SampType: LCS		TestCode: EPA Method 200.7: Metals					
Client ID:	LCSW		Batch ID: R6212		RunNo: 6212					
Prep Date:			Analysis Date: 10/12/2012		SeqNo: 178908		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chromium	0.50	0.0060	0.5000	0	100	85	115			
Zinc	0.51	0.010	0.5000	0	101	85	115			

Sample ID	1210368-001BMS			SampType:	MS		TestCode:	EPA Method 200.7: Metals			
Client ID:	BatchQC			Batch ID:	R6212		RunNo:	6212			
Prep Date:				Analysis Date:	10/12/2012		SeqNo:	178913		Units:	mg/L
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Chromium	0.50	0.0060	0.5000	0	101	70	130				

Sample ID	1210368-001BMSD			SampType:	MSD		TestCode:	EPA Method 200.7: Metals			
Client ID:	BatchQC			Batch ID:	R6212		RunNo:	6212			
Prep Date:				Analysis Date:	10/12/2012		SeqNo:	178914		Units:	mg/L
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Chromium	0.50	0.0060	0.5000	0	99.2	70	130	1.42	20		

Sample ID	MB-4293	SampType: MBLK			TestCode: EPA Method 200.7: Metals					
Client ID:	PBW	Batch ID: 4293			RunNo: 6265					
Prep Date:	10/15/2012	Analysis Date: 10/16/2012			SeqNo: 180580		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Beryllium	ND	0.0020								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Cobalt	ND	0.0060								
Iron	ND	0.020								
Manganese	ND	0.0020								
Nickel	ND	0.010								
Silver	ND	0.0050								
Vanadium	ND	0.050								
Zinc	ND	0.010								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1210332

14-Nov-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.1

Sample ID	LCS-4293		SampType: LCS			TestCode: EPA Method 200.7: Metals				
Client ID:	LCSW		Batch ID: 4293			RunNo: 6265				
Prep Date:	10/15/2012		Analysis Date: 10/16/2012			SeqNo: 180581		Units: mg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.51	0.0020	0.5000	0	102	85	115			
Beryllium	0.53	0.0020	0.5000	0	106	85	115			
Cadmium	0.53	0.0020	0.5000	0	106	85	115			
Chromium	0.51	0.0060	0.5000	0	101	85	115			
Cobalt	0.50	0.0060	0.5000	0	101	85	115			
Iron	0.51	0.020	0.5000	0	102	85	115			
Manganese	0.51	0.0020	0.5000	0	101	85	115			
Nickel	0.49	0.010	0.5000	0	98.2	85	115			
Silver	0.11	0.0050	0.1000	0	107	85	115			
Vanadium	0.52	0.050	0.5000	0	105	85	115			
Zinc	0.50	0.010	0.5000	0	101	85	115			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1210332

14-Nov-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.1

Sample ID	MB-4293		SampType:	MBLK		TestCode:	EPA 200.8: Metals			
Client ID:	PBW		Batch ID:	4293		RunNo:	6249			
Prep Date:	10/15/2012		Analysis Date:	10/15/2012		SeqNo:	179961		Units: mg/L	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0025								
Arsenic	ND	0.0025								
Lead	ND	0.0025								
Selenium	ND	0.0025								

Sample ID	1210046-001AMS		SampType:	MS		TestCode:	EPA 200.8: Metals			
Client ID:	BatchQC		Batch ID:	R6315		RunNo:	6315			
Prep Date:			Analysis Date:	10/17/2012		SeqNo:	181878		Units: mg/L	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.027	0.0010	0.02500	0.001891	99.5	70	130			

Sample ID	1210367-001BMS		SampType:	MS		TestCode:	EPA 200.8: Metals			
Client ID:	BatchQC		Batch ID:	R6315		RunNo:	6315			
Prep Date:			Analysis Date:	10/17/2012		SeqNo:	181885		Units: mg/L	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.025	0.0010	0.02500	0	98.6	70	130			
Arsenic	0.035	0.0010	0.02500	0.01018	101	70	130			
Selenium	0.031	0.0010	0.02500	0.005490	104	70	130			

Sample ID	LCS		SampType:	LCS		TestCode:	EPA 200.8: Metals			
Client ID:	LCSW		Batch ID:	R6315		RunNo:	6315			
Prep Date:			Analysis Date:	10/17/2012		SeqNo:	181905		Units: mg/L	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.025	0.0010	0.02500	0	101	85	115			
Arsenic	0.026	0.0010	0.02500	0	102	85	115			
Lead	0.025	0.0010	0.02500	0	99.9	85	115			
Selenium	0.026	0.0010	0.02500	0	106	85	115			

Sample ID	LCS		SampType:	LCS		TestCode:	EPA 200.8: Metals			
Client ID:	LCSW		Batch ID:	R6315		RunNo:	6315			
Prep Date:			Analysis Date:	10/17/2012		SeqNo:	181906		Units: mg/L	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.025	0.0010	0.02500	0	101	85	115			
Arsenic	0.026	0.0010	0.02500	0	102	85	115			
Lead	0.025	0.0010	0.02500	0	99.6	85	115			
Selenium	0.027	0.0010	0.02500	0	106	85	115			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1210332

14-Nov-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.1

Sample ID	LCS		SampType: LCS		TestCode: EPA 200.8: Metals					
Client ID:	LCSW		Batch ID: R6315		RunNo: 6315					
Prep Date:			Analysis Date: 10/17/2012		SeqNo: 181907		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.024	0.0010	0.02500	0	96.7	85	115			
Arsenic	0.025	0.0010	0.02500	0	101	85	115			
Lead	0.025	0.0010	0.02500	0	100	85	115			
Selenium	0.026	0.0010	0.02500	0	106	85	115			

Sample ID	MB	SampType: MBLK			TestCode: EPA 200.8: Metals					
Client ID:	PBW	Batch ID: R6315			RunNo: 6315					
Prep Date:		Analysis Date: 10/17/2012			SeqNo: 181909		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								
Arsenic	ND	0.0010								
Lead	ND	0.0010								
Selenium	ND	0.0010								

Sample ID	MB	SampType: MBLK			TestCode: EPA 200.8: Metals					
Client ID:	PBW	Batch ID: R6315			RunNo: 6315					
Prep Date:		Analysis Date: 10/17/2012			SeqNo: 181910		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								
Arsenic	ND	0.0010								
Lead	ND	0.0010								
Selenium	ND	0.0010								

Sample ID	MB	SampType: MBLK			TestCode: EPA 200.8: Metals					
Client ID:	PBW	Batch ID: R6315			RunNo: 6315					
Prep Date:		Analysis Date: 10/17/2012			SeqNo: 181911		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								
Arsenic	ND	0.0010								
Lead	ND	0.0010								
Selenium	ND	0.0010								

Sample ID	1210585-001CMS		SampType: MS		TestCode: EPA 200.8: Metals					
Client ID:	BatchQC		Batch ID: R6315		RunNo: 6315					
Prep Date:			Analysis Date: 10/17/2012		SeqNo: 181948		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.026	0.0010	0.02500	0	103	70	130			
Arsenic	0.026	0.0010	0.02500	0	102	70	130			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1210332

14-Nov-12

Client: Western Refining Southwest, Gallup**Project:** SWMU NO.1

Sample ID	1210585-001CMS			SampType:	MS			TestCode:	EPA 200.8: Metals		
Client ID:	BatchQC			Batch ID:	R6315			RunNo:	6315		
Prep Date:				Analysis Date:	10/17/2012			SeqNo:	181948		Units: mg/L
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Lead	0.025	0.0010	0.02500	0	99.7	70	130				
Selenium	0.026	0.0010	0.02500	0	105	70	130				

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1210332

14-Nov-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.1

Sample ID	MB-4279		SampType: MBLK		TestCode: EPA Method 245.1: Mercury					
Client ID:	PBW		Batch ID: 4279		RunNo: 6215					
Prep Date:	10/12/2012		Analysis Date: 10/12/2012		SeqNo: 179065		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.00020								

Sample ID	LCS-4279		SampType: LCS		TestCode: EPA Method 245.1: Mercury					
Client ID:	LCSW		Batch ID: 4279		RunNo: 6215					
Prep Date:	10/12/2012		Analysis Date: 10/12/2012		SeqNo: 179066		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0049	0.00020	0.005000	0	97.0	80	120			

Sample ID	1210332-010EMS			SampType:	MS		TestCode:	EPA Method 245.1: Mercury			
Client ID:	EB100312			Batch ID:	4279		RunNo:	6215			
Prep Date:	10/12/2012			Analysis Date:	10/12/2012		SeqNo:	179069		Units:	mg/L
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Mercury	0.0048	0.00020	0.005000	0	96.9	75	125				

Sample ID	1210332-010EMSD			SampType:	MSD		TestCode:	EPA Method 245.1: Mercury			
Client ID:	EB100312			Batch ID:	4279		RunNo:	6215			
Prep Date:	10/12/2012		Analysis Date:	10/12/2012		SeqNo:	179072		Units: mg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Mercury	0.0049	0.00020	0.005000	0	97.7	75	125	0.749	20		

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1210332

14-Nov-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.1

Sample ID	MB		SampType: MBLK		TestCode: EPA Method 300.0: Anions					
Client ID:	PBW		Batch ID: R6038		RunNo: 6038					
Prep Date:			Analysis Date: 10/5/2012		SeqNo: 173988		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								
Sulfate	ND	0.50								

Sample ID	LCS		SampType: LCS		TestCode: EPA Method 300.0: Anions					
Client ID:	LCSW		Batch ID: R6038		RunNo: 6038					
Prep Date:			Analysis Date: 10/5/2012		SeqNo: 173989		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.49	0.10	0.5000	0	98.7	90	110			
Chloride	4.6	0.50	5.000	0	91.4	90	110			
Sulfate	9.0	0.50	10.00	0	90.2	90	110			

Sample ID	1210309-005AMS		SampType: MS		TestCode: EPA Method 300.0: Anions					
Client ID:	BatchQC		Batch ID: R6038		RunNo: 6038					
Prep Date:			Analysis Date: 10/5/2012		SeqNo: 174013		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	2.2	0.10	0.5000	1.745	84.0	76.6	110			

Sample ID	1210309-005AMSD		SampType: MSD		TestCode: EPA Method 300.0: Anions					
Client ID:	BatchQC		Batch ID: R6038		RunNo: 6038					
Prep Date:			Analysis Date: 10/5/2012		SeqNo: 174014		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	2.2	0.10	0.5000	1.745	87.2	76.6	110	0.741	20	

Sample ID	1210320-001AMS		SampType: MS		TestCode: EPA Method 300.0: Anions					
Client ID:	BatchQC		Batch ID: R6038		RunNo: 6038					
Prep Date:			Analysis Date: 10/5/2012		SeqNo: 174024		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	1.4	0.10	0.5000	0.9401	92.6	76.6	110			

Sample ID	1210320-001AMSD		SampType: MSD		TestCode: EPA Method 300.0: Anions					
Client ID:	BatchQC		Batch ID: R6038		RunNo: 6038					
Prep Date:			Analysis Date: 10/5/2012		SeqNo: 174025		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	1.4	0.10	0.5000	0.9401	93.5	76.6	110	0.313	20	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1210332

14-Nov-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.1

Sample ID	MB	SampType: MBLK			TestCode: EPA Method 300.0: Anions					
Client ID:	PBW	Batch ID: R6038			RunNo: 6038					
Prep Date:		Analysis Date: 10/5/2012			SeqNo: 174043		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								
Sulfate	ND	0.50								

Sample ID	LCS		SampType: LCS		TestCode: EPA Method 300.0: Anions					
Client ID:	LCSW		Batch ID: R6038		RunNo: 6038					
Prep Date:			Analysis Date: 10/5/2012		SeqNo: 174044		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.51	0.10	0.5000	0	102	90	110			
Chloride	4.8	0.50	5.000	0	96.7	90	110			
Sulfate	9.8	0.50	10.00	0	97.7	90	110			

Sample ID	1210361-003AMS	SampType: MS			TestCode: EPA Method 300.0: Anions					
Client ID:	BatchQC	Batch ID: R6038			RunNo: 6038					
Prep Date:		Analysis Date: 10/6/2012			SeqNo: 174065		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.92	0.10	0.5000	0.4398	96.0	76.6	110			
Chloride	10	0.50	5.000	4.860	105	87.8	111			
Sulfate	10	0.50	10.00	0.6275	94.7	84.6	122			

Sample ID	1210361-003AMSD		SampType: MSD		TestCode: EPA Method 300.0: Anions					
Client ID:	BatchQC		Batch ID: R6038		RunNo: 6038					
Prep Date:			Analysis Date: 10/6/2012		SeqNo: 174066		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.91	0.10	0.5000	0.4398	94.5	76.6	110	0.797	20	
Chloride	10	0.50	5.000	4.860	106	87.8	111	0.396	20	
Sulfate	10	0.50	10.00	0.6275	95.7	84.6	122	0.930	20	

Sample ID	MB	SampType: MBLK			TestCode: EPA Method 300.0: Anions					
Client ID:	PBW	Batch ID: R6177			RunNo: 6177					
Prep Date:		Analysis Date: 10/11/2012			SeqNo: 178038		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1210332

14-Nov-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.1

Sample ID	LCS		SampType: LCS			TestCode: EPA Method 300.0: Anions					
Client ID:	LCSW		Batch ID: R6177			RunNo: 6177					
Prep Date:			Analysis Date: 10/11/2012			SeqNo: 178039		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Chloride	4.9	0.50	5.000	0	97.2	90	110				

Sample ID	1210607-001AMS		SampType: MS			TestCode: EPA Method 300.0: Anions					
Client ID:	BatchQC		Batch ID: R6177			RunNo: 6177					
Prep Date:			Analysis Date: 10/11/2012			SeqNo: 178041		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Chloride	9.5	0.50	5.000	4.628	97.8	87.8	111				

Sample ID	1210607-001AMSD		SampType: MSD			TestCode: EPA Method 300.0: Anions					
Client ID:	BatchQC		Batch ID: R6177			RunNo: 6177					
Prep Date:			Analysis Date: 10/11/2012			SeqNo: 178042		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Chloride	9.6	0.50	5.000	4.628	98.5	87.8	111	0.323	20		

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1210332

14-Nov-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.1

Sample ID	MB-4148	SampType: MBLK			TestCode: EPA Method 8015B: Diesel Range Organics					
Client ID:	PBS	Batch ID: 4148			RunNo: 6027					
Prep Date:	10/5/2012	Analysis Date: 10/6/2012			SeqNo: 173597		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	10		10.00		104	77.6	140			

Sample ID	LCS-4148		SampType: LCS		TestCode: EPA Method 8015B: Diesel Range Organics					
Client ID:	LCSS		Batch ID: 4148		RunNo: 6027					
Prep Date:	10/5/2012		Analysis Date: 10/6/2012		SeqNo: 173599		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	35	10	50.00	0	70.2	52.6	130			
Surr: DNOP	4.4		5.000		87.4	77.6	140			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1210332

14-Nov-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.1

Sample ID	MB-4137		SampType: MBLK		TestCode: EPA Method 8015B: Diesel Range					
Client ID:	PBW		Batch ID: 4137		RunNo: 6039					
Prep Date:	10/5/2012		Analysis Date: 10/8/2012		SeqNo: 174081		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	1.0								
Motor Oil Range Organics (MRO)	ND	5.0								
Surr: DNOP	1.1		1.000		108	79.5	166			

Sample ID	LCS-4137		SampType: LCS		TestCode: EPA Method 8015B: Diesel Range					
Client ID:	LCSW		Batch ID: 4137		RunNo: 6039					
Prep Date:	10/5/2012		Analysis Date: 10/8/2012		SeqNo: 174082		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	5.2	1.0	5.000	0	104	74	157			
Surr: DNOP	0.45		0.5000		90.2	79.5	166			

Sample ID	LCSD-4137		SampType: LCSD		TestCode: EPA Method 8015B: Diesel Range					
Client ID:	LCSS02		Batch ID: 4137		RunNo: 6039					
Prep Date:	10/5/2012		Analysis Date: 10/8/2012		SeqNo: 174083		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	5.5	1.0	5.000	0	109	74	157	5.45	23	
Surr: DNOP	0.45		0.5000		90.8	79.5	166	0	0	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1210332

14-Nov-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.1

Sample ID	5ML RB	SampType:	MBLK	TestCode:	EPA Method 8015B: Gasoline Range					
Client ID:	PBS	Batch ID:	R6020	RunNo:	6020					
Prep Date:		Analysis Date:	10/5/2012	SeqNo:	173460	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	1000		1000		104	84	116			

Sample ID	2.5UG GRO LCS	SampType:	LCS	TestCode:	EPA Method 8015B: Gasoline Range					
Client ID:	LCSS	Batch ID:	R6020	RunNo:	6020					
Prep Date:		Analysis Date:	10/5/2012	SeqNo:	173461	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	5.0	25.00	0	85.0	74	117			
Surr: BFB	820		1000		82.5	84	116			S

Sample ID	1210279-011BMS	SampType:	MS	TestCode:	EPA Method 8015B: Gasoline Range					
Client ID:	BatchQC	Batch ID:	R6020	RunNo:	6020					
Prep Date:		Analysis Date:	10/6/2012	SeqNo:	173465	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	12	5.0	15.46	0	78.9	70	130			
Surr: BFB	670		618.5		108	84	116			

Sample ID	1210279-011BMSD	SampType:	MSD	TestCode:	EPA Method 8015B: Gasoline Range					
Client ID:	BatchQC	Batch ID:	R6020	RunNo:	6020					
Prep Date:		Analysis Date:	10/6/2012	SeqNo:	173466	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	14	5.0	15.46	0	90.8	70	130	14.0	22.1	
Surr: BFB	650		618.5		105	84	116	0	0	

Sample ID	5ML RB	SampType:	MBLK	TestCode:	EPA Method 8015B: Gasoline Range					
Client ID:	PBS	Batch ID:	R6043	RunNo:	6043					
Prep Date:		Analysis Date:	10/6/2012	SeqNo:	174099	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	1100		1000		105	84	116			

Sample ID	2.5UG GRO LCS	SampType:	LCS	TestCode:	EPA Method 8015B: Gasoline Range					
Client ID:	LCSS	Batch ID:	R6043	RunNo:	6043					
Prep Date:		Analysis Date:	10/6/2012	SeqNo:	174100	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	25.00	0	93.6	74	117			
Surr: BFB	870		1000		87.0	84	116			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1210332

14-Nov-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.1

Sample ID	1210332-013BMS		SampType: MS		TestCode: EPA Method 8015B: Gasoline Range					
Client ID:	SWMU 1-5 (14-16')		Batch ID: R6043		RunNo: 6043					
Prep Date:			Analysis Date: 10/6/2012		SeqNo: 174108		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	15	5.0	17.66	0	84.7	70	130			
Surr: BFB	610		706.4		85.8	84	116			

Sample ID	1210332-013BMSD		SampType: MSD		TestCode: EPA Method 8015B: Gasoline Range					
Client ID:	SWMU 1-5 (14-16')		Batch ID: R6043		RunNo: 6043					
Prep Date:			Analysis Date: 10/6/2012		SeqNo: 174109		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	15	5.0	17.66	0	87.1	70	130	2.79	22.1	
Surr: BFB	670		706.4		95.3	84	116	0	0	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1210332

14-Nov-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.1

Sample ID	5ML RB	SampType:	MBLK	TestCode:	EPA Method 8015B: Gasoline Range					
Client ID:	PBW	Batch ID:	R6020	RunNo:	6020					
Prep Date:		Analysis Date:	10/5/2012	SeqNo:	173451	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	21		20.00		104	69.8	119			

Sample ID	5ML RB	SampType:	MBLK	TestCode:	EPA Method 8015B: Gasoline Range					
Client ID:	PBW	Batch ID:	R6043	RunNo:	6043					
Prep Date:		Analysis Date:	10/6/2012	SeqNo:	174095	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	21		20.00		105	69.8	119			

Sample ID	2.5UG GRO LCS	SampType:	LCS	TestCode:	EPA Method 8015B: Gasoline Range					
Client ID:	LCSW	Batch ID:	R6043	RunNo:	6043					
Prep Date:		Analysis Date:	10/6/2012	SeqNo:	174096	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.47	0.050	0.5000	0	93.6	75.9	119			
Surr: BFB	17		20.00		87.0	69.8	119			

Sample ID	5ML RB	SampType:	MBLK	TestCode:	EPA Method 8015B: Gasoline Range					
Client ID:	PBW	Batch ID:	R6074	RunNo:	6074					
Prep Date:		Analysis Date:	10/8/2012	SeqNo:	175153	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	20		20.00		99.3	69.8	119			

Sample ID	2.5UG GRO LCSB	SampType:	LCS	TestCode:	EPA Method 8015B: Gasoline Range					
Client ID:	LCSW	Batch ID:	R6074	RunNo:	6074					
Prep Date:		Analysis Date:	10/8/2012	SeqNo:	175154	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.47	0.050	0.5000	0	93.3	75.9	119			
Surr: BFB	16		20.00		81.2	69.8	119			

Sample ID	1210333-001AMS	SampType:	MS	TestCode:	EPA Method 8015B: Gasoline Range					
Client ID:	BatchQC	Batch ID:	R6074	RunNo:	6074					
Prep Date:		Analysis Date:	10/9/2012	SeqNo:	175202	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.46	0.050	0.5000	0	92.2	63.5	131			
Surr: BFB	23		20.00		117	69.8	119			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1210332

14-Nov-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.1

Sample ID	1210333-001AMSD	SampType:	MSD	TestCode:	EPA Method 8015B: Gasoline Range					
Client ID:	BatchQC	Batch ID:	R6074	RunNo:	6074					
Prep Date:		Analysis Date:	10/9/2012	SeqNo:	175203	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.47	0.050	0.5000	0	95.0	63.5	131	2.99	16.7	
Surr: BFB	24		20.00		122	69.8	119	0	0	S

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1210332

14-Nov-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.1

Sample ID	mb-4139		SampType: MBLK		TestCode: Method 8260B/5035LOW: VOLATILES					
Client ID:	PBS		Batch ID: 4139		RunNo: 6123					
Prep Date:	10/5/2012		Analysis Date: 10/8/2012		SeqNo: 176473		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.00100								
Toluene	ND	0.00100								
Ethylbenzene	ND	0.00100								
Xylenes, Total	ND	0.00200								
Methyl tert-butyl ether (MTBE)	ND	0.00100								
1,2,4-Trimethylbenzene	ND	0.00100								
1,3,5-Trimethylbenzene	ND	0.00100								
1,2-Dichloroethane (EDC)	ND	0.00100								
1,2-Dibromoethane (EDB)	ND	0.00100								
Naphthalene	ND	0.00200								
1-Methylnaphthalene	ND	0.00400								
2-Methylnaphthalene	ND	0.00400								
Acetone	ND	0.0100								
Bromobenzene	ND	0.00100								
Bromodichloromethane	ND	0.00100								
Bromoform	ND	0.00100								
Bromomethane	ND	0.00100								
2-Butanone	ND	0.0100								
Carbon tetrachloride	ND	0.00100								
Chlorobenzene	ND	0.00100								
Chloroethane	ND	0.00100								
Chloroform	ND	0.00100								
Chloromethane	ND	0.00100								
2-Chlorotoluene	ND	0.00100								
Carbon disulfide	ND	0.0100								
4-Chlorotoluene	ND	0.00100								
cis-1,2-DCE	ND	0.00100								
cis-1,3-Dichloropropene	ND	0.00100								
1,2-Dibromo-3-chloropropane	ND	0.00100								
Dibromochloromethane	ND	0.00100								
Dibromomethane	ND	0.00100								
1,2-Dichlorobenzene	ND	0.00100								
1,3-Dichlorobenzene	ND	0.00100								
1,4-Dichlorobenzene	ND	0.00100								
Dichlorodifluoromethane	ND	0.00100								
1,1-Dichloroethane	ND	0.00100								
1,1-Dichloroethene	ND	0.00100								
1,2-Dichloropropane	ND	0.00100								
1,3-Dichloropropane	ND	0.00100								
2,2-Dichloropropane	ND	0.00100								
1,1-Dichloropropene	ND	0.00100								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1210332

14-Nov-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.1

Sample ID	mb-4139		SampType: MBLK		TestCode: Method 8260B/5035LOW: VOLATILES					
Client ID:	PBS		Batch ID: 4139		RunNo: 6123					
Prep Date:	10/5/2012		Analysis Date: 10/8/2012		SeqNo: 176473		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Hexachlorobutadiene	ND	0.00100								
Isopropylbenzene	ND	0.00100								
4-Isopropyltoluene	ND	0.00100								
Methylene chloride	ND	0.00300								
n-Butylbenzene	ND	0.00100								
2-Hexanone	ND	0.0100								
n-Propylbenzene	ND	0.00100								
sec-Butylbenzene	ND	0.00100								
Styrene	ND	0.00100								
4-Methyl-2-pentanone	ND	0.0100								
tert-Butylbenzene	ND	0.00100								
1,1,1,2-Tetrachloroethane	ND	0.00100								
1,1,2,2-Tetrachloroethane	ND	0.00100								
Tetrachloroethene (PCE)	ND	0.00100								
trans-1,2-DCE	ND	0.00100								
trans-1,3-Dichloropropene	ND	0.00100								
1,2,3-Trichlorobenzene	ND	0.00100								
1,2,4-Trichlorobenzene	ND	0.00100								
1,1,1-Trichloroethane	ND	0.00100								
1,1,2-Trichloroethane	ND	0.00100								
Trichloroethene (TCE)	ND	0.00100								
Trichlorofluoromethane	ND	0.00100								
1,2,3-Trichloropropane	ND	0.00100								
Vinyl chloride	ND	0.00100								
Surr: 1,2-Dichloroethane-d4	43.5		50.00		86.9	70	130			
Surr: 4-Bromofluorobenzene	48.2		50.00		96.4	70	130			
Surr: Dibromofluoromethane	51.1		50.00		102	70	130			
Surr: Toluene-d8	48.6		50.00		97.1	70	130			

Sample ID	lcs-4139		SampType: LCS		TestCode: Method 8260B/5035LOW: VOLATILES					
Client ID:	LCSS		Batch ID: 4139		RunNo: 6123					
Prep Date:	10/5/2012		Analysis Date: 10/8/2012		SeqNo: 176475		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	10.6	1.00	10.00	0	106	60	140			
Toluene	9.55	1.00	10.00	0	95.5	60	140			
Chlorobenzene	9.91	1.00	10.00	0	99.1	60	140			
1,1-Dichloroethene	11.6	1.00	10.00	0	116	60	140			
Trichloroethene (TCE)	9.40	1.00	10.00	0	94.0	60	140			
Surr: 1,2-Dichloroethane-d4	45.7		50.00		91.3	70	130			
Surr: 4-Bromofluorobenzene	39.6		50.00		79.3	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1210332

14-Nov-12

Client: Western Refining Southwest, Gallup**Project:** SWMU NO.1

Sample ID	lcs-4139		SampType: LCS			TestCode: Method 8260B/5035LOW: VOLATILES				
Client ID:	LCSS		Batch ID: 4139			RunNo: 6123				
Prep Date:	10/5/2012		Analysis Date: 10/8/2012			SeqNo: 176475		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: Dibromofluoromethane	49.3		50.00		98.5	70	130			
Surr: Toluene-d8	47.1		50.00		94.2	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1210332

14-Nov-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.1

Sample ID	5ml-rb	SampType: MBLK			TestCode: EPA Method 8260B: VOLATILES					
Client ID:	PBW	Batch ID: R6048			RunNo: 6048					
Prep Date:		Analysis Date: 10/5/2012			SeqNo: 174216	Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1210332

14-Nov-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.1

Sample ID	5ml-rb	SampType:	MBLK	TestCode:	EPA Method 8260B: VOLATILES					
Client ID:	PBW	Batch ID:	R6048	RunNo:	6048					
Prep Date:		Analysis Date:	10/5/2012	SeqNo:	174216	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	8.7		10.00		87.4	70	130			
Surr: 4-Bromofluorobenzene	8.1		10.00		80.6	70	130			
Surr: Dibromofluoromethane	10		10.00		104	70	130			
Surr: Toluene-d8	7.9		10.00		79.4	70	130			

Sample ID	100ng lcs	SampType:	LCS	TestCode:	EPA Method 8260B: VOLATILES					
Client ID:	LCSW	Batch ID:	R6048	RunNo:	6048					
Prep Date:		Analysis Date:	10/5/2012	SeqNo:	174218	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	95.4	70	130			
Toluene	18	1.0	20.00	0	90.7	80	120			
Chlorobenzene	17	1.0	20.00	0	85.9	70	130			
1,1-Dichloroethene	20	1.0	20.00	0	97.8	73.7	122			
Trichloroethene (TCE)	17	1.0	20.00	0	84.3	70	130			
Surr: 1,2-Dichloroethane-d4	8.3		10.00		82.6	70	130			
Surr: 4-Bromofluorobenzene	7.8		10.00		78.4	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1210332

14-Nov-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.1

Sample ID	100ng lcs		SampType: LCS		TestCode: EPA Method 8260B: VOLATILES					
Client ID:	LCSW		Batch ID: R6048		RunNo: 6048					
Prep Date:			Analysis Date: 10/5/2012		SeqNo: 174218		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: Dibromofluoromethane	9.9		10.00		99.0	70	130			
Surr: Toluene-d8	7.8		10.00		78.4	70	130			

Sample ID	1210179-001a ms	SampType: MS			TestCode: EPA Method 8260B: VOLATILES					
Client ID:	BatchQC	Batch ID: R6048			RunNo: 6048					
Prep Date:		Analysis Date: 10/5/2012			SeqNo: 174222		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	100	66.8	128			
Toluene	20	1.0	20.00	0	99.4	70	130			
Chlorobenzene	18	1.0	20.00	0	90.5	70	130			
1,1-Dichloroethene	21	1.0	20.00	0	103	70	130			
Trichloroethene (TCE)	17	1.0	20.00	0	85.5	70	130			
Surr: 1,2-Dichloroethane-d4	8.6		10.00		85.7	70	130			
Surr: 4-Bromofluorobenzene	8.5		10.00		84.9	70	130			
Surr: Dibromofluoromethane	10		10.00		103	70	130			
Surr: Toluene-d8	8.1		10.00		81.2	70	130			

Sample ID	1210179-001a msd			SampType:	MSD		TestCode:	EPA Method 8260B: VOLATILES			
Client ID:	BatchQC			Batch ID:	R6048		RunNo:	6048			
Prep Date:	Analysis Date:			10/5/2012		SeqNo:	174223		Units: µg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene	19	1.0	20.00	0	96.8	66.8	128	3.35	16.7		
Toluene	19	1.0	20.00	0	96.1	70	130	3.34	18.7		
Chlorobenzene	18	1.0	20.00	0	90.9	70	130	0.385	19.5		
1,1-Dichloroethene	20	1.0	20.00	0	97.6	70	130	5.89	16.7		
Trichloroethene (TCE)	16	1.0	20.00	0	79.2	70	130	7.68	17.5		
Surr: 1,2-Dichloroethane-d4	8.3		10.00		83.3	70	130	0	0		
Surr: 4-Bromofluorobenzene	8.3		10.00		83.4	70	130	0	0		
Surr: Dibromofluoromethane	9.8		10.00		97.9	70	130	0	0		
Surr: Toluene-d8	8.1		10.00		81.2	70	130	0	0		

Sample ID	b3	SampType: MBLK			TestCode: EPA Method 8260B: VOLATILES					
Client ID:	PBW	Batch ID: R6048			RunNo: 6048					
Prep Date:		Analysis Date: 10/5/2012			SeqNo: 174241		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1210332

14-Nov-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.1

Sample ID	b3	SampType:	MBLK	TestCode:	EPA Method 8260B: VOLATILES					
Client ID:	PBW	Batch ID:	R6048	RunNo:	6048					
Prep Date:		Analysis Date:	10/5/2012	SeqNo:	174241	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1210332

14-Nov-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.1

Sample ID b3	SampType: MBLK			TestCode: EPA Method 8260B: VOLATILES						
Client ID: PBW	Batch ID: R6048			RunNo: 6048						
Prep Date:	Analysis Date: 10/5/2012			SeqNo: 174241		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	8.2		10.00		82.4	70	130			
Surr: 4-Bromofluorobenzene	8.3		10.00		82.8	70	130			
Surr: Dibromofluoromethane	9.7		10.00		97.0	70	130			
Surr: Toluene-d8	8.1		10.00		81.1	70	130			

Sample ID 100ng lcs2	SampType: LCS			TestCode: EPA Method 8260B: VOLATILES						
Client ID: LCSW	Batch ID: R6048			RunNo: 6048						
Prep Date:	Analysis Date: 10/5/2012			SeqNo: 174243		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	101	70	130			
Toluene	19	1.0	20.00	0	93.1	80	120			
Chlorobenzene	17	1.0	20.00	0	87.4	70	130			
1,1-Dichloroethene	21	1.0	20.00	0	104	73.7	122			
Trichloroethene (TCE)	17	1.0	20.00	0	84.8	70	130			
Surr: 1,2-Dichloroethane-d4	8.5		10.00		84.6	70	130			
Surr: 4-Bromofluorobenzene	8.3		10.00		83.3	70	130			
Surr: Dibromofluoromethane	10		10.00		100	70	130			
Surr: Toluene-d8	7.9		10.00		78.6	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1210332

14-Nov-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.1

Sample ID	1210340-003a ms		SampType: MS		TestCode: EPA Method 8260B: VOLATILES					
Client ID:	BatchQC		Batch ID: R6048		RunNo: 6048					
Prep Date:			Analysis Date: 10/6/2012		SeqNo: 174249		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chlorobenzene	380	20	400.0	0	95.3	70	130			
1,1-Dichloroethene	410	20	400.0	0	103	70	130			
Trichloroethene (TCE)	350	20	400.0	0	88.7	70	130			
Surr: 1,2-Dichloroethane-d4	170		200.0		83.2	70	130			
Surr: 4-Bromofluorobenzene	160		200.0		77.8	70	130			
Surr: Dibromofluoromethane	200		200.0		101	70	130			
Surr: Toluene-d8	160		200.0		79.7	70	130			

Sample ID	1210340-003a msd			SampType:	MSD		TestCode:	EPA Method 8260B: VOLATILES			
Client ID:	BatchQC			Batch ID:	R6048		RunNo:	6048			
Prep Date:				Analysis Date:	10/6/2012		SeqNo:	174250		Units:	µg/L
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Chlorobenzene	360	20	400.0	0	90.7	70	130	5.00	19.5		
1,1-Dichloroethene	380	20	400.0	0	95.9	70	130	7.00	16.7		
Trichloroethene (TCE)	330	20	400.0	0	82.9	70	130	6.82	17.5		
Surr: 1,2-Dichloroethane-d4	170		200.0		84.4	70	130	0	0		
Surr: 4-Bromofluorobenzene	160		200.0		79.7	70	130	0	0		
Surr: Dibromofluoromethane	200		200.0		99.6	70	130	0	0		
Surr: Toluene-d8	160		200.0		80.6	70	130	0	0		

Sample ID	5ml rb	SampType: MBLK			TestCode: EPA Method 8260B: VOLATILES					
Client ID:	PBW	Batch ID: R6255			RunNo: 6255					
Prep Date:		Analysis Date: 10/15/2012			SeqNo: 180303		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1210332

14-Nov-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.1

Sample ID	5ml rb	SampType: MBLK			TestCode: EPA Method 8260B: VOLATILES					
Client ID:	PBW	Batch ID: R6255			RunNo: 6255					
Prep Date:		Analysis Date: 10/15/2012			SeqNo: 180303		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1210332

14-Nov-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.1

Sample ID	5ml rb	SampType:	MBLK	TestCode:	EPA Method 8260B: VOLATILES					
Client ID:	PBW	Batch ID:	R6255	RunNo:	6255					
Prep Date:		Analysis Date:	10/15/2012	SeqNo:	180303	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.2		10.00		92.5	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		101	70	130			
Surr: Dibromofluoromethane	9.2		10.00		92.1	70	130			
Surr: Toluene-d8	9.9		10.00		99.3	70	130			

Sample ID	100ng lcs	SampType:	LCS	TestCode:	EPA Method 8260B: VOLATILES					
Client ID:	LCSW	Batch ID:	R6255	RunNo:	6255					
Prep Date:		Analysis Date:	10/15/2012	SeqNo:	180305	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	22	1.0	20.00	0	109	70	130			
Toluene	21	1.0	20.00	0	105	80	120			
Chlorobenzene	21	1.0	20.00	0	107	70	130			
1,1-Dichloroethene	18	1.0	20.00	0	92.3	73.7	122			
Trichloroethene (TCE)	19	1.0	20.00	0	92.6	70	130			
Surr: 1,2-Dichloroethane-d4	9.3		10.00		93.2	70	130			
Surr: 4-Bromofluorobenzene	9.8		10.00		97.7	70	130			
Surr: Dibromofluoromethane	9.0		10.00		90.3	70	130			
Surr: Toluene-d8	9.4		10.00		93.9	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1210332

14-Nov-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.1

Sample ID	mb-4140	SampType:	MBLK	TestCode:	EPA Method 8270C: Semivolatiles					
Client ID:	PBS	Batch ID:	4140	RunNo:	6106					
Prep Date:	10/5/2012	Analysis Date:	10/9/2012	SeqNo:	176018	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	0.20								
Acenaphthylene	ND	0.20								
Aniline	ND	0.20								
Anthracene	ND	0.20								
Azobenzene	ND	0.20								
Benz(a)anthracene	ND	0.20								
Benzo(a)pyrene	ND	0.20								
Benzo(b)fluoranthene	ND	0.20								
Benzo(g,h,i)perylene	ND	0.20								
Benzo(k)fluoranthene	ND	0.20								
Benzoic acid	ND	0.50								
Benzyl alcohol	ND	0.20								
Bis(2-chloroethoxy)methane	ND	0.20								
Bis(2-chloroethyl)ether	ND	0.20								
Bis(2-chloroisopropyl)ether	ND	0.20								
Bis(2-ethylhexyl)phthalate	ND	0.50								
4-Bromophenyl phenyl ether	ND	0.20								
Butyl benzyl phthalate	ND	0.20								
Carbazole	ND	0.20								
4-Chloro-3-methylphenol	ND	0.50								
4-Chloroaniline	ND	0.50								
2-Chloronaphthalene	ND	0.25								
2-Chlorophenol	ND	0.20								
4-Chlorophenyl phenyl ether	ND	0.20								
Chrysene	ND	0.20								
Di-n-butyl phthalate	ND	0.50								
Di-n-octyl phthalate	ND	0.25								
Dibenz(a,h)anthracene	ND	0.20								
Dibenzofuran	ND	0.20								
1,2-Dichlorobenzene	ND	0.20								
1,3-Dichlorobenzene	ND	0.20								
1,4-Dichlorobenzene	ND	0.20								
3,3'-Dichlorobenzidine	ND	0.25								
Diethyl phthalate	ND	0.20								
Dimethyl phthalate	ND	0.20								
2,4-Dichlorophenol	ND	0.40								
2,4-Dimethylphenol	ND	0.30								
4,6-Dinitro-2-methylphenol	ND	0.50								
2,4-Dinitrophenol	ND	0.40								
2,4-Dinitrotoluene	ND	0.50								
2,6-Dinitrotoluene	ND	0.50								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1210332

14-Nov-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.1

Sample ID	mb-4140		SampType: MBLK			TestCode: EPA Method 8270C: Semivolatiles				
Client ID:	PBS		Batch ID: 4140			RunNo: 6106				
Prep Date:	10/5/2012		Analysis Date: 10/9/2012			SeqNo: 176018		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoranthene	ND	0.20								
Fluorene	ND	0.20								
Hexachlorobenzene	ND	0.20								
Hexachlorobutadiene	ND	0.20								
Hexachlorocyclopentadiene	ND	0.20								
Hexachloroethane	ND	0.20								
Indeno(1,2,3-cd)pyrene	ND	0.20								
Isophorone	ND	0.50								
1-Methylnaphthalene	ND	0.20								
2-Methylnaphthalene	ND	0.20								
2-Methylphenol	ND	0.50								
3+4-Methylphenol	ND	0.20								
N-Nitrosodi-n-propylamine	ND	0.20								
N-Nitrosodiphenylamine	ND	0.20								
Naphthalene	ND	0.20								
2-Nitroaniline	ND	0.20								
3-Nitroaniline	ND	0.20								
4-Nitroaniline	ND	0.40								
Nitrobenzene	ND	0.50								
2-Nitrophenol	ND	0.20								
4-Nitrophenol	ND	0.25								
Pentachlorophenol	ND	0.40								
Phenanthrene	ND	0.20								
Phenol	ND	0.20								
Pyrene	ND	0.20								
Pyridine	ND	0.50								
1,2,4-Trichlorobenzene	ND	0.20								
2,4,5-Trichlorophenol	ND	0.20								
2,4,6-Trichlorophenol	ND	0.20								
Surr: 2,4,6-Tribromophenol	2.3		3.330		68.7	21.3	145			
Surr: 2-Fluorobiphenyl	0.94		1.670		56.2	20	131			
Surr: 2-Fluorophenol	2.0		3.330		59.6	11.9	130			
Surr: 4-Terphenyl-d14	0.96		1.670		57.5	25.1	149			
Surr: Nitrobenzene-d5	1.0		1.670		59.9	25.6	137			
Surr: Phenol-d5	2.1		3.330		62.9	20.3	132			

Sample ID	lcs-4140		SampType: LCS			TestCode: EPA Method 8270C: Semivolatiles				
Client ID:	LCSS		Batch ID: 4140			RunNo: 6106				
Prep Date:	10/5/2012		Analysis Date: 10/9/2012			SeqNo: 176019		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1210332

14-Nov-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.1

Sample ID	Ics-4140		SampType: LCS		TestCode: EPA Method 8270C: Semivolatiles					
Client ID:	LCSS		Batch ID: 4140		RunNo: 6106					
Prep Date:	10/5/2012		Analysis Date: 10/9/2012		SeqNo: 176019		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	0.99	0.20	1.670	0	59.5	49.7	98.1			
4-Chloro-3-methylphenol	2.2	0.50	3.330	0	65.1	43.8	89.1			
2-Chlorophenol	1.9	0.20	3.330	0	57.0	41.1	96.9			
1,4-Dichlorobenzene	0.91	0.20	1.670	0	54.6	41	97.4			
2,4-Dinitrotoluene	1.2	0.50	1.670	0	70.7	44.4	104			
N-Nitrosodi-n-propylamine	1.1	0.20	1.670	0	65.0	39.1	86.9			
4-Nitrophenol	2.1	0.25	3.330	0	62.6	44.2	107			
Pentachlorophenol	1.5	0.40	3.330	0	44.9	36.2	80			
Phenol	2.0	0.20	3.330	0	60.0	42.7	92.7			
Pyrene	0.90	0.20	1.670	0	53.9	34.7	98.8			
1,2,4-Trichlorobenzene	0.88	0.20	1.670	0	52.9	37.8	98.3			
Surr: 2,4,6-Tribromophenol	2.5		3.330		74.6	21.3	145			
Surr: 2-Fluorobiphenyl	1.1		1.670		66.2	20	131			
Surr: 2-Fluorophenol	1.9		3.330		55.8	11.9	130			
Surr: 4-Terphenyl-d14	1.1		1.670		64.8	25.1	149			
Surr: Nitrobenzene-d5	1.0		1.670		60.3	25.6	137			
Surr: Phenol-d5	2.1		3.330		63.6	20.3	132			

Sample ID	1210279-012CMS		SampType: MS		TestCode: EPA Method 8270C: Semivolatiles					
Client ID:	BatchQC		Batch ID: 4140		RunNo: 6106					
Prep Date:	10/5/2012		Analysis Date: 10/9/2012		SeqNo: 176040		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	1.3	0.20	1.684	0	76.6	38.6	100			
4-Chloro-3-methylphenol	2.7	0.50	3.358	0	79.2	35.8	108			
2-Chlorophenol	2.4	0.20	3.358	0	72.3	48.2	96.1			
1,4-Dichlorobenzene	1.1	0.20	1.684	0	66.4	42.5	97.6			
2,4-Dinitrotoluene	1.6	0.50	1.684	0	92.4	51.2	108			
N-Nitrosodi-n-propylamine	1.1	0.20	1.684	0	67.5	31.6	114			
4-Nitrophenol	2.8	0.25	3.358	0	82.3	22.7	144			
Pentachlorophenol	2.1	0.40	3.358	0	61.1	24	109			
Phenol	2.6	0.20	3.358	0	76.4	33.1	108			
Pyrene	1.2	0.20	1.684	0	69.2	42.7	98.9			
1,2,4-Trichlorobenzene	1.1	0.20	1.684	0	64.3	27.1	118			
Surr: 2,4,6-Tribromophenol	2.9		3.358		86.1	21.3	145			
Surr: 2-Fluorobiphenyl	1.2		1.684		73.8	20	131			
Surr: 2-Fluorophenol	2.5		3.358		75.3	11.9	130			
Surr: 4-Terphenyl-d14	1.2		1.684		70.1	25.1	149			
Surr: Nitrobenzene-d5	1.2		1.684		73.1	25.6	137			
Surr: Phenol-d5	2.7		3.358		79.5	20.3	132			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1210332

14-Nov-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.1

Sample ID	1210279-012CMSD	SampType:	MSD		TestCode:	EPA Method 8270C: Semivolatiles				
Client ID:	BatchQC	Batch ID:	4140		RunNo:	6106				
Prep Date:	10/5/2012	Analysis Date:	10/9/2012		SeqNo:	176041		Units:	mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	1.2	0.20	1.667	0	74.1	38.6	100	4.39	20	
4-Chloro-3-methylphenol	2.7	0.50	3.324	0	82.1	35.8	108	2.56	20	
2-Chlorophenol	2.3	0.20	3.324	0	68.8	48.2	96.1	5.93	20	
1,4-Dichlorobenzene	1.0	0.20	1.667	0	62.1	42.5	97.6	7.84	20	
2,4-Dinitrotoluene	1.6	0.50	1.667	0	95.5	51.2	108	2.29	20	
N-Nitrosodi-n-propylamine	1.1	0.20	1.667	0	66.7	31.6	114	2.25	20	
4-Nitrophenol	2.9	0.25	3.324	0	88.4	22.7	144	6.14	20	
Pentachlorophenol	2.1	0.40	3.324	0	64.0	24	109	3.56	20	
Phenol	2.3	0.20	3.324	0	69.6	33.1	108	10.3	20	
Pyrene	1.2	0.20	1.667	0	71.4	42.7	98.9	2.04	20	
1,2,4-Trichlorobenzene	1.1	0.20	1.667	0	66.7	27.1	118	2.65	20	
Surr: 2,4,6-Tribromophenol	3.0		3.324		89.8	21.3	145	0	0	
Surr: 2-Fluorobiphenyl	1.2		1.667		71.8	20	131	0	0	
Surr: 2-Fluorophenol	2.4		3.324		72.3	11.9	130	0	0	
Surr: 4-Terphenyl-d14	1.2		1.667		72.5	25.1	149	0	0	
Surr: Nitrobenzene-d5	1.3		1.667		76.8	25.6	137	0	0	
Surr: Phenol-d5	2.6		3.324		77.9	20.3	132	0	0	

Sample ID	mb-4168		SampType: MBLK		TestCode: EPA Method 8270C: Semivolatiles					
Client ID:	PBS		Batch ID: 4168		RunNo: 6106					
Prep Date:	10/8/2012		Analysis Date: 10/10/2012		SeqNo: 176042		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	0.20								
Acenaphthylene	ND	0.20								
Aniline	ND	0.20								
Anthracene	ND	0.20								
Azobenzene	ND	0.20								
Benz(a)anthracene	ND	0.20								
Benzo(a)pyrene	ND	0.20								
Benzo(b)fluoranthene	ND	0.20								
Benzo(g,h,i)perylene	ND	0.20								
Benzo(k)fluoranthene	ND	0.20								
Benzoic acid	ND	0.50								
Benzyl alcohol	ND	0.20								
Bis(2-chloroethoxy)methane	ND	0.20								
Bis(2-chloroethyl)ether	ND	0.20								
Bis(2-chloroisopropyl)ether	ND	0.20								
Bis(2-ethylhexyl)phthalate	ND	0.50								
4-Bromophenyl phenyl ether	ND	0.20								
Butyl benzyl phthalate	ND	0.20								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1210332

14-Nov-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.1

Sample ID	mb-4168		SampType: MBLK			TestCode: EPA Method 8270C: Semivolatiles				
Client ID:	PBS		Batch ID: 4168			RunNo: 6106				
Prep Date:	10/8/2012		Analysis Date: 10/10/2012			SeqNo: 176042		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Carbazole	ND	0.20								
4-Chloro-3-methylphenol	ND	0.50								
4-Chloroaniline	ND	0.50								
2-Chloronaphthalene	ND	0.25								
2-Chlorophenol	ND	0.20								
4-Chlorophenyl phenyl ether	ND	0.20								
Chrysene	ND	0.20								
Di-n-butyl phthalate	ND	0.50								
Di-n-octyl phthalate	ND	0.25								
Dibenz(a,h)anthracene	ND	0.20								
Dibenzofuran	ND	0.20								
1,2-Dichlorobenzene	ND	0.20								
1,3-Dichlorobenzene	ND	0.20								
1,4-Dichlorobenzene	ND	0.20								
3,3'-Dichlorobenzidine	ND	0.25								
Diethyl phthalate	ND	0.20								
Dimethyl phthalate	ND	0.20								
2,4-Dichlorophenol	ND	0.40								
2,4-Dimethylphenol	ND	0.30								
4,6-Dinitro-2-methylphenol	ND	0.50								
2,4-Dinitrophenol	ND	0.40								
2,4-Dinitrotoluene	ND	0.50								
2,6-Dinitrotoluene	ND	0.50								
Fluoranthene	ND	0.20								
Fluorene	ND	0.20								
Hexachlorobenzene	ND	0.20								
Hexachlorobutadiene	ND	0.20								
Hexachlorocyclopentadiene	ND	0.20								
Hexachloroethane	ND	0.20								
Indeno(1,2,3-cd)pyrene	ND	0.20								
Isophorone	ND	0.50								
1-Methylnaphthalene	ND	0.20								
2-Methylnaphthalene	ND	0.20								
2-Methylphenol	ND	0.50								
3+4-Methylphenol	ND	0.20								
N-Nitrosodi-n-propylamine	ND	0.20								
N-Nitrosodiphenylamine	ND	0.20								
Naphthalene	ND	0.20								
2-Nitroaniline	ND	0.20								
3-Nitroaniline	ND	0.20								
4-Nitroaniline	ND	0.40								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1210332

14-Nov-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.1

Sample ID	mb-4168		SampType: MBLK			TestCode: EPA Method 8270C: Semivolatiles				
Client ID:	PBS		Batch ID: 4168			RunNo: 6106				
Prep Date:	10/8/2012		Analysis Date: 10/10/2012			SeqNo: 176042		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrobenzene	ND	0.50								
2-Nitrophenol	ND	0.20								
4-Nitrophenol	ND	0.25								
Pentachlorophenol	ND	0.40								
Phenanthrene	ND	0.20								
Phenol	ND	0.20								
Pyrene	ND	0.20								
Pyridine	ND	0.50								
1,2,4-Trichlorobenzene	ND	0.20								
2,4,5-Trichlorophenol	ND	0.20								
2,4,6-Trichlorophenol	ND	0.20								
Surr: 2,4,6-Tribromophenol	2.8		3.330		84.5	21.3	145			
Surr: 2-Fluorobiphenyl	1.5		1.670		88.5	20	131			
Surr: 2-Fluorophenol	2.9		3.330		85.8	11.9	130			
Surr: 4-Terphenyl-d14	1.3		1.670		77.1	25.1	149			
Surr: Nitrobenzene-d5	1.5		1.670		90.5	25.6	137			
Surr: Phenol-d5	3.1		3.330		94.0	20.3	132			

Sample ID	lcs-4168		SampType: LCS			TestCode: EPA Method 8270C: Semivolatiles				
Client ID:	LCSS		Batch ID: 4168			RunNo: 6106				
Prep Date:	10/8/2012		Analysis Date: 10/10/2012			SeqNo: 176043		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	1.3	0.20	1.670	0	77.2	49.7	98.1			
4-Chloro-3-methylphenol	2.9	0.50	3.330	0	87.8	43.8	89.1			
2-Chlorophenol	2.8	0.20	3.330	0	83.6	41.1	96.9			
1,4-Dichlorobenzene	1.3	0.20	1.670	0	75.1	41	97.4			
2,4-Dinitrotoluene	1.7	0.50	1.670	0	99.6	44.4	104			
N-Nitrosodi-n-propylamine	1.5	0.20	1.670	0	88.3	39.1	86.9			S
4-Nitrophenol	3.0	0.25	3.330	0	88.8	44.2	107			
Pentachlorophenol	2.1	0.40	3.330	0	64.1	36.2	80			
Phenol	2.7	0.20	3.330	0	80.3	42.7	92.7			
Pyrene	1.2	0.20	1.670	0	74.5	34.7	98.8			
1,2,4-Trichlorobenzene	1.3	0.20	1.670	0	77.2	37.8	98.3			
Surr: 2,4,6-Tribromophenol	2.9		3.330		87.4	21.3	145			
Surr: 2-Fluorobiphenyl	1.4		1.670		85.7	20	131			
Surr: 2-Fluorophenol	2.6		3.330		77.1	11.9	130			
Surr: 4-Terphenyl-d14	1.3		1.670		74.9	25.1	149			
Surr: Nitrobenzene-d5	1.4		1.670		82.0	25.6	137			
Surr: Phenol-d5	2.8		3.330		83.8	20.3	132			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1210332

14-Nov-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.1

Sample ID	1210372-001BMS	SampType: MS			TestCode: EPA Method 8270C: Semivolatiles					
Client ID:	BatchQC	Batch ID: 4168			RunNo: 6106					
Prep Date:	10/8/2012	Analysis Date: 10/10/2012			SeqNo: 177069		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	2.1	1.0	1.673	0	127	38.6	100			S
4-Chloro-3-methylphenol	2.5	2.5	3.336	0	75.3	35.8	108			
2-Chlorophenol	2.2	1.0	3.336	0	65.8	48.2	96.1			
1,4-Dichlorobenzene	ND	1.0	1.673	0	57.2	42.5	97.6			
2,4-Dinitrotoluene	ND	2.5	1.673	0	65.9	51.2	108			
N-Nitrosodi-n-propylamine	ND	1.0	1.673	0	0	31.6	114			S
4-Nitrophenol	ND	1.3	3.336	0	0	22.7	144			S
Pentachlorophenol	ND	2.0	3.336	0	53.4	24	109			
Phenol	2.0	1.0	3.336	0	61.3	33.1	108			
Pyrene	1.7	1.0	1.673	1.458	12.8	42.7	98.9			S
1,2,4-Trichlorobenzene	1.1	1.0	1.673	0	68.7	27.1	118			
Surr: 2,4,6-Tribromophenol	1.8		3.336		55.0	21.3	145			
Surr: 2-Fluorobiphenyl	1.2		1.673		69.0	20	131			
Surr: 2-Fluorophenol	2.1		3.336		62.7	11.9	130			
Surr: 4-Terphenyl-d14	1.2		1.673		73.7	25.1	149			
Surr: Nitrobenzene-d5	0		1.673		0	25.6	137			S
Surr: Phenol-d5	2.2		3.336		67.4	20.3	132			

Sample ID	1210372-001BMSD		SampType: MSD		TestCode: EPA Method 8270C: Semivolatiles					
Client ID:	BatchQC		Batch ID: 4168		RunNo: 6106					
Prep Date:	10/8/2012		Analysis Date: 10/10/2012		SeqNo: 177070		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	2.2	0.99	1.661	0	132	38.6	100	3.07	20	S
4-Chloro-3-methylphenol	2.8	2.5	3.312	0	85.5	35.8	108	12.0	20	
2-Chlorophenol	2.5	0.99	3.312	0	76.2	48.2	96.1	14.0	20	
1,4-Dichlorobenzene	1.1	0.99	1.661	0	65.5	42.5	97.6	12.8	20	
2,4-Dinitrotoluene	ND	2.5	1.661	0	63.3	51.2	108	0	20	
N-Nitrosodi-n-propylamine	ND	0.99	1.661	0	0	31.6	114	0	20	S
4-Nitrophenol	3.5	1.2	3.312	0	107	22.7	144	200	20	R
Pentachlorophenol	ND	2.0	3.312	0	59.1	24	109	0	20	
Phenol	2.4	0.99	3.312	0	73.9	33.1	108	18.0	20	
Pyrene	2.0	0.99	1.661	1.458	31.7	42.7	98.9	17.1	20	S
1,2,4-Trichlorobenzene	1.2	0.99	1.661	0	75.0	27.1	118	8.06	20	
Surr: 2,4,6-Tribromophenol	2.3		3.312		70.5	21.3	145	0	0	
Surr: 2-Fluorobiphenyl	1.3		1.661		79.0	20	131	0	0	
Surr: 2-Fluorophenol	2.5		3.312		74.6	11.9	130	0	0	
Surr: 4-Terphenyl-d14	1.3		1.661		78.0	25.1	149	0	0	
Surr: Nitrobenzene-d5	1.3		1.661		80.2	25.6	137	0	0	
Surr: Phenol-d5	2.7		3.312		82.1	20.3	132	0	0	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1210332

14-Nov-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.1

Sample ID	mb-4133	SampType:	MBLK	TestCode:	EPA Method 8270C: Semivolatiles					
Client ID:	PBW	Batch ID:	4133	RunNo:	6007					
Prep Date:	10/5/2012	Analysis Date:	10/5/2012	SeqNo:	173071	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	10								
Acenaphthylene	ND	10								
Aniline	ND	10								
Anthracene	ND	10								
Azobenzene	ND	10								
Benz(a)anthracene	ND	10								
Benzo(a)pyrene	ND	10								
Benzo(b)fluoranthene	ND	10								
Benzo(g,h,i)perylene	ND	10								
Benzo(k)fluoranthene	ND	10								
Benzoic acid	ND	20								
Benzyl alcohol	ND	10								
Bis(2-chloroethoxy)methane	ND	10								
Bis(2-chloroethyl)ether	ND	10								
Bis(2-chloroisopropyl)ether	ND	10								
Bis(2-ethylhexyl)phthalate	ND	10								
4-Bromophenyl phenyl ether	ND	10								
Butyl benzyl phthalate	ND	10								
Carbazole	ND	10								
4-Chloro-3-methylphenol	ND	10								
4-Chloroaniline	ND	10								
2-Chloronaphthalene	ND	10								
2-Chlorophenol	ND	10								
4-Chlorophenyl phenyl ether	ND	10								
Chrysene	ND	10								
Di-n-butyl phthalate	ND	10								
Di-n-octyl phthalate	ND	10								
Dibenz(a,h)anthracene	ND	10								
Dibenzofuran	ND	10								
1,2-Dichlorobenzene	ND	10								
1,3-Dichlorobenzene	ND	10								
1,4-Dichlorobenzene	ND	10								
3,3'-Dichlorobenzidine	ND	10								
Diethyl phthalate	ND	10								
Dimethyl phthalate	ND	10								
2,4-Dichlorophenol	ND	20								
2,4-Dimethylphenol	ND	10								
4,6-Dinitro-2-methylphenol	ND	20								
2,4-Dinitrophenol	ND	20								
2,4-Dinitrotoluene	ND	10								
2,6-Dinitrotoluene	ND	10								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1210332

14-Nov-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.1

Sample ID	mb-4133		SampType: MBLK			TestCode: EPA Method 8270C: Semivolatiles				
Client ID:	PBW		Batch ID: 4133			RunNo: 6007				
Prep Date:	10/5/2012		Analysis Date: 10/5/2012			SeqNo: 173071		Units: µg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoranthene	ND	10								
Fluorene	ND	10								
Hexachlorobenzene	ND	10								
Hexachlorobutadiene	ND	10								
Hexachlorocyclopentadiene	ND	10								
Hexachloroethane	ND	10								
Indeno(1,2,3-cd)pyrene	ND	10								
Isophorone	ND	10								
1-Methylnaphthalene	ND	10								
2-Methylnaphthalene	ND	10								
2-Methylphenol	ND	10								
3+4-Methylphenol	ND	10								
N-Nitrosodi-n-propylamine	ND	10								
N-Nitrosodimethylamine	ND	10								
N-Nitrosodiphenylamine	ND	10								
Naphthalene	ND	10								
2-Nitroaniline	ND	10								
3-Nitroaniline	ND	10								
4-Nitroaniline	ND	10								
Nitrobenzene	ND	10								
2-Nitrophenol	ND	10								
4-Nitrophenol	ND	10								
Pentachlorophenol	ND	20								
Phenanthrene	ND	10								
Phenol	ND	10								
Pyrene	ND	10								
Pyridine	ND	10								
1,2,4-Trichlorobenzene	ND	10								
2,4,5-Trichlorophenol	ND	10								
2,4,6-Trichlorophenol	ND	10								
Surr: 2,4,6-Tribromophenol	160		200.0		80.9	44.2	126			
Surr: 2-Fluorobiphenyl	77		100.0		77.2	37	114			
Surr: 2-Fluorophenol	130		200.0		66.0	23.4	98			
Surr: 4-Terphenyl-d14	72		100.0		71.9	41.3	116			
Surr: Nitrobenzene-d5	76		100.0		76.3	39.5	118			
Surr: Phenol-d5	120		200.0		58.2	20.9	95.9			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1210332

14-Nov-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.1

Sample ID	Ics-4133		SampType: LCS		TestCode: EPA Method 8270C: Semivolatiles					
Client ID:	LCSW		Batch ID: 4133		RunNo: 6007					
Prep Date:	10/5/2012		Analysis Date: 10/5/2012		SeqNo: 173072		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	61	10	100.0	0	61.0	38.2	99.4			
4-Chloro-3-methylphenol	140	10	200.0	0	71.6	35.5	108			
2-Chlorophenol	140	10	200.0	0	70.5	29.8	106			
1,4-Dichlorobenzene	65	10	100.0	0	65.4	32.6	91.5			
2,4-Dinitrotoluene	67	10	100.0	0	67.0	44.7	112			
N-Nitrosodi-n-propylamine	73	10	100.0	0	72.6	38.5	105			
4-Nitrophenol	92	10	200.0	0	45.9	11.6	73.1			
Pentachlorophenol	95	20	200.0	0	47.6	20.2	93			
Phenol	120	10	200.0	0	60.3	23	66.1			
Pyrene	61	10	100.0	0	61.4	40.1	101			
1,2,4-Trichlorobenzene	62	10	100.0	0	62.0	37.7	99.1			
Surr: 2,4,6-Tribromophenol	160		200.0		78.1	44.2	126			
Surr: 2-Fluorobiphenyl	72		100.0		72.4	37	114			
Surr: 2-Fluorophenol	140		200.0		71.2	23.4	98			
Surr: 4-Terphenyl-d14	64		100.0		64.3	41.3	116			
Surr: Nitrobenzene-d5	72		100.0		72.1	39.5	118			
Surr: Phenol-d5	130		200.0		66.7	20.9	95.9			

Sample ID	Icsd-4133		SampType: LCSD		TestCode: EPA Method 8270C: Semivolatiles					
Client ID:	LCSS02		Batch ID: 4133		RunNo: 6007					
Prep Date:	10/5/2012		Analysis Date: 10/5/2012		SeqNo: 173073		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	64	10	100.0	0	64.1	38.2	99.4	4.96	20	
4-Chloro-3-methylphenol	170	10	200.0	0	83.6	35.5	108	15.4	20	
2-Chlorophenol	130	10	200.0	0	67.2	29.8	106	4.72	20	
1,4-Dichlorobenzene	65	10	100.0	0	64.5	32.6	91.5	1.32	20	
2,4-Dinitrotoluene	78	10	100.0	0	78.4	44.7	112	15.7	20	
N-Nitrosodi-n-propylamine	69	10	100.0	0	68.5	38.5	105	5.84	20	
4-Nitrophenol	110	10	200.0	0	53.4	11.6	73.1	15.1	20	
Pentachlorophenol	100	20	200.0	0	50.6	20.2	93	6.13	20	
Phenol	120	10	200.0	0	59.0	23	66.1	2.26	20	
Pyrene	67	10	100.0	0	66.7	40.1	101	8.21	20	
1,2,4-Trichlorobenzene	61	10	100.0	0	61.0	37.7	99.1	1.56	20	
Surr: 2,4,6-Tribromophenol	150		200.0		76.3	44.2	126	0	0	
Surr: 2-Fluorobiphenyl	69		100.0		68.6	37	114	0	0	
Surr: 2-Fluorophenol	130		200.0		66.7	23.4	98	0	0	
Surr: 4-Terphenyl-d14	67		100.0		66.9	41.3	116	0	0	
Surr: Nitrobenzene-d5	72		100.0		72.1	39.5	118	0	0	
Surr: Phenol-d5	120		200.0		58.6	20.9	95.9	0	0	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1210332

14-Nov-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.1

Sample ID	MB-4150		SampType: MBLK		TestCode: EPA Method 7471: Mercury					
Client ID:	PBS		Batch ID: 4150		RunNo: 6082					
Prep Date:	10/8/2012		Analysis Date: 10/9/2012		SeqNo: 175512		Units: mg/kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercurv	ND	0.033								

Sample ID	LCS-4150		SampType: LCS		TestCode: EPA Method 7471: Mercury					
Client ID:	LCSS		Batch ID: 4150		RunNo: 6082					
Prep Date:	10/8/2012		Analysis Date: 10/9/2012		SeqNo: 175513		Units: mg/kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.19	0.033	0.1667	0	117	80	120			

Sample ID	1210332-015CMS		SampType: MS		TestCode: EPA Method 7471: Mercury					
Client ID:	SWMU 1-5 (24-25')		Batch ID: 4150		RunNo: 6082					
Prep Date:	10/8/2012		Analysis Date: 10/9/2012		SeqNo: 175534		Units: mg/kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.18	0.033	0.1635	0	108	75	125			

Sample ID	1210332-015CMSD		SampType: MSD		TestCode: EPA Method 7471: Mercury					
Client ID:	SWMU 1-5 (24-25')		Batch ID: 4150		RunNo: 6082					
Prep Date:	10/8/2012		Analysis Date: 10/9/2012		SeqNo: 175535		Units: mg/kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.18	0.033	0.1662	0	108	75	125	1.95	20	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1210332

14-Nov-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.1

Sample ID	MB-4190		SampType:	MBLK		TestCode:	EPA Method 6010B: Soil Metals			
Client ID:	PBS		Batch ID:	4190		RunNo:	6121			
Prep Date:	10/9/2012		Analysis Date:	10/10/2012		SeqNo:	176356		Units: mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	2.5								
Arsenic	ND	2.5								
Beryllium	ND	0.15								
Cadmium	ND	0.10								
Chromium	ND	0.30								
Iron	ND	1.0								
Lead	ND	0.25								
Manganese	ND	0.10								
Nickel	ND	0.50								
Selenium	ND	2.5								
Silver	ND	0.25								
Vanadium	ND	2.5								
Zinc	ND	2.5								

Sample ID	LCS-4190		SampType:	LCS		TestCode:	EPA Method 6010B: Soil Metals			
Client ID:	LCSS		Batch ID:	4190		RunNo:	6121			
Prep Date:	10/9/2012		Analysis Date:	10/10/2012		SeqNo:	176357		Units: mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	24	2.5	25.00	0	96.0	80	120			
Arsenic	25	2.5	25.00	0	99.3	80	120			
Beryllium	25	0.15	25.00	0	102	80	120			
Cadmium	25	0.10	25.00	0.04000	100	80	120			
Chromium	25	0.30	25.00	0	99.1	80	120			
Iron	25	1.0	25.00	0	99.9	80	120			
Lead	25	0.25	25.00	0	99.4	80	120			
Manganese	25	0.10	25.00	0.03400	98.1	80	120			
Nickel	24	0.50	25.00	0	95.7	80	120			
Selenium	23	2.5	25.00	0	91.4	80	120			
Silver	5.1	0.25	5.000	0	103	80	120			
Vanadium	25	2.5	25.00	0	101	80	120			
Zinc	25	2.5	25.00	1.304	95.8	80	120			

Sample ID	MB-4190		SampType:	MBLK		TestCode:	EPA Method 6010B: Soil Metals			
Client ID:	PBS		Batch ID:	4190		RunNo:	6163			
Prep Date:	10/9/2012		Analysis Date:	10/11/2012		SeqNo:	177646		Units: mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.10								
Cobalt	ND	0.30								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1210332

14-Nov-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.1

Sample ID	LCS-4190		SampType: LCS		TestCode: EPA Method 6010B: Soil Metals					
Client ID:	LCSS		Batch ID: 4190		RunNo: 6163					
Prep Date:	10/9/2012		Analysis Date: 10/11/2012		SeqNo: 177647		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	26	0.10	25.00	0.06900	103	80	120			
Cobalt	26	0.30	25.00	0	103	80	120			

Sample ID	1210332-009CMS	SampType:	MS	TestCode:	EPA Method 6010B: Soil Metals					
Client ID:	SWMU 1-5 (27-28')	Batch ID:	4190	RunNo:	6163					
Prep Date:	10/9/2012	Analysis Date:	10/11/2012	SeqNo:	177670	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	25	0.75	24.45	1.059	97.2	75	125			
Cadmium	23	0.50	24.45	0	92.3	75	125			
Chromium	37	1.5	24.45	14.78	89.3	75	125			
Cobalt	29	1.5	24.45	7.765	86.7	75	125			
Lead	21	1.2	24.45	0	84.0	75	125			
Nickel	33	2.5	24.45	12.30	86.5	75	125			
Selenium	ND	12	24.45	0	0	75	125			S
Silver	4.5	1.2	4.889	0	92.6	75	125			
Vanadium	47	12	24.45	21.78	101	75	125			
Zinc	55	12	24.45	31.31	95.7	75	125			

Sample ID	1210332-009CMSD	SampType:	MSD		TestCode:	EPA Method 6010B: Soil Metals					
Client ID:	SWMU 1-5 (27-28')	Batch ID:	4190		RunNo:	6163					
Prep Date:	10/9/2012	Analysis Date:	10/11/2012		SeqNo:	177671		Units:	mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Beryllium	23	0.75	24.24	1.059	89.2	75	125	9.01	20		
Cadmium	21	0.50	24.24	0	85.2	75	125	8.90	20		
Chromium	35	1.5	24.24	14.78	81.6	75	125	5.77	20		
Cobalt	26	1.5	24.24	7.765	77.2	75	125	8.96	20		
Lead	20	1.2	24.24	0	82.6	75	125	2.50	20		
Nickel	31	2.5	24.24	12.30	76.9	75	125	7.78	20		
Selenium	ND	12	24.24	0	0	75	125	0	20	S	
Silver	4.3	1.2	4.848	0	88.3	75	125	5.66	20		
Vanadium	44	12	24.24	21.78	91.5	75	125	5.71	20		
Zinc	50	12	24.24	31.31	76.7	75	125	9.19	20		

Sample ID	1210332-009CMS	SampType:	MS	TestCode:	EPA Method 6010B: Soil Metals					
Client ID:	SWMU 1-5 (27-28')	Batch ID:	4190	RunNo:	6192					
Prep Date:	10/9/2012	Analysis Date:	10/11/2012	SeqNo:	178373	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	12	24.45	0	0	75	125			S
Arsenic	23	12	24.45	0	94.4	75	125			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1210332

14-Nov-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.1

Sample ID	1210332-009CMSD	SampType:	MSD	TestCode:	EPA Method 6010B: Soil Metals					
Client ID:	SWMU 1-5 (27-28')	Batch ID:	4190	RunNo:	6192					
Prep Date:	10/9/2012	Analysis Date:	10/11/2012	SeqNo:	178374	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	12	24.24	0	0	75	125	0	20	S
Arsenic	24	12	24.24	0	100	75	125	5.14	20	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87105
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: Western Refining Gallup Work Order Number: 1210332
Received by/date: [Signature] 10/05/12
Logged By: Lindsay Mangin 10/5/2012 6:45:00 AM [Signature]
Completed By: Lindsay Mangin 10/5/2012 7:28:35 AM [Signature]
Reviewed By: JO 10/05/12

Chain of Custody

1. Were seals intact? Yes ☐ No ☐ Not Present ☒
2. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
3. How was the sample delivered? FedEx

Log In

4. Coolers are present? (see 19. for cooler specific information) Yes ☒ No ☐ NA ☐
5. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
6. Were all samples received at a temperature of $>0^{\circ}\text{C}$ to 6.0°C ? Yes ☒ No ☐ NA ☐
7. Sample(s) in proper container(s)? Yes ☒ No ☐
8. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
9. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
10. Was preservative added to bottles? Yes ☒ No ☒ NA ☐
-COSE-ADDED 1mL HNO₃ FOR ACCEPTABLE PH- [Signature] 10/05/12
11. VOA vials have zero headspace? Yes ☒ No ☐ No VOA Vials ☐
12. Were any sample containers received broken? Yes ☐ No ☒
13. Does paperwork match bottle labels?
(Note discrepancies on chain of custody) Yes ☒ No ☐
14. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
15. Is it clear what analyses were requested? Yes ☒ No ☐
16. Were all holding times able to be met?
(If no, notify customer for authorization.) Yes ☒ No ☐

of preserved
bottles checked
for pH: 3
(<2 or >12 unless noted)
Adjusted? [Signature]
Checked by: [Signature]

Special Handling (if applicable)

17. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

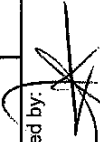
Person Notified:		Date:	
By Whom:		Via:	☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:			
Client Instructions:			

18. Additional remarks:

19. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.8	Good	Yes			

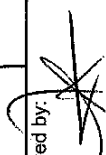
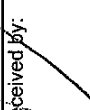
Chain-of-Custody Record				Turn-Around Time:		
Client: <u>WESTERN REFINING SW, INC.</u>				☒ Standard ☐ Rush		
Gallup Refinery						
Mailing Address: <u>ROUTE 3 BOX 7</u>				Project Name:		
Gallup, NM 87301						
Phone #: <u>505-722-0217</u>				Project #:		
email or Fax#: <u>SCOTT CROUCH-RPS</u>						
QA/QC Package:				Project Manager:		
☒ Standard ☐ Level 4 (Full Validation)						
Accreditation				Sampler: <u>TRACY PAYNE RPS</u>		
☐ NELAP ☐ Other						
☒ EDD (Type) <u>EXCEL</u>				On Ice: ☒ Yes ☐ No		
				Sample Temperature: <u>2.8</u>		
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.
10/3/12	1315	SOIL	SNMU1-4 (10-12')	2 VIALS	SOBI	-001
			DUP	2 VIALS	MEOH	
				1 JAR	-	
	1345	SOIL	SNMU1-4 (17-18')	2 VIALS	SOBI	-002
				2 VIALS	MEOH	
				3 JARS	-	
	1400	SOIL	SNMU1-4 (23-24')	2 VIALS	SOBI	-003
				2 VIALS	MEOH	
				3 JARS	-	
10/3/12		WATER	TRIP BLANK	3 VOAS	HCL	-004
Date:	Time:	Relinquished by:	Received by:	Date:	Time	
10/4/12	0717	<u>[Signature]</u>	<u>[Signature]</u>	10/05/12	0645	
Date:	Time:	Relinquished by:	Received by:	Date:	Time	

Turn-Around Time:		☒ Standard ☐ Rush Project Name:	
Project #:		SWMU No. 1	
Project Manager:		SCOTT CROUCH- RPS	
Sample: TRACY PAYNE RPS		On Ice: ☒ Yes ☐ No Sample Temperature: 2.8	
Container Type and #	Preservative Type	HEAL No.	
2 VIALS	SOBI	121033Z	
2 VIALS	MEOH	-001	
1 JAR	-		
2 VIALS	SOBI	-002	
2 VIALS	MEOH		
3 JARS	-		
2 VIALS	SOBI	-003	
2 VIALS	MEOH		
3 JARS	-		
3 VOAS	HCL	-004	
Received by:		Date	Time
		10/05/12	06:45
Received by:		Date	Time
			

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

email or Fax#: <u>SCOTT CROUCH-RPS</u>						Project Manager:	
QA/QC Package: ☒ Standard ☐ Level 4 (Full Validation) Accreditation ☐ NELAP ☐ Other _____						<u>SCOTT CROUCH-RPS</u>	
☒ EDD (Type) <u>EXCEL</u>						Sampler: <u>TRACY PAYNE RPS</u> On Ice: ☒ Yes ☐ No Sample Temperature: <u>2.8</u>	
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	
10/3/12	1315	SOIL	SNNMJ1-4(10-12') DUP	2 VIALS	SOBI	-001	
				2 VIALS	MEOH		
				1 JAR	—		
	1345	SOIL	SNNMJ1-4(17-18')	2 VIALS	SOBI	-002	
				2 VIALS	MEOH		
				3 JARS	—		
	1400	SOIL	SNNMJ1-4(23-24')	2 VIALS	SOBI	-003	
				2 VIALS	MEOH		
				3 JARS	—		
10/3/12	—	WATER	TRIP BLANK	3 VOAS	HCL	-004	
Relinquished by: <u>[Signature]</u>				Received by: <u>[Signature]</u>		Date Time	
Date: 10/4/12	Time: 0717			Date: 10/05/12	Time: 0645		
Date:	Time:	Relinquished by:		Date:	Time:		

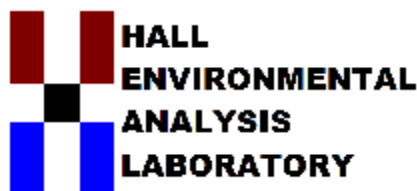
Project Manager: SCOTT CROUCH-RPS			
Sampler: TRACY PAYNE RPS			
On Ice: ☒ Yes ☐ No		HEAL No.	
Sample Temperature: 2.8		121033Z	
Container Type and #	Preservative Type		
2 VIALS	SOBI	-001	
2 VIALS	MEOH		
1 JAR	-		
2 VIALS	SOBI	-002	
2 VIALS	MEOH		
3 JARS	-		
2 VIALS	SOBI	-003	
2 VIALS	MEOH		
3 JARS	-		
3 VOAS	HCL	-004	
Received by: 		Date	Time
		10/05/12	0645
Received by: 		Date	Time

email or Fax#: <u>SCOTT CROUCH-RPS</u>						Project Manager:					
QA/QC Package: ☒ Standard ☐ Level 4 (Full Validation)											
Accreditation ☐ NELAP ☐ Other _____											
☒ EDD (Type) <u>EXCEL</u>						Sample Temperature: <u>2.8</u>					
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	Date	Time	Relinquished by:	Date	Time
10/3/12	1315	SOIL	SNNMJ1-4(10-12') DUP	2VIALS	SOBI	-001			Received by: *	10/05/12	0645
				2VIALS	MEOH						
				1JAR	—						
	1345	SOIL	SNNMJ1-4(17-18')	2VIALS	SOBI	-002					
				2VIALS	MEOH						
				3JARS	—						
	1400	SOIL	SNNMJ1-4(23-24')	2VIALS	SOBI	-003					
				2VIALS	MEOH						
				3JARS	—						
10/3/12	—	WATER	TRIP BLANK	3VOAS	HCL	-004					
Date: 10/4/12	Time: 0717						Date: 10/05/12	Time: 0645			
Date: —	Time: —						Date: —	Time: —			

Remarks:

Received by: 	Date	Time
Received by: 	10/05/12	0645

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

November 14, 2012

Scott Crouch

Western Refining Southwest, Gallup

Rt. 3 Box 7

Gallup, NM 87301

TEL:

FAX

RE: SWMU NO.1

OrderNo.: 1210372

Dear Scott Crouch:

Hall Environmental Analysis Laboratory received 28 sample(s) on 10/6/2012 for the analyses presented in the following report.

This report is a revised report and it replaces the original report issued October 29, 2012.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. All samples are reported as received unless otherwise indicated.

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

Sincerely,

A handwritten signature in black ink, appearing to read "Andy Freeman", is written over a horizontal line.

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210372

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-1 (2-4')

Project: SWMU NO.1

Collection Date: 10/5/2012 2:10:00 PM

Lab ID: 1210372-001

Matrix: SOIL

Received Date: 10/6/2012 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: JMP
Diesel Range Organics (DRO)	4700	1000		mg/Kg	100	10/9/2012 12:21:25 PM
Motor Oil Range Organics (MRO)	ND	5000		mg/Kg	100	10/9/2012 12:21:25 PM
Surr: DNOP	0	77.6-140	S	%REC	100	10/9/2012 12:21:25 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	410	250		mg/Kg	50	10/10/2012 4:13:23 PM
Surr: BFB	159	84-116	S	%REC	50	10/10/2012 4:13:23 PM
EPA METHOD 7471: MERCURY						Analyst: IDC
Mercury	1.4	0.33		mg/kg	10	10/11/2012 3:46:24 PM
EPA METHOD 6010B: SOIL METALS						Analyst: JLF
Antimony	ND	12		mg/Kg	5	10/11/2012 2:29:04 PM
Arsenic	ND	12		mg/Kg	5	10/11/2012 2:29:04 PM
Barium	450	1.0		mg/Kg	10	10/11/2012 3:14:12 PM
Beryllium	ND	0.75		mg/Kg	5	10/11/2012 2:29:04 PM
Cadmium	ND	0.50		mg/Kg	5	10/11/2012 2:29:04 PM
Chromium	400	3.0		mg/Kg	10	10/11/2012 3:14:12 PM
Cobalt	8.1	1.5		mg/Kg	5	10/11/2012 2:29:04 PM
Iron	16000	500		mg/Kg	500	10/11/2012 3:19:11 PM
Lead	80	1.2		mg/Kg	5	10/11/2012 2:29:04 PM
Manganese	480	1.0		mg/Kg	10	10/11/2012 3:14:12 PM
Nickel	15	2.5		mg/Kg	5	10/11/2012 2:29:04 PM
Selenium	ND	12		mg/Kg	5	10/11/2012 2:29:04 PM
Silver	ND	1.2		mg/Kg	5	10/11/2012 2:29:04 PM
Vanadium	20	12		mg/Kg	5	10/11/2012 2:29:04 PM
Zinc	720	120		mg/Kg	50	10/11/2012 3:16:43 PM
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Acenaphthene	ND	1.0		mg/Kg	1	10/10/2012 2:41:03 PM
Acenaphthylene	ND	1.0		mg/Kg	1	10/10/2012 2:41:03 PM
Aniline	ND	1.0		mg/Kg	1	10/10/2012 2:41:03 PM
Anthracene	ND	1.0		mg/Kg	1	10/10/2012 2:41:03 PM
Azobenzene	ND	1.0		mg/Kg	1	10/10/2012 2:41:03 PM
Benz(a)anthracene	ND	1.0		mg/Kg	1	10/10/2012 2:41:03 PM
Benzo(a)pyrene	ND	1.0		mg/Kg	1	10/10/2012 2:41:03 PM
Benzo(b)fluoranthene	ND	1.0		mg/Kg	1	10/10/2012 2:41:03 PM
Benzo(g,h,i)perylene	ND	1.0		mg/Kg	1	10/10/2012 2:41:03 PM
Benzo(k)fluoranthene	ND	1.0		mg/Kg	1	10/10/2012 2:41:03 PM
Benzoic acid	ND	2.5		mg/Kg	1	10/10/2012 2:41:03 PM
Benzyl alcohol	ND	1.0		mg/Kg	1	10/10/2012 2:41:03 PM
Bis(2-chloroethoxy)methane	ND	1.0		mg/Kg	1	10/10/2012 2:41:03 PM
Bis(2-chloroethyl)ether	ND	1.0		mg/Kg	1	10/10/2012 2:41:03 PM
Bis(2-chloroisopropyl)ether	ND	1.0		mg/Kg	1	10/10/2012 2:41:03 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210372

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-1 (2-4')

Project: SWMU NO.1

Collection Date: 10/5/2012 2:10:00 PM

Lab ID: 1210372-001

Matrix: SOIL

Received Date: 10/6/2012 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Bis(2-ethylhexyl)phthalate	ND	2.5		mg/Kg	1	10/10/2012 2:41:03 PM
4-Bromophenyl phenyl ether	ND	1.0		mg/Kg	1	10/10/2012 2:41:03 PM
Butyl benzyl phthalate	ND	1.0		mg/Kg	1	10/10/2012 2:41:03 PM
Carbazole	ND	1.0		mg/Kg	1	10/10/2012 2:41:03 PM
4-Chloro-3-methylphenol	ND	2.5		mg/Kg	1	10/10/2012 2:41:03 PM
4-Chloroaniline	ND	2.5		mg/Kg	1	10/10/2012 2:41:03 PM
2-Chloronaphthalene	ND	1.3		mg/Kg	1	10/10/2012 2:41:03 PM
2-Chlorophenol	ND	1.0		mg/Kg	1	10/10/2012 2:41:03 PM
4-Chlorophenyl phenyl ether	ND	1.0		mg/Kg	1	10/10/2012 2:41:03 PM
Chrysene	ND	1.0		mg/Kg	1	10/10/2012 2:41:03 PM
Di-n-butyl phthalate	ND	2.5		mg/Kg	1	10/10/2012 2:41:03 PM
Di-n-octyl phthalate	ND	1.3		mg/Kg	1	10/10/2012 2:41:03 PM
Dibenz(a,h)anthracene	ND	1.0		mg/Kg	1	10/10/2012 2:41:03 PM
Dibenzofuran	ND	1.0		mg/Kg	1	10/10/2012 2:41:03 PM
1,2-Dichlorobenzene	ND	1.0		mg/Kg	1	10/10/2012 2:41:03 PM
1,3-Dichlorobenzene	ND	1.0		mg/Kg	1	10/10/2012 2:41:03 PM
1,4-Dichlorobenzene	ND	1.0		mg/Kg	1	10/10/2012 2:41:03 PM
3,3'-Dichlorobenzidine	ND	1.3		mg/Kg	1	10/10/2012 2:41:03 PM
Diethyl phthalate	ND	1.0		mg/Kg	1	10/10/2012 2:41:03 PM
Dimethyl phthalate	ND	1.0		mg/Kg	1	10/10/2012 2:41:03 PM
2,4-Dichlorophenol	ND	2.0		mg/Kg	1	10/10/2012 2:41:03 PM
2,4-Dimethylphenol	ND	1.5		mg/Kg	1	10/10/2012 2:41:03 PM
4,6-Dinitro-2-methylphenol	ND	2.5		mg/Kg	1	10/10/2012 2:41:03 PM
2,4-Dinitrophenol	ND	2.0		mg/Kg	1	10/10/2012 2:41:03 PM
2,4-Dinitrotoluene	ND	2.5		mg/Kg	1	10/10/2012 2:41:03 PM
2,6-Dinitrotoluene	ND	2.5		mg/Kg	1	10/10/2012 2:41:03 PM
Fluoranthene	ND	1.0		mg/Kg	1	10/10/2012 2:41:03 PM
Fluorene	3.7	1.0		mg/Kg	1	10/10/2012 2:41:03 PM
Hexachlorobenzene	ND	1.0		mg/Kg	1	10/10/2012 2:41:03 PM
Hexachlorobutadiene	ND	1.0		mg/Kg	1	10/10/2012 2:41:03 PM
Hexachlorocyclopentadiene	ND	1.0		mg/Kg	1	10/10/2012 2:41:03 PM
Hexachloroethane	ND	1.0		mg/Kg	1	10/10/2012 2:41:03 PM
Indeno(1,2,3-cd)pyrene	ND	1.0		mg/Kg	1	10/10/2012 2:41:03 PM
Isophorone	ND	2.5		mg/Kg	1	10/10/2012 2:41:03 PM
1-Methylnaphthalene	43	10		mg/Kg	10	10/10/2012 3:12:23 PM
2-Methylnaphthalene	55	10		mg/Kg	10	10/10/2012 3:12:23 PM
2-Methylphenol	ND	2.5		mg/Kg	1	10/10/2012 2:41:03 PM
3+4-Methylphenol	ND	1.0		mg/Kg	1	10/10/2012 2:41:03 PM
N-Nitrosodi-n-propylamine	ND	1.0		mg/Kg	1	10/10/2012 2:41:03 PM
N-Nitrosodiphenylamine	ND	1.0		mg/Kg	1	10/10/2012 2:41:03 PM
Naphthalene	7.9	1.0		mg/Kg	1	10/10/2012 2:41:03 PM
2-Nitroaniline	ND	1.0		mg/Kg	1	10/10/2012 2:41:03 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210372

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-1 (2-4")

Project: SWMU NO.1

Collection Date: 10/5/2012 2:10:00 PM

Lab ID: 1210372-001

Matrix: SOIL

Received Date: 10/6/2012 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
3-Nitroaniline	ND	1.0		mg/Kg	1	10/10/2012 2:41:03 PM
4-Nitroaniline	ND	2.0		mg/Kg	1	10/10/2012 2:41:03 PM
Nitrobenzene	ND	2.5		mg/Kg	1	10/10/2012 2:41:03 PM
2-Nitrophenol	ND	1.0		mg/Kg	1	10/10/2012 2:41:03 PM
4-Nitrophenol	ND	1.3		mg/Kg	1	10/10/2012 2:41:03 PM
Pentachlorophenol	ND	2.0		mg/Kg	1	10/10/2012 2:41:03 PM
Phenanthrene	11	1.0		mg/Kg	1	10/10/2012 2:41:03 PM
Phenol	ND	1.0		mg/Kg	1	10/10/2012 2:41:03 PM
Pyrene	1.5	1.0		mg/Kg	1	10/10/2012 2:41:03 PM
Pyridine	ND	2.5		mg/Kg	1	10/10/2012 2:41:03 PM
1,2,4-Trichlorobenzene	ND	1.0		mg/Kg	1	10/10/2012 2:41:03 PM
2,4,5-Trichlorophenol	ND	1.0		mg/Kg	1	10/10/2012 2:41:03 PM
2,4,6-Trichlorophenol	ND	1.0		mg/Kg	1	10/10/2012 2:41:03 PM
Surr: 2,4,6-Tribromophenol	39.2	21.3-145		%REC	1	10/10/2012 2:41:03 PM
Surr: 2-Fluorobiphenyl	65.5	20-131		%REC	1	10/10/2012 2:41:03 PM
Surr: 2-Fluorophenol	76.1	11.9-130		%REC	1	10/10/2012 2:41:03 PM
Surr: 4-Terphenyl-d14	80.1	25.1-149		%REC	1	10/10/2012 2:41:03 PM
Surr: Nitrobenzene-d5	0	25.6-137	S	%REC	1	10/10/2012 2:41:03 PM
Surr: Phenol-d5	74.1	20.3-132		%REC	1	10/10/2012 2:41:03 PM
EPA METHOD 8260B: VOLATILES						Analyst: DJF
Benzene	3.2	2.5		mg/Kg	50	10/15/2012 11:08:23 PM
Toluene	ND	2.5		mg/Kg	50	10/15/2012 11:08:23 PM
Ethylbenzene	5.8	2.5		mg/Kg	50	10/15/2012 11:08:23 PM
Methyl tert-butyl ether (MTBE)	ND	2.5		mg/Kg	50	10/15/2012 11:08:23 PM
1,2,4-Trimethylbenzene	17	2.5		mg/Kg	50	10/15/2012 11:08:23 PM
1,3,5-Trimethylbenzene	5.8	2.5		mg/Kg	50	10/15/2012 11:08:23 PM
1,2-Dichloroethane (EDC)	ND	2.5		mg/Kg	50	10/15/2012 11:08:23 PM
1,2-Dibromoethane (EDB)	ND	2.5		mg/Kg	50	10/15/2012 11:08:23 PM
Naphthalene	13	5.0		mg/Kg	50	10/15/2012 11:08:23 PM
1-Methylnaphthalene	35	10		mg/Kg	50	10/15/2012 11:08:23 PM
2-Methylnaphthalene	48	10		mg/Kg	50	10/15/2012 11:08:23 PM
Acetone	ND	38		mg/Kg	50	10/15/2012 11:08:23 PM
Bromobenzene	ND	2.5		mg/Kg	50	10/15/2012 11:08:23 PM
Bromodichloromethane	ND	2.5		mg/Kg	50	10/15/2012 11:08:23 PM
Bromoform	ND	2.5		mg/Kg	50	10/15/2012 11:08:23 PM
Bromomethane	ND	7.5		mg/Kg	50	10/15/2012 11:08:23 PM
2-Butanone	ND	25		mg/Kg	50	10/15/2012 11:08:23 PM
Carbon disulfide	ND	25		mg/Kg	50	10/15/2012 11:08:23 PM
Carbon tetrachloride	ND	5.0		mg/Kg	50	10/15/2012 11:08:23 PM
Chlorobenzene	ND	2.5		mg/Kg	50	10/15/2012 11:08:23 PM
Chloroethane	ND	5.0		mg/Kg	50	10/15/2012 11:08:23 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210372

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-1 (2-4')

Project: SWMU NO.1

Collection Date: 10/5/2012 2:10:00 PM

Lab ID: 1210372-001

Matrix: SOIL

Received Date: 10/6/2012 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: DJF
Chloroform	ND	2.5		mg/Kg	50	10/15/2012 11:08:23 PM
Chloromethane	ND	7.5		mg/Kg	50	10/15/2012 11:08:23 PM
2-Chlorotoluene	ND	2.5		mg/Kg	50	10/15/2012 11:08:23 PM
4-Chlorotoluene	ND	2.5		mg/Kg	50	10/15/2012 11:08:23 PM
cis-1,2-DCE	ND	2.5		mg/Kg	50	10/15/2012 11:08:23 PM
cis-1,3-Dichloropropene	ND	2.5		mg/Kg	50	10/15/2012 11:08:23 PM
1,2-Dibromo-3-chloropropane	ND	5.0		mg/Kg	50	10/15/2012 11:08:23 PM
Dibromochloromethane	ND	2.5		mg/Kg	50	10/15/2012 11:08:23 PM
Dibromomethane	ND	5.0		mg/Kg	50	10/15/2012 11:08:23 PM
1,2-Dichlorobenzene	ND	2.5		mg/Kg	50	10/15/2012 11:08:23 PM
1,3-Dichlorobenzene	ND	2.5		mg/Kg	50	10/15/2012 11:08:23 PM
1,4-Dichlorobenzene	ND	2.5		mg/Kg	50	10/15/2012 11:08:23 PM
Dichlorodifluoromethane	ND	2.5		mg/Kg	50	10/15/2012 11:08:23 PM
1,1-Dichloroethane	ND	5.0		mg/Kg	50	10/15/2012 11:08:23 PM
1,1-Dichloroethene	ND	2.5		mg/Kg	50	10/15/2012 11:08:23 PM
1,2-Dichloropropane	ND	2.5		mg/Kg	50	10/15/2012 11:08:23 PM
1,3-Dichloropropane	ND	2.5		mg/Kg	50	10/15/2012 11:08:23 PM
2,2-Dichloropropane	ND	5.0		mg/Kg	50	10/15/2012 11:08:23 PM
1,1-Dichloropropene	ND	5.0		mg/Kg	50	10/15/2012 11:08:23 PM
Hexachlorobutadiene	ND	5.0		mg/Kg	50	10/15/2012 11:08:23 PM
2-Hexanone	ND	25		mg/Kg	50	10/15/2012 11:08:23 PM
Isopropylbenzene	ND	2.5		mg/Kg	50	10/15/2012 11:08:23 PM
4-Isopropyltoluene	ND	2.5		mg/Kg	50	10/15/2012 11:08:23 PM
4-Methyl-2-pentanone	ND	25		mg/Kg	50	10/15/2012 11:08:23 PM
Methylene chloride	ND	7.5		mg/Kg	50	10/15/2012 11:08:23 PM
n-Butylbenzene	ND	7.5		mg/Kg	50	10/15/2012 11:08:23 PM
n-Propylbenzene	2.8	2.5		mg/Kg	50	10/15/2012 11:08:23 PM
sec-Butylbenzene	ND	2.5		mg/Kg	50	10/15/2012 11:08:23 PM
Styrene	ND	2.5		mg/Kg	50	10/15/2012 11:08:23 PM
tert-Butylbenzene	ND	2.5		mg/Kg	50	10/15/2012 11:08:23 PM
1,1,1,2-Tetrachloroethane	ND	2.5		mg/Kg	50	10/15/2012 11:08:23 PM
1,1,2,2-Tetrachloroethane	ND	2.5		mg/Kg	50	10/15/2012 11:08:23 PM
Tetrachloroethene (PCE)	ND	2.5		mg/Kg	50	10/15/2012 11:08:23 PM
trans-1,2-DCE	ND	2.5		mg/Kg	50	10/15/2012 11:08:23 PM
trans-1,3-Dichloropropene	ND	2.5		mg/Kg	50	10/15/2012 11:08:23 PM
1,2,3-Trichlorobenzene	ND	5.0		mg/Kg	50	10/15/2012 11:08:23 PM
1,2,4-Trichlorobenzene	ND	2.5		mg/Kg	50	10/15/2012 11:08:23 PM
1,1,1-Trichloroethane	ND	2.5		mg/Kg	50	10/15/2012 11:08:23 PM
1,1,2-Trichloroethane	ND	2.5		mg/Kg	50	10/15/2012 11:08:23 PM
Trichloroethene (TCE)	ND	2.5		mg/Kg	50	10/15/2012 11:08:23 PM
Trichlorofluoromethane	ND	2.5		mg/Kg	50	10/15/2012 11:08:23 PM
1,2,3-Trichloropropane	ND	5.0		mg/Kg	50	10/15/2012 11:08:23 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210372

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-1 (2-4')

Project: SWMU NO.1

Collection Date: 10/5/2012 2:10:00 PM

Lab ID: 1210372-001

Matrix: SOIL

Received Date: 10/6/2012 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: DJF
Vinyl chloride	ND	2.5		mg/Kg	50	10/15/2012 11:08:23 PM
Xylenes, Total	24	5.0		mg/Kg	50	10/15/2012 11:08:23 PM
Surr: 1,2-Dichloroethane-d4	98.3	70-130		%REC	50	10/15/2012 11:08:23 PM
Surr: 4-Bromofluorobenzene	80.1	70-130		%REC	50	10/15/2012 11:08:23 PM
Surr: Dibromofluoromethane	91.8	70-130		%REC	50	10/15/2012 11:08:23 PM
Surr: Toluene-d8	98.8	70-130		%REC	50	10/15/2012 11:08:23 PM

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2
RL Reporting Detection Limit

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210372

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-1 (10-12')

Project: SWMU NO.1

Collection Date: 10/5/2012 2:15:00 PM

Lab ID: 1210372-002

Matrix: SOIL

Received Date: 10/6/2012 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: JMP
Diesel Range Organics (DRO)	820	100		mg/Kg	10	10/9/2012 11:59:39 AM
Motor Oil Range Organics (MRO)	ND	510		mg/Kg	10	10/9/2012 11:59:39 AM
Surr: DNOP	0	77.6-140	S	%REC	10	10/9/2012 11:59:39 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	25		mg/Kg	5	10/10/2012 5:10:59 PM
Surr: BFB	124	84-116	S	%REC	5	10/10/2012 5:10:59 PM
EPA METHOD 7471: MERCURY						Analyst: IDC
Mercury	ND	0.033		mg/kg	1	10/11/2012 3:19:49 PM
EPA METHOD 6010B: SOIL METALS						Analyst: JLF
Antimony	ND	12		mg/Kg	5	10/11/2012 2:47:13 PM
Arsenic	ND	12		mg/Kg	5	10/11/2012 2:47:13 PM
Barium	300	1.0		mg/Kg	10	10/11/2012 3:21:49 PM
Beryllium	1.2	0.75		mg/Kg	5	10/11/2012 2:47:13 PM
Cadmium	ND	0.50		mg/Kg	5	10/11/2012 2:47:13 PM
Chromium	16	1.5		mg/Kg	5	10/11/2012 2:47:13 PM
Cobalt	7.5	1.5		mg/Kg	5	10/11/2012 2:47:13 PM
Iron	23000	500		mg/Kg	500	10/11/2012 3:29:57 PM
Lead	3.3	1.2		mg/Kg	5	10/11/2012 2:47:13 PM
Manganese	290	1.0		mg/Kg	10	10/11/2012 3:21:49 PM
Nickel	15	2.5		mg/Kg	5	10/11/2012 2:47:13 PM
Selenium	ND	12		mg/Kg	5	10/11/2012 2:47:13 PM
Silver	ND	1.2		mg/Kg	5	10/11/2012 2:47:13 PM
Vanadium	25	12		mg/Kg	5	10/11/2012 2:47:13 PM
Zinc	29	12		mg/Kg	5	10/11/2012 2:47:13 PM
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Acenaphthene	ND	0.20		mg/Kg	1	10/10/2012 3:05:05 AM
Acenaphthylene	ND	0.20		mg/Kg	1	10/10/2012 3:05:05 AM
Aniline	ND	0.20		mg/Kg	1	10/10/2012 3:05:05 AM
Anthracene	ND	0.20		mg/Kg	1	10/10/2012 3:05:05 AM
Azobenzene	ND	0.20		mg/Kg	1	10/10/2012 3:05:05 AM
Benz(a)anthracene	ND	0.20		mg/Kg	1	10/10/2012 3:05:05 AM
Benzo(a)pyrene	ND	0.20		mg/Kg	1	10/10/2012 3:05:05 AM
Benzo(b)fluoranthene	ND	0.20		mg/Kg	1	10/10/2012 3:05:05 AM
Benzo(g,h,i)perylene	ND	0.20		mg/Kg	1	10/10/2012 3:05:05 AM
Benzo(k)fluoranthene	ND	0.20		mg/Kg	1	10/10/2012 3:05:05 AM
Benzoic acid	ND	0.50		mg/Kg	1	10/10/2012 3:05:05 AM
Benzyl alcohol	ND	0.20		mg/Kg	1	10/10/2012 3:05:05 AM
Bis(2-chloroethoxy)methane	ND	0.20		mg/Kg	1	10/10/2012 3:05:05 AM
Bis(2-chloroethyl)ether	ND	0.20		mg/Kg	1	10/10/2012 3:05:05 AM
Bis(2-chloroisopropyl)ether	ND	0.20		mg/Kg	1	10/10/2012 3:05:05 AM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210372

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-1 (10-12')

Project: SWMU NO.1

Collection Date: 10/5/2012 2:15:00 PM

Lab ID: 1210372-002

Matrix: SOIL

Received Date: 10/6/2012 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Bis(2-ethylhexyl)phthalate	ND	0.50		mg/Kg	1	10/10/2012 3:05:05 AM
4-Bromophenyl phenyl ether	ND	0.20		mg/Kg	1	10/10/2012 3:05:05 AM
Butyl benzyl phthalate	ND	0.20		mg/Kg	1	10/10/2012 3:05:05 AM
Carbazole	ND	0.20		mg/Kg	1	10/10/2012 3:05:05 AM
4-Chloro-3-methylphenol	ND	0.50		mg/Kg	1	10/10/2012 3:05:05 AM
4-Chloroaniline	ND	0.50		mg/Kg	1	10/10/2012 3:05:05 AM
2-Chloronaphthalene	ND	0.25		mg/Kg	1	10/10/2012 3:05:05 AM
2-Chlorophenol	ND	0.20		mg/Kg	1	10/10/2012 3:05:05 AM
4-Chlorophenyl phenyl ether	ND	0.20		mg/Kg	1	10/10/2012 3:05:05 AM
Chrysene	ND	0.20		mg/Kg	1	10/10/2012 3:05:05 AM
Di-n-butyl phthalate	ND	0.50		mg/Kg	1	10/10/2012 3:05:05 AM
Di-n-octyl phthalate	ND	0.25		mg/Kg	1	10/10/2012 3:05:05 AM
Dibenz(a,h)anthracene	ND	0.20		mg/Kg	1	10/10/2012 3:05:05 AM
Dibenzofuran	ND	0.20		mg/Kg	1	10/10/2012 3:05:05 AM
1,2-Dichlorobenzene	ND	0.20		mg/Kg	1	10/10/2012 3:05:05 AM
1,3-Dichlorobenzene	ND	0.20		mg/Kg	1	10/10/2012 3:05:05 AM
1,4-Dichlorobenzene	ND	0.20		mg/Kg	1	10/10/2012 3:05:05 AM
3,3'-Dichlorobenzidine	ND	0.25		mg/Kg	1	10/10/2012 3:05:05 AM
Diethyl phthalate	ND	0.20		mg/Kg	1	10/10/2012 3:05:05 AM
Dimethyl phthalate	ND	0.20		mg/Kg	1	10/10/2012 3:05:05 AM
2,4-Dichlorophenol	ND	0.40		mg/Kg	1	10/10/2012 3:05:05 AM
2,4-Dimethylphenol	ND	0.30		mg/Kg	1	10/10/2012 3:05:05 AM
4,6-Dinitro-2-methylphenol	ND	0.50		mg/Kg	1	10/10/2012 3:05:05 AM
2,4-Dinitrophenol	ND	0.40		mg/Kg	1	10/10/2012 3:05:05 AM
2,4-Dinitrotoluene	ND	0.50		mg/Kg	1	10/10/2012 3:05:05 AM
2,6-Dinitrotoluene	ND	0.50		mg/Kg	1	10/10/2012 3:05:05 AM
Fluoranthene	ND	0.20		mg/Kg	1	10/10/2012 3:05:05 AM
Fluorene	0.68	0.20		mg/Kg	1	10/10/2012 3:05:05 AM
Hexachlorobenzene	ND	0.20		mg/Kg	1	10/10/2012 3:05:05 AM
Hexachlorobutadiene	ND	0.20		mg/Kg	1	10/10/2012 3:05:05 AM
Hexachlorocyclopentadiene	ND	0.20		mg/Kg	1	10/10/2012 3:05:05 AM
Hexachloroethane	ND	0.20		mg/Kg	1	10/10/2012 3:05:05 AM
Indeno(1,2,3-cd)pyrene	ND	0.20		mg/Kg	1	10/10/2012 3:05:05 AM
Isophorone	ND	0.50		mg/Kg	1	10/10/2012 3:05:05 AM
1-Methylnaphthalene	7.9	2.0		mg/Kg	10	10/10/2012 1:10:56 PM
2-Methylnaphthalene	14	2.0		mg/Kg	10	10/10/2012 1:10:56 PM
2-Methylphenol	ND	0.50		mg/Kg	1	10/10/2012 3:05:05 AM
3+4-Methylphenol	ND	0.20		mg/Kg	1	10/10/2012 3:05:05 AM
N-Nitrosodi-n-propylamine	ND	0.20		mg/Kg	1	10/10/2012 3:05:05 AM
N-Nitrosodiphenylamine	ND	0.20		mg/Kg	1	10/10/2012 3:05:05 AM
Naphthalene	1.1	0.20		mg/Kg	1	10/10/2012 3:05:05 AM
2-Nitroaniline	ND	0.20		mg/Kg	1	10/10/2012 3:05:05 AM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210372

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-1 (10-12')

Project: SWMU NO.1

Collection Date: 10/5/2012 2:15:00 PM

Lab ID: 1210372-002

Matrix: SOIL

Received Date: 10/6/2012 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
3-Nitroaniline	ND	0.20		mg/Kg	1	10/10/2012 3:05:05 AM
4-Nitroaniline	ND	0.40		mg/Kg	1	10/10/2012 3:05:05 AM
Nitrobenzene	ND	0.50		mg/Kg	1	10/10/2012 3:05:05 AM
2-Nitrophenol	ND	0.20		mg/Kg	1	10/10/2012 3:05:05 AM
4-Nitrophenol	ND	0.25		mg/Kg	1	10/10/2012 3:05:05 AM
Pentachlorophenol	ND	0.40		mg/Kg	1	10/10/2012 3:05:05 AM
Phenanthrene	1.5	0.20		mg/Kg	1	10/10/2012 3:05:05 AM
Phenol	ND	0.20		mg/Kg	1	10/10/2012 3:05:05 AM
Pyrene	ND	0.20		mg/Kg	1	10/10/2012 3:05:05 AM
Pyridine	ND	0.50		mg/Kg	1	10/10/2012 3:05:05 AM
1,2,4-Trichlorobenzene	ND	0.20		mg/Kg	1	10/10/2012 3:05:05 AM
2,4,5-Trichlorophenol	ND	0.20		mg/Kg	1	10/10/2012 3:05:05 AM
2,4,6-Trichlorophenol	ND	0.20		mg/Kg	1	10/10/2012 3:05:05 AM
Surr: 2,4,6-Tribromophenol	66.8	21.3-145		%REC	1	10/10/2012 3:05:05 AM
Surr: 2-Fluorobiphenyl	80.4	20-131		%REC	1	10/10/2012 3:05:05 AM
Surr: 2-Fluorophenol	92.8	11.9-130		%REC	1	10/10/2012 3:05:05 AM
Surr: 4-Terphenyl-d14	79.4	25.1-149		%REC	1	10/10/2012 3:05:05 AM
Surr: Nitrobenzene-d5	94.3	25.6-137		%REC	1	10/10/2012 3:05:05 AM
Surr: Phenol-d5	97.2	20.3-132		%REC	1	10/10/2012 3:05:05 AM
EPA METHOD 8260B: VOLATILES						Analyst: DJF
Benzene	ND	0.50		mg/Kg	10	10/15/2012 11:36:31 PM
Toluene	ND	0.50		mg/Kg	10	10/15/2012 11:36:31 PM
Ethylbenzene	ND	0.50		mg/Kg	10	10/15/2012 11:36:31 PM
Methyl tert-butyl ether (MTBE)	ND	0.50		mg/Kg	10	10/15/2012 11:36:31 PM
1,2,4-Trimethylbenzene	ND	0.50		mg/Kg	10	10/15/2012 11:36:31 PM
1,3,5-Trimethylbenzene	ND	0.50		mg/Kg	10	10/15/2012 11:36:31 PM
1,2-Dichloroethane (EDC)	ND	0.50		mg/Kg	10	10/15/2012 11:36:31 PM
1,2-Dibromoethane (EDB)	ND	0.50		mg/Kg	10	10/15/2012 11:36:31 PM
Naphthalene	1.3	1.0		mg/Kg	10	10/15/2012 11:36:31 PM
1-Methylnaphthalene	6.4	2.0		mg/Kg	10	10/15/2012 11:36:31 PM
2-Methylnaphthalene	13	2.0		mg/Kg	10	10/15/2012 11:36:31 PM
Acetone	ND	7.5		mg/Kg	10	10/15/2012 11:36:31 PM
Bromobenzene	ND	0.50		mg/Kg	10	10/15/2012 11:36:31 PM
Bromodichloromethane	ND	0.50		mg/Kg	10	10/15/2012 11:36:31 PM
Bromoform	ND	0.50		mg/Kg	10	10/15/2012 11:36:31 PM
Bromomethane	ND	1.5		mg/Kg	10	10/15/2012 11:36:31 PM
2-Butanone	ND	5.0		mg/Kg	10	10/15/2012 11:36:31 PM
Carbon disulfide	ND	5.0		mg/Kg	10	10/15/2012 11:36:31 PM
Carbon tetrachloride	ND	1.0		mg/Kg	10	10/15/2012 11:36:31 PM
Chlorobenzene	ND	0.50		mg/Kg	10	10/15/2012 11:36:31 PM
Chloroethane	ND	1.0		mg/Kg	10	10/15/2012 11:36:31 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210372

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-1 (10-12')

Project: SWMU NO.1

Collection Date: 10/5/2012 2:15:00 PM

Lab ID: 1210372-002

Matrix: SOIL

Received Date: 10/6/2012 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: DJF
Chloroform	ND	0.50		mg/Kg	10	10/15/2012 11:36:31 PM
Chloromethane	ND	1.5		mg/Kg	10	10/15/2012 11:36:31 PM
2-Chlorotoluene	ND	0.50		mg/Kg	10	10/15/2012 11:36:31 PM
4-Chlorotoluene	ND	0.50		mg/Kg	10	10/15/2012 11:36:31 PM
cis-1,2-DCE	ND	0.50		mg/Kg	10	10/15/2012 11:36:31 PM
cis-1,3-Dichloropropene	ND	0.50		mg/Kg	10	10/15/2012 11:36:31 PM
1,2-Dibromo-3-chloropropane	ND	1.0		mg/Kg	10	10/15/2012 11:36:31 PM
Dibromochloromethane	ND	0.50		mg/Kg	10	10/15/2012 11:36:31 PM
Dibromomethane	ND	1.0		mg/Kg	10	10/15/2012 11:36:31 PM
1,2-Dichlorobenzene	ND	0.50		mg/Kg	10	10/15/2012 11:36:31 PM
1,3-Dichlorobenzene	ND	0.50		mg/Kg	10	10/15/2012 11:36:31 PM
1,4-Dichlorobenzene	ND	0.50		mg/Kg	10	10/15/2012 11:36:31 PM
Dichlorodifluoromethane	ND	0.50		mg/Kg	10	10/15/2012 11:36:31 PM
1,1-Dichloroethane	ND	1.0		mg/Kg	10	10/15/2012 11:36:31 PM
1,1-Dichloroethene	ND	0.50		mg/Kg	10	10/15/2012 11:36:31 PM
1,2-Dichloropropane	ND	0.50		mg/Kg	10	10/15/2012 11:36:31 PM
1,3-Dichloropropane	ND	0.50		mg/Kg	10	10/15/2012 11:36:31 PM
2,2-Dichloropropane	ND	1.0		mg/Kg	10	10/15/2012 11:36:31 PM
1,1-Dichloropropene	ND	1.0		mg/Kg	10	10/15/2012 11:36:31 PM
Hexachlorobutadiene	ND	1.0		mg/Kg	10	10/15/2012 11:36:31 PM
2-Hexanone	ND	5.0		mg/Kg	10	10/15/2012 11:36:31 PM
Isopropylbenzene	ND	0.50		mg/Kg	10	10/15/2012 11:36:31 PM
4-Isopropyltoluene	ND	0.50		mg/Kg	10	10/15/2012 11:36:31 PM
4-Methyl-2-pentanone	ND	5.0		mg/Kg	10	10/15/2012 11:36:31 PM
Methylene chloride	ND	1.5		mg/Kg	10	10/15/2012 11:36:31 PM
n-Butylbenzene	ND	1.5		mg/Kg	10	10/15/2012 11:36:31 PM
n-Propylbenzene	ND	0.50		mg/Kg	10	10/15/2012 11:36:31 PM
sec-Butylbenzene	ND	0.50		mg/Kg	10	10/15/2012 11:36:31 PM
Styrene	ND	0.50		mg/Kg	10	10/15/2012 11:36:31 PM
tert-Butylbenzene	ND	0.50		mg/Kg	10	10/15/2012 11:36:31 PM
1,1,1,2-Tetrachloroethane	ND	0.50		mg/Kg	10	10/15/2012 11:36:31 PM
1,1,2,2-Tetrachloroethane	ND	0.50		mg/Kg	10	10/15/2012 11:36:31 PM
Tetrachloroethene (PCE)	ND	0.50		mg/Kg	10	10/15/2012 11:36:31 PM
trans-1,2-DCE	ND	0.50		mg/Kg	10	10/15/2012 11:36:31 PM
trans-1,3-Dichloropropene	ND	0.50		mg/Kg	10	10/15/2012 11:36:31 PM
1,2,3-Trichlorobenzene	ND	1.0		mg/Kg	10	10/15/2012 11:36:31 PM
1,2,4-Trichlorobenzene	ND	0.50		mg/Kg	10	10/15/2012 11:36:31 PM
1,1,1-Trichloroethane	ND	0.50		mg/Kg	10	10/15/2012 11:36:31 PM
1,1,2-Trichloroethane	ND	0.50		mg/Kg	10	10/15/2012 11:36:31 PM
Trichloroethene (TCE)	ND	0.50		mg/Kg	10	10/15/2012 11:36:31 PM
Trichlorofluoromethane	ND	0.50		mg/Kg	10	10/15/2012 11:36:31 PM
1,2,3-Trichloropropane	ND	1.0		mg/Kg	10	10/15/2012 11:36:31 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210372

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-1 (10-12')

Project: SWMU NO.1

Collection Date: 10/5/2012 2:15:00 PM

Lab ID: 1210372-002

Matrix: SOIL

Received Date: 10/6/2012 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: DJF
Vinyl chloride	ND	0.50		mg/Kg	10	10/15/2012 11:36:31 PM
Xylenes, Total	ND	1.0		mg/Kg	10	10/15/2012 11:36:31 PM
Surr: 1,2-Dichloroethane-d4	94.0	70-130		%REC	10	10/15/2012 11:36:31 PM
Surr: 4-Bromofluorobenzene	90.2	70-130		%REC	10	10/15/2012 11:36:31 PM
Surr: Dibromofluoromethane	91.4	70-130		%REC	10	10/15/2012 11:36:31 PM
Surr: Toluene-d8	95.0	70-130		%REC	10	10/15/2012 11:36:31 PM

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2
RL Reporting Detection Limit

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210372

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-1 (13-14')

Project: SWMU NO.1

Collection Date: 10/5/2012 2:30:00 PM

Lab ID: 1210372-003

Matrix: SOIL

Received Date: 10/6/2012 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: JMP
Diesel Range Organics (DRO)	55	10		mg/Kg	1	10/9/2012 9:16:28 AM
Motor Oil Range Organics (MRO)	ND	51		mg/Kg	1	10/9/2012 9:16:28 AM
Surr: DNOP	99.7	77.6-140		%REC	1	10/9/2012 9:16:28 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	10/10/2012 6:08:27 PM
Surr: BFB	113	84-116		%REC	1	10/10/2012 6:08:27 PM
EPA METHOD 7471: MERCURY						Analyst: IDC
Mercury	ND	0.033		mg/kg	1	10/11/2012 3:21:36 PM
EPA METHOD 6010B: SOIL METALS						Analyst: JLF
Antimony	ND	25		mg/Kg	10	10/11/2012 3:32:36 PM
Arsenic	ND	25		mg/Kg	10	10/11/2012 3:32:36 PM
Barium	630	5.0		mg/Kg	50	10/11/2012 3:39:36 PM
Beryllium	ND	1.5		mg/Kg	10	10/11/2012 3:32:36 PM
Cadmium	ND	1.0		mg/Kg	10	10/11/2012 3:32:36 PM
Chromium	6.8	3.0		mg/Kg	10	10/11/2012 3:32:36 PM
Cobalt	8.0	3.0		mg/Kg	10	10/11/2012 3:32:36 PM
Iron	8100	500		mg/Kg	500	10/11/2012 3:41:59 PM
Lead	ND	2.5		mg/Kg	10	10/11/2012 3:32:36 PM
Manganese	2800	50		mg/Kg	500	10/11/2012 3:41:59 PM
Nickel	8.3	5.0		mg/Kg	10	10/11/2012 3:32:36 PM
Selenium	ND	25		mg/Kg	10	10/11/2012 3:32:36 PM
Silver	ND	2.5		mg/Kg	10	10/11/2012 3:32:36 PM
Vanadium	30	25		mg/Kg	10	10/11/2012 3:32:36 PM
Zinc	ND	25		mg/Kg	10	10/11/2012 3:32:36 PM
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Acenaphthene	ND	0.20		mg/Kg	1	10/10/2012 3:34:07 AM
Acenaphthylene	ND	0.20		mg/Kg	1	10/10/2012 3:34:07 AM
Aniline	ND	0.20		mg/Kg	1	10/10/2012 3:34:07 AM
Anthracene	ND	0.20		mg/Kg	1	10/10/2012 3:34:07 AM
Azobenzene	ND	0.20		mg/Kg	1	10/10/2012 3:34:07 AM
Benz(a)anthracene	ND	0.20		mg/Kg	1	10/10/2012 3:34:07 AM
Benzo(a)pyrene	ND	0.20		mg/Kg	1	10/10/2012 3:34:07 AM
Benzo(b)fluoranthene	ND	0.20		mg/Kg	1	10/10/2012 3:34:07 AM
Benzo(g,h,i)perylene	ND	0.20		mg/Kg	1	10/10/2012 3:34:07 AM
Benzo(k)fluoranthene	ND	0.20		mg/Kg	1	10/10/2012 3:34:07 AM
Benzoic acid	ND	0.50		mg/Kg	1	10/10/2012 3:34:07 AM
Benzyl alcohol	ND	0.20		mg/Kg	1	10/10/2012 3:34:07 AM
Bis(2-chloroethoxy)methane	ND	0.20		mg/Kg	1	10/10/2012 3:34:07 AM
Bis(2-chloroethyl)ether	ND	0.20		mg/Kg	1	10/10/2012 3:34:07 AM
Bis(2-chloroisopropyl)ether	ND	0.20		mg/Kg	1	10/10/2012 3:34:07 AM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210372

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-1 (13-14')

Project: SWMU NO.1

Collection Date: 10/5/2012 2:30:00 PM

Lab ID: 1210372-003

Matrix: SOIL

Received Date: 10/6/2012 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Bis(2-ethylhexyl)phthalate	ND	0.50		mg/Kg	1	10/10/2012 3:34:07 AM
4-Bromophenyl phenyl ether	ND	0.20		mg/Kg	1	10/10/2012 3:34:07 AM
Butyl benzyl phthalate	ND	0.20		mg/Kg	1	10/10/2012 3:34:07 AM
Carbazole	ND	0.20		mg/Kg	1	10/10/2012 3:34:07 AM
4-Chloro-3-methylphenol	ND	0.50		mg/Kg	1	10/10/2012 3:34:07 AM
4-Chloroaniline	ND	0.50		mg/Kg	1	10/10/2012 3:34:07 AM
2-Chloronaphthalene	ND	0.25		mg/Kg	1	10/10/2012 3:34:07 AM
2-Chlorophenol	ND	0.20		mg/Kg	1	10/10/2012 3:34:07 AM
4-Chlorophenyl phenyl ether	ND	0.20		mg/Kg	1	10/10/2012 3:34:07 AM
Chrysene	ND	0.20		mg/Kg	1	10/10/2012 3:34:07 AM
Di-n-butyl phthalate	ND	0.50		mg/Kg	1	10/10/2012 3:34:07 AM
Di-n-octyl phthalate	ND	0.25		mg/Kg	1	10/10/2012 3:34:07 AM
Dibenz(a,h)anthracene	ND	0.20		mg/Kg	1	10/10/2012 3:34:07 AM
Dibenzofuran	ND	0.20		mg/Kg	1	10/10/2012 3:34:07 AM
1,2-Dichlorobenzene	ND	0.20		mg/Kg	1	10/10/2012 3:34:07 AM
1,3-Dichlorobenzene	ND	0.20		mg/Kg	1	10/10/2012 3:34:07 AM
1,4-Dichlorobenzene	ND	0.20		mg/Kg	1	10/10/2012 3:34:07 AM
3,3'-Dichlorobenzidine	ND	0.25		mg/Kg	1	10/10/2012 3:34:07 AM
Diethyl phthalate	ND	0.20		mg/Kg	1	10/10/2012 3:34:07 AM
Dimethyl phthalate	ND	0.20		mg/Kg	1	10/10/2012 3:34:07 AM
2,4-Dichlorophenol	ND	0.40		mg/Kg	1	10/10/2012 3:34:07 AM
2,4-Dimethylphenol	ND	0.30		mg/Kg	1	10/10/2012 3:34:07 AM
4,6-Dinitro-2-methylphenol	ND	0.50		mg/Kg	1	10/10/2012 3:34:07 AM
2,4-Dinitrophenol	ND	0.40		mg/Kg	1	10/10/2012 3:34:07 AM
2,4-Dinitrotoluene	ND	0.50		mg/Kg	1	10/10/2012 3:34:07 AM
2,6-Dinitrotoluene	ND	0.50		mg/Kg	1	10/10/2012 3:34:07 AM
Fluoranthene	ND	0.20		mg/Kg	1	10/10/2012 3:34:07 AM
Fluorene	ND	0.20		mg/Kg	1	10/10/2012 3:34:07 AM
Hexachlorobenzene	ND	0.20		mg/Kg	1	10/10/2012 3:34:07 AM
Hexachlorobutadiene	ND	0.20		mg/Kg	1	10/10/2012 3:34:07 AM
Hexachlorocyclopentadiene	ND	0.20		mg/Kg	1	10/10/2012 3:34:07 AM
Hexachloroethane	ND	0.20		mg/Kg	1	10/10/2012 3:34:07 AM
Indeno(1,2,3-cd)pyrene	ND	0.20		mg/Kg	1	10/10/2012 3:34:07 AM
Isophorone	ND	0.50		mg/Kg	1	10/10/2012 3:34:07 AM
1-Methylnaphthalene	ND	0.20		mg/Kg	1	10/10/2012 3:34:07 AM
2-Methylnaphthalene	ND	0.20		mg/Kg	1	10/10/2012 3:34:07 AM
2-Methylphenol	ND	0.50		mg/Kg	1	10/10/2012 3:34:07 AM
3+4-Methylphenol	ND	0.20		mg/Kg	1	10/10/2012 3:34:07 AM
N-Nitrosodi-n-propylamine	ND	0.20		mg/Kg	1	10/10/2012 3:34:07 AM
N-Nitrosodiphenylamine	ND	0.20		mg/Kg	1	10/10/2012 3:34:07 AM
Naphthalene	ND	0.20		mg/Kg	1	10/10/2012 3:34:07 AM
2-Nitroaniline	ND	0.20		mg/Kg	1	10/10/2012 3:34:07 AM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210372

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-1 (13-14')

Project: SWMU NO.1

Collection Date: 10/5/2012 2:30:00 PM

Lab ID: 1210372-003

Matrix: SOIL

Received Date: 10/6/2012 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
3-Nitroaniline	ND	0.20		mg/Kg	1	10/10/2012 3:34:07 AM
4-Nitroaniline	ND	0.40		mg/Kg	1	10/10/2012 3:34:07 AM
Nitrobenzene	ND	0.50		mg/Kg	1	10/10/2012 3:34:07 AM
2-Nitrophenol	ND	0.20		mg/Kg	1	10/10/2012 3:34:07 AM
4-Nitrophenol	ND	0.25		mg/Kg	1	10/10/2012 3:34:07 AM
Pentachlorophenol	ND	0.40		mg/Kg	1	10/10/2012 3:34:07 AM
Phenanthrene	ND	0.20		mg/Kg	1	10/10/2012 3:34:07 AM
Phenol	ND	0.20		mg/Kg	1	10/10/2012 3:34:07 AM
Pyrene	ND	0.20		mg/Kg	1	10/10/2012 3:34:07 AM
Pyridine	ND	0.50		mg/Kg	1	10/10/2012 3:34:07 AM
1,2,4-Trichlorobenzene	ND	0.20		mg/Kg	1	10/10/2012 3:34:07 AM
2,4,5-Trichlorophenol	ND	0.20		mg/Kg	1	10/10/2012 3:34:07 AM
2,4,6-Trichlorophenol	ND	0.20		mg/Kg	1	10/10/2012 3:34:07 AM
Surr: 2,4,6-Tribromophenol	82.4	21.3-145		%REC	1	10/10/2012 3:34:07 AM
Surr: 2-Fluorobiphenyl	81.7	20-131		%REC	1	10/10/2012 3:34:07 AM
Surr: 2-Fluorophenol	79.4	11.9-130		%REC	1	10/10/2012 3:34:07 AM
Surr: 4-Terphenyl-d14	77.5	25.1-149		%REC	1	10/10/2012 3:34:07 AM
Surr: Nitrobenzene-d5	83.4	25.6-137		%REC	1	10/10/2012 3:34:07 AM
Surr: Phenol-d5	87.9	20.3-132		%REC	1	10/10/2012 3:34:07 AM
EPA METHOD 8260B: VOLATILES						Analyst: DJF
Benzene	ND	0.050		mg/Kg	1	10/16/2012 12:32:33 AM
Toluene	ND	0.050		mg/Kg	1	10/16/2012 12:32:33 AM
Ethylbenzene	ND	0.050		mg/Kg	1	10/16/2012 12:32:33 AM
Methyl tert-butyl ether (MTBE)	ND	0.050		mg/Kg	1	10/16/2012 12:32:33 AM
1,2,4-Trimethylbenzene	ND	0.050		mg/Kg	1	10/16/2012 12:32:33 AM
1,3,5-Trimethylbenzene	ND	0.050		mg/Kg	1	10/16/2012 12:32:33 AM
1,2-Dichloroethane (EDC)	ND	0.050		mg/Kg	1	10/16/2012 12:32:33 AM
1,2-Dibromoethane (EDB)	ND	0.050		mg/Kg	1	10/16/2012 12:32:33 AM
Naphthalene	ND	0.10		mg/Kg	1	10/16/2012 12:32:33 AM
1-Methylnaphthalene	ND	0.20		mg/Kg	1	10/16/2012 12:32:33 AM
2-Methylnaphthalene	ND	0.20		mg/Kg	1	10/16/2012 12:32:33 AM
Acetone	ND	0.75		mg/Kg	1	10/16/2012 12:32:33 AM
Bromobenzene	ND	0.050		mg/Kg	1	10/16/2012 12:32:33 AM
Bromodichloromethane	ND	0.050		mg/Kg	1	10/16/2012 12:32:33 AM
Bromoform	ND	0.050		mg/Kg	1	10/16/2012 12:32:33 AM
Bromomethane	ND	0.15		mg/Kg	1	10/16/2012 12:32:33 AM
2-Butanone	ND	0.50		mg/Kg	1	10/16/2012 12:32:33 AM
Carbon disulfide	ND	0.50		mg/Kg	1	10/16/2012 12:32:33 AM
Carbon tetrachloride	ND	0.10		mg/Kg	1	10/16/2012 12:32:33 AM
Chlorobenzene	ND	0.050		mg/Kg	1	10/16/2012 12:32:33 AM
Chloroethane	ND	0.10		mg/Kg	1	10/16/2012 12:32:33 AM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210372

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-1 (13-14')

Project: SWMU NO.1

Collection Date: 10/5/2012 2:30:00 PM

Lab ID: 1210372-003

Matrix: SOIL

Received Date: 10/6/2012 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: DJF
Chloroform	ND	0.050		mg/Kg	1	10/16/2012 12:32:33 AM
Chloromethane	ND	0.15		mg/Kg	1	10/16/2012 12:32:33 AM
2-Chlorotoluene	ND	0.050		mg/Kg	1	10/16/2012 12:32:33 AM
4-Chlorotoluene	ND	0.050		mg/Kg	1	10/16/2012 12:32:33 AM
cis-1,2-DCE	ND	0.050		mg/Kg	1	10/16/2012 12:32:33 AM
cis-1,3-Dichloropropene	ND	0.050		mg/Kg	1	10/16/2012 12:32:33 AM
1,2-Dibromo-3-chloropropane	ND	0.10		mg/Kg	1	10/16/2012 12:32:33 AM
Dibromochloromethane	ND	0.050		mg/Kg	1	10/16/2012 12:32:33 AM
Dibromomethane	ND	0.10		mg/Kg	1	10/16/2012 12:32:33 AM
1,2-Dichlorobenzene	ND	0.050		mg/Kg	1	10/16/2012 12:32:33 AM
1,3-Dichlorobenzene	ND	0.050		mg/Kg	1	10/16/2012 12:32:33 AM
1,4-Dichlorobenzene	ND	0.050		mg/Kg	1	10/16/2012 12:32:33 AM
Dichlorodifluoromethane	ND	0.050		mg/Kg	1	10/16/2012 12:32:33 AM
1,1-Dichloroethane	ND	0.10		mg/Kg	1	10/16/2012 12:32:33 AM
1,1-Dichloroethene	ND	0.050		mg/Kg	1	10/16/2012 12:32:33 AM
1,2-Dichloropropane	ND	0.050		mg/Kg	1	10/16/2012 12:32:33 AM
1,3-Dichloropropane	ND	0.050		mg/Kg	1	10/16/2012 12:32:33 AM
2,2-Dichloropropane	ND	0.10		mg/Kg	1	10/16/2012 12:32:33 AM
1,1-Dichloropropene	ND	0.10		mg/Kg	1	10/16/2012 12:32:33 AM
Hexachlorobutadiene	ND	0.10		mg/Kg	1	10/16/2012 12:32:33 AM
2-Hexanone	ND	0.50		mg/Kg	1	10/16/2012 12:32:33 AM
Isopropylbenzene	ND	0.050		mg/Kg	1	10/16/2012 12:32:33 AM
4-Isopropyltoluene	ND	0.050		mg/Kg	1	10/16/2012 12:32:33 AM
4-Methyl-2-pentanone	ND	0.50		mg/Kg	1	10/16/2012 12:32:33 AM
Methylene chloride	ND	0.15		mg/Kg	1	10/16/2012 12:32:33 AM
n-Butylbenzene	ND	0.15		mg/Kg	1	10/16/2012 12:32:33 AM
n-Propylbenzene	ND	0.050		mg/Kg	1	10/16/2012 12:32:33 AM
sec-Butylbenzene	ND	0.050		mg/Kg	1	10/16/2012 12:32:33 AM
Styrene	ND	0.050		mg/Kg	1	10/16/2012 12:32:33 AM
tert-Butylbenzene	ND	0.050		mg/Kg	1	10/16/2012 12:32:33 AM
1,1,1,2-Tetrachloroethane	ND	0.050		mg/Kg	1	10/16/2012 12:32:33 AM
1,1,2,2-Tetrachloroethane	ND	0.050		mg/Kg	1	10/16/2012 12:32:33 AM
Tetrachloroethene (PCE)	ND	0.050		mg/Kg	1	10/16/2012 12:32:33 AM
trans-1,2-DCE	ND	0.050		mg/Kg	1	10/16/2012 12:32:33 AM
trans-1,3-Dichloropropene	ND	0.050		mg/Kg	1	10/16/2012 12:32:33 AM
1,2,3-Trichlorobenzene	ND	0.10		mg/Kg	1	10/16/2012 12:32:33 AM
1,2,4-Trichlorobenzene	ND	0.050		mg/Kg	1	10/16/2012 12:32:33 AM
1,1,1-Trichloroethane	ND	0.050		mg/Kg	1	10/16/2012 12:32:33 AM
1,1,2-Trichloroethane	ND	0.050		mg/Kg	1	10/16/2012 12:32:33 AM
Trichloroethene (TCE)	ND	0.050		mg/Kg	1	10/16/2012 12:32:33 AM
Trichlorofluoromethane	ND	0.050		mg/Kg	1	10/16/2012 12:32:33 AM
1,2,3-Trichloropropane	ND	0.10		mg/Kg	1	10/16/2012 12:32:33 AM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210372

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-1 (13-14')

Project: SWMU NO.1

Collection Date: 10/5/2012 2:30:00 PM

Lab ID: 1210372-003

Matrix: SOIL

Received Date: 10/6/2012 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: DJF
Vinyl chloride	ND	0.050		mg/Kg	1	10/16/2012 12:32:33 AM
Xylenes, Total	ND	0.10		mg/Kg	1	10/16/2012 12:32:33 AM
Surr: 1,2-Dichloroethane-d4	94.9	70-130		%REC	1	10/16/2012 12:32:33 AM
Surr: 4-Bromofluorobenzene	81.8	70-130		%REC	1	10/16/2012 12:32:33 AM
Surr: Dibromofluoromethane	92.1	70-130		%REC	1	10/16/2012 12:32:33 AM
Surr: Toluene-d8	99.7	70-130		%REC	1	10/16/2012 12:32:33 AM

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2
RL Reporting Detection Limit

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210372

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-8 (16-18') DUP

Project: SWMU NO.1

Collection Date: 10/5/2012 11:10:00 AM

Lab ID: 1210372-004

Matrix: SOIL

Received Date: 10/6/2012 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: JMP
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	10/9/2012 9:38:07 AM
Motor Oil Range Organics (MRO)	ND	52		mg/Kg	1	10/9/2012 9:38:07 AM
Surr: DNOP	91.2	77.6-140		%REC	1	10/9/2012 9:38:07 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	10/8/2012 8:34:40 PM
Surr: BFB	103	84-116		%REC	1	10/8/2012 8:34:40 PM
EPA METHOD 7471: MERCURY						Analyst: IDC
Mercury	ND	0.033		mg/kg	1	10/11/2012 3:23:22 PM
EPA METHOD 6010B: SOIL METALS						Analyst: JLF
Antimony	ND	12		mg/Kg	5	10/11/2012 3:44:52 PM
Arsenic	ND	12		mg/Kg	5	10/11/2012 3:44:52 PM
Barium	530	5.0		mg/Kg	50	10/11/2012 3:47:18 PM
Beryllium	ND	0.75		mg/Kg	5	10/11/2012 3:44:52 PM
Cadmium	ND	0.50		mg/Kg	5	10/11/2012 3:44:52 PM
Chromium	6.6	1.5		mg/Kg	5	10/11/2012 3:44:52 PM
Cobalt	3.5	1.5		mg/Kg	5	10/11/2012 3:44:52 PM
Iron	9100	500		mg/Kg	500	10/11/2012 3:49:43 PM
Lead	2.5	1.2		mg/Kg	5	10/11/2012 3:44:52 PM
Manganese	660	5.0		mg/Kg	50	10/11/2012 3:47:18 PM
Nickel	4.4	2.5		mg/Kg	5	10/11/2012 3:44:52 PM
Selenium	ND	12		mg/Kg	5	10/11/2012 3:44:52 PM
Silver	ND	1.2		mg/Kg	5	10/11/2012 3:44:52 PM
Vanadium	23	12		mg/Kg	5	10/11/2012 3:44:52 PM
Zinc	ND	12		mg/Kg	5	10/11/2012 3:44:52 PM
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Acenaphthene	ND	0.20		mg/Kg	1	10/10/2012 4:03:08 AM
Acenaphthylene	ND	0.20		mg/Kg	1	10/10/2012 4:03:08 AM
Aniline	ND	0.20		mg/Kg	1	10/10/2012 4:03:08 AM
Anthracene	ND	0.20		mg/Kg	1	10/10/2012 4:03:08 AM
Azobenzene	ND	0.20		mg/Kg	1	10/10/2012 4:03:08 AM
Benz(a)anthracene	ND	0.20		mg/Kg	1	10/10/2012 4:03:08 AM
Benzo(a)pyrene	ND	0.20		mg/Kg	1	10/10/2012 4:03:08 AM
Benzo(b)fluoranthene	ND	0.20		mg/Kg	1	10/10/2012 4:03:08 AM
Benzo(g,h,i)perylene	ND	0.20		mg/Kg	1	10/10/2012 4:03:08 AM
Benzo(k)fluoranthene	ND	0.20		mg/Kg	1	10/10/2012 4:03:08 AM
Benzoic acid	ND	0.50		mg/Kg	1	10/10/2012 4:03:08 AM
Benzyl alcohol	ND	0.20		mg/Kg	1	10/10/2012 4:03:08 AM
Bis(2-chloroethoxy)methane	ND	0.20		mg/Kg	1	10/10/2012 4:03:08 AM
Bis(2-chloroethyl)ether	ND	0.20		mg/Kg	1	10/10/2012 4:03:08 AM
Bis(2-chloroisopropyl)ether	ND	0.20		mg/Kg	1	10/10/2012 4:03:08 AM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210372

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-8 (16-18') DUP

Project: SWMU NO.1

Collection Date: 10/5/2012 11:10:00 AM

Lab ID: 1210372-004

Matrix: SOIL

Received Date: 10/6/2012 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Bis(2-ethylhexyl)phthalate	ND	0.50		mg/Kg	1	10/10/2012 4:03:08 AM
4-Bromophenyl phenyl ether	ND	0.20		mg/Kg	1	10/10/2012 4:03:08 AM
Butyl benzyl phthalate	ND	0.20		mg/Kg	1	10/10/2012 4:03:08 AM
Carbazole	ND	0.20		mg/Kg	1	10/10/2012 4:03:08 AM
4-Chloro-3-methylphenol	ND	0.50		mg/Kg	1	10/10/2012 4:03:08 AM
4-Chloroaniline	ND	0.50		mg/Kg	1	10/10/2012 4:03:08 AM
2-Chloronaphthalene	ND	0.25		mg/Kg	1	10/10/2012 4:03:08 AM
2-Chlorophenol	ND	0.20		mg/Kg	1	10/10/2012 4:03:08 AM
4-Chlorophenyl phenyl ether	ND	0.20		mg/Kg	1	10/10/2012 4:03:08 AM
Chrysene	ND	0.20		mg/Kg	1	10/10/2012 4:03:08 AM
Di-n-butyl phthalate	ND	0.50		mg/Kg	1	10/10/2012 4:03:08 AM
Di-n-octyl phthalate	ND	0.25		mg/Kg	1	10/10/2012 4:03:08 AM
Dibenz(a,h)anthracene	ND	0.20		mg/Kg	1	10/10/2012 4:03:08 AM
Dibenzofuran	ND	0.20		mg/Kg	1	10/10/2012 4:03:08 AM
1,2-Dichlorobenzene	ND	0.20		mg/Kg	1	10/10/2012 4:03:08 AM
1,3-Dichlorobenzene	ND	0.20		mg/Kg	1	10/10/2012 4:03:08 AM
1,4-Dichlorobenzene	ND	0.20		mg/Kg	1	10/10/2012 4:03:08 AM
3,3'-Dichlorobenzidine	ND	0.25		mg/Kg	1	10/10/2012 4:03:08 AM
Diethyl phthalate	ND	0.20		mg/Kg	1	10/10/2012 4:03:08 AM
Dimethyl phthalate	ND	0.20		mg/Kg	1	10/10/2012 4:03:08 AM
2,4-Dichlorophenol	ND	0.40		mg/Kg	1	10/10/2012 4:03:08 AM
2,4-Dimethylphenol	ND	0.30		mg/Kg	1	10/10/2012 4:03:08 AM
4,6-Dinitro-2-methylphenol	ND	0.50		mg/Kg	1	10/10/2012 4:03:08 AM
2,4-Dinitrophenol	ND	0.40		mg/Kg	1	10/10/2012 4:03:08 AM
2,4-Dinitrotoluene	ND	0.50		mg/Kg	1	10/10/2012 4:03:08 AM
2,6-Dinitrotoluene	ND	0.50		mg/Kg	1	10/10/2012 4:03:08 AM
Fluoranthene	ND	0.20		mg/Kg	1	10/10/2012 4:03:08 AM
Fluorene	ND	0.20		mg/Kg	1	10/10/2012 4:03:08 AM
Hexachlorobenzene	ND	0.20		mg/Kg	1	10/10/2012 4:03:08 AM
Hexachlorobutadiene	ND	0.20		mg/Kg	1	10/10/2012 4:03:08 AM
Hexachlorocyclopentadiene	ND	0.20		mg/Kg	1	10/10/2012 4:03:08 AM
Hexachloroethane	ND	0.20		mg/Kg	1	10/10/2012 4:03:08 AM
Indeno(1,2,3-cd)pyrene	ND	0.20		mg/Kg	1	10/10/2012 4:03:08 AM
Isophorone	ND	0.50		mg/Kg	1	10/10/2012 4:03:08 AM
1-Methylnaphthalene	ND	0.20		mg/Kg	1	10/10/2012 4:03:08 AM
2-Methylnaphthalene	ND	0.20		mg/Kg	1	10/10/2012 4:03:08 AM
2-Methylphenol	ND	0.50		mg/Kg	1	10/10/2012 4:03:08 AM
3+4-Methylphenol	ND	0.20		mg/Kg	1	10/10/2012 4:03:08 AM
N-Nitrosodi-n-propylamine	ND	0.20		mg/Kg	1	10/10/2012 4:03:08 AM
N-Nitrosodiphenylamine	ND	0.20		mg/Kg	1	10/10/2012 4:03:08 AM
Naphthalene	ND	0.20		mg/Kg	1	10/10/2012 4:03:08 AM
2-Nitroaniline	ND	0.20		mg/Kg	1	10/10/2012 4:03:08 AM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210372

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-8 (16-18') DUP

Project: SWMU NO.1

Collection Date: 10/5/2012 11:10:00 AM

Lab ID: 1210372-004

Matrix: SOIL

Received Date: 10/6/2012 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
3-Nitroaniline	ND	0.20		mg/Kg	1	10/10/2012 4:03:08 AM
4-Nitroaniline	ND	0.40		mg/Kg	1	10/10/2012 4:03:08 AM
Nitrobenzene	ND	0.50		mg/Kg	1	10/10/2012 4:03:08 AM
2-Nitrophenol	ND	0.20		mg/Kg	1	10/10/2012 4:03:08 AM
4-Nitrophenol	ND	0.25		mg/Kg	1	10/10/2012 4:03:08 AM
Pentachlorophenol	ND	0.40		mg/Kg	1	10/10/2012 4:03:08 AM
Phenanthrene	ND	0.20		mg/Kg	1	10/10/2012 4:03:08 AM
Phenol	ND	0.20		mg/Kg	1	10/10/2012 4:03:08 AM
Pyrene	ND	0.20		mg/Kg	1	10/10/2012 4:03:08 AM
Pyridine	ND	0.50		mg/Kg	1	10/10/2012 4:03:08 AM
1,2,4-Trichlorobenzene	ND	0.20		mg/Kg	1	10/10/2012 4:03:08 AM
2,4,5-Trichlorophenol	ND	0.20		mg/Kg	1	10/10/2012 4:03:08 AM
2,4,6-Trichlorophenol	ND	0.20		mg/Kg	1	10/10/2012 4:03:08 AM
Surr: 2,4,6-Tribromophenol	70.7	21.3-145		%REC	1	10/10/2012 4:03:08 AM
Surr: 2-Fluorobiphenyl	74.1	20-131		%REC	1	10/10/2012 4:03:08 AM
Surr: 2-Fluorophenol	74.7	11.9-130		%REC	1	10/10/2012 4:03:08 AM
Surr: 4-Terphenyl-d14	66.8	25.1-149		%REC	1	10/10/2012 4:03:08 AM
Surr: Nitrobenzene-d5	74.1	25.6-137		%REC	1	10/10/2012 4:03:08 AM
Surr: Phenol-d5	80.3	20.3-132		%REC	1	10/10/2012 4:03:08 AM
METHOD 8260B/5035LOW: VOLATILES						Analyst: RAA
Benzene	0.00148	0.00106		mg/Kg	1	10/9/2012 10:42:46 PM
Toluene	0.00121	0.00106		mg/Kg	1	10/9/2012 10:42:46 PM
Ethylbenzene	ND	0.00106		mg/Kg	1	10/9/2012 10:42:46 PM
Xylenes, Total	ND	0.00212		mg/Kg	1	10/9/2012 10:42:46 PM
Methyl tert-butyl ether (MTBE)	0.0240	0.00106		mg/Kg	1	10/9/2012 10:42:46 PM
1,2,4-Trimethylbenzene	0.00109	0.00106		mg/Kg	1	10/9/2012 10:42:46 PM
1,3,5-Trimethylbenzene	ND	0.00106		mg/Kg	1	10/9/2012 10:42:46 PM
1,2-Dichloroethane (EDC)	ND	0.00106		mg/Kg	1	10/9/2012 10:42:46 PM
1,2-Dibromoethane (EDB)	ND	0.00106		mg/Kg	1	10/9/2012 10:42:46 PM
Naphthalene	ND	0.00212		mg/Kg	1	10/9/2012 10:42:46 PM
1-Methylnaphthalene	ND	0.00424		mg/Kg	1	10/9/2012 10:42:46 PM
2-Methylnaphthalene	ND	0.00424		mg/Kg	1	10/9/2012 10:42:46 PM
Acetone	0.0370	0.0106		mg/Kg	1	10/9/2012 10:42:46 PM
Bromobenzene	ND	0.00106		mg/Kg	1	10/9/2012 10:42:46 PM
Bromodichloromethane	ND	0.00106		mg/Kg	1	10/9/2012 10:42:46 PM
Bromoform	ND	0.00106		mg/Kg	1	10/9/2012 10:42:46 PM
Bromomethane	ND	0.00106		mg/Kg	1	10/9/2012 10:42:46 PM
2-Butanone	ND	0.0106		mg/Kg	1	10/9/2012 10:42:46 PM
Carbon tetrachloride	ND	0.00106		mg/Kg	1	10/9/2012 10:42:46 PM
Chlorobenzene	ND	0.00106		mg/Kg	1	10/9/2012 10:42:46 PM
Chloroethane	ND	0.00106		mg/Kg	1	10/9/2012 10:42:46 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210372

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-8 (16-18') DUP

Project: SWMU NO.1

Collection Date: 10/5/2012 11:10:00 AM

Lab ID: 1210372-004

Matrix: SOIL

Received Date: 10/6/2012 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
METHOD 8260B/5035LOW: VOLATILES						Analyst: RAA
Chloroform	ND	0.00106		mg/Kg	1	10/9/2012 10:42:46 PM
Chloromethane	ND	0.00106		mg/Kg	1	10/9/2012 10:42:46 PM
2-Chlorotoluene	ND	0.00106		mg/Kg	1	10/9/2012 10:42:46 PM
Carbon disulfide	ND	0.0106		mg/Kg	1	10/9/2012 10:42:46 PM
4-Chlorotoluene	ND	0.00106		mg/Kg	1	10/9/2012 10:42:46 PM
cis-1,2-DCE	ND	0.00106		mg/Kg	1	10/9/2012 10:42:46 PM
cis-1,3-Dichloropropene	ND	0.00106		mg/Kg	1	10/9/2012 10:42:46 PM
1,2-Dibromo-3-chloropropane	ND	0.00106		mg/Kg	1	10/9/2012 10:42:46 PM
Dibromochloromethane	ND	0.00106		mg/Kg	1	10/9/2012 10:42:46 PM
Dibromomethane	ND	0.00106		mg/Kg	1	10/9/2012 10:42:46 PM
1,2-Dichlorobenzene	ND	0.00106		mg/Kg	1	10/9/2012 10:42:46 PM
1,3-Dichlorobenzene	ND	0.00106		mg/Kg	1	10/9/2012 10:42:46 PM
1,4-Dichlorobenzene	ND	0.00106		mg/Kg	1	10/9/2012 10:42:46 PM
Dichlorodifluoromethane	ND	0.00106		mg/Kg	1	10/9/2012 10:42:46 PM
1,1-Dichloroethane	ND	0.00106		mg/Kg	1	10/9/2012 10:42:46 PM
1,1-Dichloroethene	ND	0.00106		mg/Kg	1	10/9/2012 10:42:46 PM
1,2-Dichloropropane	ND	0.00106		mg/Kg	1	10/9/2012 10:42:46 PM
1,3-Dichloropropane	ND	0.00106		mg/Kg	1	10/9/2012 10:42:46 PM
2,2-Dichloropropane	ND	0.00106		mg/Kg	1	10/9/2012 10:42:46 PM
1,1-Dichloropropene	ND	0.00106		mg/Kg	1	10/9/2012 10:42:46 PM
Hexachlorobutadiene	ND	0.00106		mg/Kg	1	10/9/2012 10:42:46 PM
Isopropylbenzene	ND	0.00106		mg/Kg	1	10/9/2012 10:42:46 PM
4-Isopropyltoluene	ND	0.00106		mg/Kg	1	10/9/2012 10:42:46 PM
Methylene chloride	ND	0.00318		mg/Kg	1	10/9/2012 10:42:46 PM
n-Butylbenzene	ND	0.00106		mg/Kg	1	10/9/2012 10:42:46 PM
2-Hexanone	ND	0.0106		mg/Kg	1	10/9/2012 10:42:46 PM
n-Propylbenzene	ND	0.00106		mg/Kg	1	10/9/2012 10:42:46 PM
sec-Butylbenzene	ND	0.00106		mg/Kg	1	10/9/2012 10:42:46 PM
Styrene	ND	0.00106		mg/Kg	1	10/9/2012 10:42:46 PM
4-Methyl-2-pentanone	ND	0.0106		mg/Kg	1	10/9/2012 10:42:46 PM
tert-Butylbenzene	ND	0.00106		mg/Kg	1	10/9/2012 10:42:46 PM
1,1,1,2-Tetrachloroethane	ND	0.00106		mg/Kg	1	10/9/2012 10:42:46 PM
1,1,2,2-Tetrachloroethane	ND	0.00106		mg/Kg	1	10/9/2012 10:42:46 PM
Tetrachloroethene (PCE)	ND	0.00106		mg/Kg	1	10/9/2012 10:42:46 PM
trans-1,2-DCE	ND	0.00106		mg/Kg	1	10/9/2012 10:42:46 PM
trans-1,3-Dichloropropene	ND	0.00106		mg/Kg	1	10/9/2012 10:42:46 PM
1,2,3-Trichlorobenzene	ND	0.00106		mg/Kg	1	10/9/2012 10:42:46 PM
1,2,4-Trichlorobenzene	ND	0.00106		mg/Kg	1	10/9/2012 10:42:46 PM
1,1,1-Trichloroethane	ND	0.00106		mg/Kg	1	10/9/2012 10:42:46 PM
1,1,2-Trichloroethane	ND	0.00106		mg/Kg	1	10/9/2012 10:42:46 PM
Trichloroethene (TCE)	ND	0.00106		mg/Kg	1	10/9/2012 10:42:46 PM
Trichlorofluoromethane	ND	0.00106		mg/Kg	1	10/9/2012 10:42:46 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210372

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-8 (16-18') DUP

Project: SWMU NO.1

Collection Date: 10/5/2012 11:10:00 AM

Lab ID: 1210372-004

Matrix: SOIL

Received Date: 10/6/2012 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
METHOD 8260B/5035LOW: VOLATILES						Analyst: RAA
1,2,3-Trichloropropane	ND	0.00106		mg/Kg	1	10/9/2012 10:42:46 PM
Vinyl chloride	ND	0.00106		mg/Kg	1	10/9/2012 10:42:46 PM
Surr: 1,2-Dichloroethane-d4	97.6	70-130		%REC	1	10/9/2012 10:42:46 PM
Surr: 4-Bromofluorobenzene	95.0	70-130		%REC	1	10/9/2012 10:42:46 PM
Surr: Dibromofluoromethane	108	70-130		%REC	1	10/9/2012 10:42:46 PM
Surr: Toluene-d8	95.8	70-130		%REC	1	10/9/2012 10:42:46 PM

Qualifiers:

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J Analyte detected below quantitation limits
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RL Reporting Detection Limit

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210372

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-8 (19-20')

Project: SWMU NO.1

Collection Date: 10/5/2012 11:25:00 AM

Lab ID: 1210372-005

Matrix: SOIL

Received Date: 10/6/2012 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: JMP
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	10/9/2012 9:59:40 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	10/9/2012 9:59:40 AM
Surr: DNOP	95.4	77.6-140		%REC	1	10/9/2012 9:59:40 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	10/8/2012 11:27:22 PM
Surr: BFB	100	84-116		%REC	1	10/8/2012 11:27:22 PM
EPA METHOD 7471: MERCURY						Analyst: IDC
Mercury	ND	0.033		mg/kg	1	10/11/2012 3:25:08 PM
EPA METHOD 6010B: SOIL METALS						Analyst: JLF
Antimony	ND	12		mg/Kg	5	10/11/2012 3:52:34 PM
Arsenic	ND	12		mg/Kg	5	10/11/2012 3:52:34 PM
Barium	300	5.0		mg/Kg	50	10/11/2012 3:55:01 PM
Beryllium	0.95	0.75		mg/Kg	5	10/11/2012 3:52:34 PM
Cadmium	ND	0.50		mg/Kg	5	10/11/2012 3:52:34 PM
Chromium	14	1.5		mg/Kg	5	10/11/2012 3:52:34 PM
Cobalt	8.2	1.5		mg/Kg	5	10/11/2012 3:52:34 PM
Iron	19000	500		mg/Kg	500	10/11/2012 3:57:26 PM
Lead	ND	1.2		mg/Kg	5	10/11/2012 3:52:34 PM
Manganese	300	5.0		mg/Kg	50	10/11/2012 3:55:01 PM
Nickel	12	2.5		mg/Kg	5	10/11/2012 3:52:34 PM
Selenium	ND	12		mg/Kg	5	10/11/2012 3:52:34 PM
Silver	ND	1.2		mg/Kg	5	10/11/2012 3:52:34 PM
Vanadium	26	12		mg/Kg	5	10/11/2012 3:52:34 PM
Zinc	29	12		mg/Kg	5	10/11/2012 3:52:34 PM
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Acenaphthene	ND	0.20		mg/Kg	1	10/10/2012 4:32:12 AM
Acenaphthylene	ND	0.20		mg/Kg	1	10/10/2012 4:32:12 AM
Aniline	ND	0.20		mg/Kg	1	10/10/2012 4:32:12 AM
Anthracene	ND	0.20		mg/Kg	1	10/10/2012 4:32:12 AM
Azobenzene	ND	0.20		mg/Kg	1	10/10/2012 4:32:12 AM
Benz(a)anthracene	ND	0.20		mg/Kg	1	10/10/2012 4:32:12 AM
Benzo(a)pyrene	ND	0.20		mg/Kg	1	10/10/2012 4:32:12 AM
Benzo(b)fluoranthene	ND	0.20		mg/Kg	1	10/10/2012 4:32:12 AM
Benzo(g,h,i)perylene	ND	0.20		mg/Kg	1	10/10/2012 4:32:12 AM
Benzo(k)fluoranthene	ND	0.20		mg/Kg	1	10/10/2012 4:32:12 AM
Benzoic acid	ND	0.50		mg/Kg	1	10/10/2012 4:32:12 AM
Benzyl alcohol	ND	0.20		mg/Kg	1	10/10/2012 4:32:12 AM
Bis(2-chloroethoxy)methane	ND	0.20		mg/Kg	1	10/10/2012 4:32:12 AM
Bis(2-chloroethyl)ether	ND	0.20		mg/Kg	1	10/10/2012 4:32:12 AM
Bis(2-chloroisopropyl)ether	ND	0.20		mg/Kg	1	10/10/2012 4:32:12 AM

Qualifiers:

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- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210372

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-8 (19-20')

Project: SWMU NO.1

Collection Date: 10/5/2012 11:25:00 AM

Lab ID: 1210372-005

Matrix: SOIL

Received Date: 10/6/2012 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Bis(2-ethylhexyl)phthalate	ND	0.50		mg/Kg	1	10/10/2012 4:32:12 AM
4-Bromophenyl phenyl ether	ND	0.20		mg/Kg	1	10/10/2012 4:32:12 AM
Butyl benzyl phthalate	ND	0.20		mg/Kg	1	10/10/2012 4:32:12 AM
Carbazole	ND	0.20		mg/Kg	1	10/10/2012 4:32:12 AM
4-Chloro-3-methylphenol	ND	0.50		mg/Kg	1	10/10/2012 4:32:12 AM
4-Chloroaniline	ND	0.50		mg/Kg	1	10/10/2012 4:32:12 AM
2-Chloronaphthalene	ND	0.25		mg/Kg	1	10/10/2012 4:32:12 AM
2-Chlorophenol	ND	0.20		mg/Kg	1	10/10/2012 4:32:12 AM
4-Chlorophenyl phenyl ether	ND	0.20		mg/Kg	1	10/10/2012 4:32:12 AM
Chrysene	ND	0.20		mg/Kg	1	10/10/2012 4:32:12 AM
Di-n-butyl phthalate	ND	0.50		mg/Kg	1	10/10/2012 4:32:12 AM
Di-n-octyl phthalate	ND	0.25		mg/Kg	1	10/10/2012 4:32:12 AM
Dibenz(a,h)anthracene	ND	0.20		mg/Kg	1	10/10/2012 4:32:12 AM
Dibenzofuran	ND	0.20		mg/Kg	1	10/10/2012 4:32:12 AM
1,2-Dichlorobenzene	ND	0.20		mg/Kg	1	10/10/2012 4:32:12 AM
1,3-Dichlorobenzene	ND	0.20		mg/Kg	1	10/10/2012 4:32:12 AM
1,4-Dichlorobenzene	ND	0.20		mg/Kg	1	10/10/2012 4:32:12 AM
3,3'-Dichlorobenzidine	ND	0.25		mg/Kg	1	10/10/2012 4:32:12 AM
Diethyl phthalate	ND	0.20		mg/Kg	1	10/10/2012 4:32:12 AM
Dimethyl phthalate	ND	0.20		mg/Kg	1	10/10/2012 4:32:12 AM
2,4-Dichlorophenol	ND	0.40		mg/Kg	1	10/10/2012 4:32:12 AM
2,4-Dimethylphenol	ND	0.30		mg/Kg	1	10/10/2012 4:32:12 AM
4,6-Dinitro-2-methylphenol	ND	0.50		mg/Kg	1	10/10/2012 4:32:12 AM
2,4-Dinitrophenol	ND	0.40		mg/Kg	1	10/10/2012 4:32:12 AM
2,4-Dinitrotoluene	ND	0.50		mg/Kg	1	10/10/2012 4:32:12 AM
2,6-Dinitrotoluene	ND	0.50		mg/Kg	1	10/10/2012 4:32:12 AM
Fluoranthene	ND	0.20		mg/Kg	1	10/10/2012 4:32:12 AM
Fluorene	ND	0.20		mg/Kg	1	10/10/2012 4:32:12 AM
Hexachlorobenzene	ND	0.20		mg/Kg	1	10/10/2012 4:32:12 AM
Hexachlorobutadiene	ND	0.20		mg/Kg	1	10/10/2012 4:32:12 AM
Hexachlorocyclopentadiene	ND	0.20		mg/Kg	1	10/10/2012 4:32:12 AM
Hexachloroethane	ND	0.20		mg/Kg	1	10/10/2012 4:32:12 AM
Indeno(1,2,3-cd)pyrene	ND	0.20		mg/Kg	1	10/10/2012 4:32:12 AM
Isophorone	ND	0.50		mg/Kg	1	10/10/2012 4:32:12 AM
1-Methylnaphthalene	ND	0.20		mg/Kg	1	10/10/2012 4:32:12 AM
2-Methylnaphthalene	ND	0.20		mg/Kg	1	10/10/2012 4:32:12 AM
2-Methylphenol	ND	0.50		mg/Kg	1	10/10/2012 4:32:12 AM
3+4-Methylphenol	ND	0.20		mg/Kg	1	10/10/2012 4:32:12 AM
N-Nitrosodi-n-propylamine	ND	0.20		mg/Kg	1	10/10/2012 4:32:12 AM
N-Nitrosodiphenylamine	ND	0.20		mg/Kg	1	10/10/2012 4:32:12 AM
Naphthalene	ND	0.20		mg/Kg	1	10/10/2012 4:32:12 AM
2-Nitroaniline	ND	0.20		mg/Kg	1	10/10/2012 4:32:12 AM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210372

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-8 (19-20')

Project: SWMU NO.1

Collection Date: 10/5/2012 11:25:00 AM

Lab ID: 1210372-005

Matrix: SOIL

Received Date: 10/6/2012 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
3-Nitroaniline	ND	0.20		mg/Kg	1	10/10/2012 4:32:12 AM
4-Nitroaniline	ND	0.40		mg/Kg	1	10/10/2012 4:32:12 AM
Nitrobenzene	ND	0.50		mg/Kg	1	10/10/2012 4:32:12 AM
2-Nitrophenol	ND	0.20		mg/Kg	1	10/10/2012 4:32:12 AM
4-Nitrophenol	ND	0.25		mg/Kg	1	10/10/2012 4:32:12 AM
Pentachlorophenol	ND	0.40		mg/Kg	1	10/10/2012 4:32:12 AM
Phenanthrene	ND	0.20		mg/Kg	1	10/10/2012 4:32:12 AM
Phenol	ND	0.20		mg/Kg	1	10/10/2012 4:32:12 AM
Pyrene	ND	0.20		mg/Kg	1	10/10/2012 4:32:12 AM
Pyridine	ND	0.50		mg/Kg	1	10/10/2012 4:32:12 AM
1,2,4-Trichlorobenzene	ND	0.20		mg/Kg	1	10/10/2012 4:32:12 AM
2,4,5-Trichlorophenol	ND	0.20		mg/Kg	1	10/10/2012 4:32:12 AM
2,4,6-Trichlorophenol	ND	0.20		mg/Kg	1	10/10/2012 4:32:12 AM
Surr: 2,4,6-Tribromophenol	62.5	21.3-145		%REC	1	10/10/2012 4:32:12 AM
Surr: 2-Fluorobiphenyl	55.9	20-131		%REC	1	10/10/2012 4:32:12 AM
Surr: 2-Fluorophenol	55.9	11.9-130		%REC	1	10/10/2012 4:32:12 AM
Surr: 4-Terphenyl-d14	54.9	25.1-149		%REC	1	10/10/2012 4:32:12 AM
Surr: Nitrobenzene-d5	56.1	25.6-137		%REC	1	10/10/2012 4:32:12 AM
Surr: Phenol-d5	60.2	20.3-132		%REC	1	10/10/2012 4:32:12 AM
METHOD 8260B/5035LOW: VOLATILES						Analyst: RAA
Benzene	ND	0.00109		mg/Kg	1	10/9/2012 8:39:34 PM
Toluene	ND	0.00109		mg/Kg	1	10/9/2012 8:39:34 PM
Ethylbenzene	ND	0.00109		mg/Kg	1	10/9/2012 8:39:34 PM
Xylenes, Total	ND	0.00218		mg/Kg	1	10/9/2012 8:39:34 PM
Methyl tert-butyl ether (MTBE)	ND	0.00109		mg/Kg	1	10/9/2012 8:39:34 PM
1,2,4-Trimethylbenzene	ND	0.00109		mg/Kg	1	10/9/2012 8:39:34 PM
1,3,5-Trimethylbenzene	ND	0.00109		mg/Kg	1	10/9/2012 8:39:34 PM
1,2-Dichloroethane (EDC)	ND	0.00109		mg/Kg	1	10/9/2012 8:39:34 PM
1,2-Dibromoethane (EDB)	ND	0.00109		mg/Kg	1	10/9/2012 8:39:34 PM
Naphthalene	ND	0.00218		mg/Kg	1	10/9/2012 8:39:34 PM
1-Methylnaphthalene	ND	0.00435		mg/Kg	1	10/9/2012 8:39:34 PM
2-Methylnaphthalene	ND	0.00435		mg/Kg	1	10/9/2012 8:39:34 PM
Acetone	0.0272	0.0109		mg/Kg	1	10/9/2012 8:39:34 PM
Bromobenzene	ND	0.00109		mg/Kg	1	10/9/2012 8:39:34 PM
Bromodichloromethane	ND	0.00109		mg/Kg	1	10/9/2012 8:39:34 PM
Bromoform	ND	0.00109		mg/Kg	1	10/9/2012 8:39:34 PM
Bromomethane	ND	0.00109		mg/Kg	1	10/9/2012 8:39:34 PM
2-Butanone	ND	0.0109		mg/Kg	1	10/9/2012 8:39:34 PM
Carbon tetrachloride	ND	0.00109		mg/Kg	1	10/9/2012 8:39:34 PM
Chlorobenzene	ND	0.00109		mg/Kg	1	10/9/2012 8:39:34 PM
Chloroethane	ND	0.00109		mg/Kg	1	10/9/2012 8:39:34 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210372

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-8 (19-20')

Project: SWMU NO.1

Collection Date: 10/5/2012 11:25:00 AM

Lab ID: 1210372-005

Matrix: SOIL

Received Date: 10/6/2012 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
METHOD 8260B/5035LOW: VOLATILES						Analyst: RAA
Chloroform	ND	0.00109		mg/Kg	1	10/9/2012 8:39:34 PM
Chloromethane	ND	0.00109		mg/Kg	1	10/9/2012 8:39:34 PM
2-Chlorotoluene	ND	0.00109		mg/Kg	1	10/9/2012 8:39:34 PM
Carbon disulfide	ND	0.0109		mg/Kg	1	10/9/2012 8:39:34 PM
4-Chlorotoluene	ND	0.00109		mg/Kg	1	10/9/2012 8:39:34 PM
cis-1,2-DCE	ND	0.00109		mg/Kg	1	10/9/2012 8:39:34 PM
cis-1,3-Dichloropropene	ND	0.00109		mg/Kg	1	10/9/2012 8:39:34 PM
1,2-Dibromo-3-chloropropane	ND	0.00109		mg/Kg	1	10/9/2012 8:39:34 PM
Dibromochloromethane	ND	0.00109		mg/Kg	1	10/9/2012 8:39:34 PM
Dibromomethane	ND	0.00109		mg/Kg	1	10/9/2012 8:39:34 PM
1,2-Dichlorobenzene	ND	0.00109		mg/Kg	1	10/9/2012 8:39:34 PM
1,3-Dichlorobenzene	ND	0.00109		mg/Kg	1	10/9/2012 8:39:34 PM
1,4-Dichlorobenzene	ND	0.00109		mg/Kg	1	10/9/2012 8:39:34 PM
Dichlorodifluoromethane	ND	0.00109		mg/Kg	1	10/9/2012 8:39:34 PM
1,1-Dichloroethane	ND	0.00109		mg/Kg	1	10/9/2012 8:39:34 PM
1,1-Dichloroethene	ND	0.00109		mg/Kg	1	10/9/2012 8:39:34 PM
1,2-Dichloropropane	ND	0.00109		mg/Kg	1	10/9/2012 8:39:34 PM
1,3-Dichloropropane	ND	0.00109		mg/Kg	1	10/9/2012 8:39:34 PM
2,2-Dichloropropane	ND	0.00109		mg/Kg	1	10/9/2012 8:39:34 PM
1,1-Dichloropropene	ND	0.00109		mg/Kg	1	10/9/2012 8:39:34 PM
Hexachlorobutadiene	ND	0.00109		mg/Kg	1	10/9/2012 8:39:34 PM
Isopropylbenzene	ND	0.00109		mg/Kg	1	10/9/2012 8:39:34 PM
4-Isopropyltoluene	ND	0.00109		mg/Kg	1	10/9/2012 8:39:34 PM
Methylene chloride	ND	0.00326		mg/Kg	1	10/9/2012 8:39:34 PM
n-Butylbenzene	ND	0.00109		mg/Kg	1	10/9/2012 8:39:34 PM
2-Hexanone	ND	0.0109		mg/Kg	1	10/9/2012 8:39:34 PM
n-Propylbenzene	ND	0.00109		mg/Kg	1	10/9/2012 8:39:34 PM
sec-Butylbenzene	ND	0.00109		mg/Kg	1	10/9/2012 8:39:34 PM
Styrene	ND	0.00109		mg/Kg	1	10/9/2012 8:39:34 PM
4-Methyl-2-pentanone	ND	0.0109		mg/Kg	1	10/9/2012 8:39:34 PM
tert-Butylbenzene	ND	0.00109		mg/Kg	1	10/9/2012 8:39:34 PM
1,1,1,2-Tetrachloroethane	ND	0.00109		mg/Kg	1	10/9/2012 8:39:34 PM
1,1,2,2-Tetrachloroethane	ND	0.00109		mg/Kg	1	10/9/2012 8:39:34 PM
Tetrachloroethene (PCE)	ND	0.00109		mg/Kg	1	10/9/2012 8:39:34 PM
trans-1,2-DCE	ND	0.00109		mg/Kg	1	10/9/2012 8:39:34 PM
trans-1,3-Dichloropropene	ND	0.00109		mg/Kg	1	10/9/2012 8:39:34 PM
1,2,3-Trichlorobenzene	ND	0.00109		mg/Kg	1	10/9/2012 8:39:34 PM
1,2,4-Trichlorobenzene	ND	0.00109		mg/Kg	1	10/9/2012 8:39:34 PM
1,1,1-Trichloroethane	ND	0.00109		mg/Kg	1	10/9/2012 8:39:34 PM
1,1,2-Trichloroethane	ND	0.00109		mg/Kg	1	10/9/2012 8:39:34 PM
Trichloroethene (TCE)	ND	0.00109		mg/Kg	1	10/9/2012 8:39:34 PM
Trichlorofluoromethane	ND	0.00109		mg/Kg	1	10/9/2012 8:39:34 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210372

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-8 (19-20')

Project: SWMU NO.1

Collection Date: 10/5/2012 11:25:00 AM

Lab ID: 1210372-005

Matrix: SOIL

Received Date: 10/6/2012 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
METHOD 8260B/5035LOW: VOLATILES						Analyst: RAA
1,2,3-Trichloropropane	ND	0.00109		mg/Kg	1	10/9/2012 8:39:34 PM
Vinyl chloride	ND	0.00109		mg/Kg	1	10/9/2012 8:39:34 PM
Surr: 1,2-Dichloroethane-d4	89.0	70-130		%REC	1	10/9/2012 8:39:34 PM
Surr: 4-Bromofluorobenzene	115	70-130		%REC	1	10/9/2012 8:39:34 PM
Surr: Dibromofluoromethane	99.5	70-130		%REC	1	10/9/2012 8:39:34 PM
Surr: Toluene-d8	88.4	70-130		%REC	1	10/9/2012 8:39:34 PM

Qualifiers:

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- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210372

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-8 (4-6")

Project: SWMU NO.1

Collection Date: 10/5/2012 10:20:00 AM

Lab ID: 1210372-006

Matrix: SOIL

Received Date: 10/6/2012 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: JMP
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	10/9/2012 10:32:04 AM
Motor Oil Range Organics (MRO)	ND	52		mg/Kg	1	10/9/2012 10:32:04 AM
Surr: DNOP	103	77.6-140		%REC	1	10/9/2012 10:32:04 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	10/10/2012 6:37:17 PM
Surr: BFB	108	84-116		%REC	1	10/10/2012 6:37:17 PM
EPA METHOD 7471: MERCURY						Analyst: IDC
Mercury	ND	0.033		mg/kg	1	10/11/2012 3:26:55 PM
EPA METHOD 6010B: SOIL METALS						Analyst: JLF
Antimony	ND	12		mg/Kg	5	10/11/2012 4:05:56 PM
Arsenic	ND	12		mg/Kg	5	10/11/2012 4:05:56 PM
Barium	540	5.0		mg/Kg	50	10/11/2012 4:10:00 PM
Beryllium	ND	0.75		mg/Kg	5	10/11/2012 4:05:56 PM
Cadmium	ND	0.50		mg/Kg	5	10/11/2012 4:05:56 PM
Chromium	5.3	1.5		mg/Kg	5	10/11/2012 4:05:56 PM
Cobalt	3.0	1.5		mg/Kg	5	10/11/2012 4:05:56 PM
Iron	7900	500		mg/Kg	500	10/11/2012 4:15:16 PM
Lead	3.4	1.2		mg/Kg	5	10/11/2012 4:05:56 PM
Manganese	390	5.0		mg/Kg	50	10/11/2012 4:10:00 PM
Nickel	4.5	2.5		mg/Kg	5	10/11/2012 4:05:56 PM
Selenium	ND	12		mg/Kg	5	10/11/2012 4:05:56 PM
Silver	ND	1.2		mg/Kg	5	10/11/2012 4:05:56 PM
Vanadium	19	12		mg/Kg	5	10/11/2012 4:05:56 PM
Zinc	ND	12		mg/Kg	5	10/11/2012 4:05:56 PM
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Acenaphthene	ND	0.20		mg/Kg	1	10/10/2012 5:01:17 AM
Acenaphthylene	ND	0.20		mg/Kg	1	10/10/2012 5:01:17 AM
Aniline	ND	0.20		mg/Kg	1	10/10/2012 5:01:17 AM
Anthracene	ND	0.20		mg/Kg	1	10/10/2012 5:01:17 AM
Azobenzene	ND	0.20		mg/Kg	1	10/10/2012 5:01:17 AM
Benz(a)anthracene	ND	0.20		mg/Kg	1	10/10/2012 5:01:17 AM
Benzo(a)pyrene	ND	0.20		mg/Kg	1	10/10/2012 5:01:17 AM
Benzo(b)fluoranthene	ND	0.20		mg/Kg	1	10/10/2012 5:01:17 AM
Benzo(g,h,i)perylene	ND	0.20		mg/Kg	1	10/10/2012 5:01:17 AM
Benzo(k)fluoranthene	ND	0.20		mg/Kg	1	10/10/2012 5:01:17 AM
Benzoic acid	ND	0.50		mg/Kg	1	10/10/2012 5:01:17 AM
Benzyl alcohol	ND	0.20		mg/Kg	1	10/10/2012 5:01:17 AM
Bis(2-chloroethoxy)methane	ND	0.20		mg/Kg	1	10/10/2012 5:01:17 AM
Bis(2-chloroethyl)ether	ND	0.20		mg/Kg	1	10/10/2012 5:01:17 AM
Bis(2-chloroisopropyl)ether	ND	0.20		mg/Kg	1	10/10/2012 5:01:17 AM

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- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210372

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-8 (4-6")

Project: SWMU NO.1

Collection Date: 10/5/2012 10:20:00 AM

Lab ID: 1210372-006

Matrix: SOIL

Received Date: 10/6/2012 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Bis(2-ethylhexyl)phthalate	ND	0.50		mg/Kg	1	10/10/2012 5:01:17 AM
4-Bromophenyl phenyl ether	ND	0.20		mg/Kg	1	10/10/2012 5:01:17 AM
Butyl benzyl phthalate	ND	0.20		mg/Kg	1	10/10/2012 5:01:17 AM
Carbazole	ND	0.20		mg/Kg	1	10/10/2012 5:01:17 AM
4-Chloro-3-methylphenol	ND	0.50		mg/Kg	1	10/10/2012 5:01:17 AM
4-Chloroaniline	ND	0.50		mg/Kg	1	10/10/2012 5:01:17 AM
2-Chloronaphthalene	ND	0.25		mg/Kg	1	10/10/2012 5:01:17 AM
2-Chlorophenol	ND	0.20		mg/Kg	1	10/10/2012 5:01:17 AM
4-Chlorophenyl phenyl ether	ND	0.20		mg/Kg	1	10/10/2012 5:01:17 AM
Chrysene	ND	0.20		mg/Kg	1	10/10/2012 5:01:17 AM
Di-n-butyl phthalate	ND	0.50		mg/Kg	1	10/10/2012 5:01:17 AM
Di-n-octyl phthalate	ND	0.25		mg/Kg	1	10/10/2012 5:01:17 AM
Dibenz(a,h)anthracene	ND	0.20		mg/Kg	1	10/10/2012 5:01:17 AM
Dibenzofuran	ND	0.20		mg/Kg	1	10/10/2012 5:01:17 AM
1,2-Dichlorobenzene	ND	0.20		mg/Kg	1	10/10/2012 5:01:17 AM
1,3-Dichlorobenzene	ND	0.20		mg/Kg	1	10/10/2012 5:01:17 AM
1,4-Dichlorobenzene	ND	0.20		mg/Kg	1	10/10/2012 5:01:17 AM
3,3'-Dichlorobenzidine	ND	0.25		mg/Kg	1	10/10/2012 5:01:17 AM
Diethyl phthalate	ND	0.20		mg/Kg	1	10/10/2012 5:01:17 AM
Dimethyl phthalate	ND	0.20		mg/Kg	1	10/10/2012 5:01:17 AM
2,4-Dichlorophenol	ND	0.40		mg/Kg	1	10/10/2012 5:01:17 AM
2,4-Dimethylphenol	ND	0.30		mg/Kg	1	10/10/2012 5:01:17 AM
4,6-Dinitro-2-methylphenol	ND	0.50		mg/Kg	1	10/10/2012 5:01:17 AM
2,4-Dinitrophenol	ND	0.40		mg/Kg	1	10/10/2012 5:01:17 AM
2,4-Dinitrotoluene	ND	0.50		mg/Kg	1	10/10/2012 5:01:17 AM
2,6-Dinitrotoluene	ND	0.50		mg/Kg	1	10/10/2012 5:01:17 AM
Fluoranthene	ND	0.20		mg/Kg	1	10/10/2012 5:01:17 AM
Fluorene	ND	0.20		mg/Kg	1	10/10/2012 5:01:17 AM
Hexachlorobenzene	ND	0.20		mg/Kg	1	10/10/2012 5:01:17 AM
Hexachlorobutadiene	ND	0.20		mg/Kg	1	10/10/2012 5:01:17 AM
Hexachlorocyclopentadiene	ND	0.20		mg/Kg	1	10/10/2012 5:01:17 AM
Hexachloroethane	ND	0.20		mg/Kg	1	10/10/2012 5:01:17 AM
Indeno(1,2,3-cd)pyrene	ND	0.20		mg/Kg	1	10/10/2012 5:01:17 AM
Isophorone	ND	0.50		mg/Kg	1	10/10/2012 5:01:17 AM
1-Methylnaphthalene	ND	0.20		mg/Kg	1	10/10/2012 5:01:17 AM
2-Methylnaphthalene	ND	0.20		mg/Kg	1	10/10/2012 5:01:17 AM
2-Methylphenol	ND	0.50		mg/Kg	1	10/10/2012 5:01:17 AM
3+4-Methylphenol	ND	0.20		mg/Kg	1	10/10/2012 5:01:17 AM
N-Nitrosodi-n-propylamine	ND	0.20		mg/Kg	1	10/10/2012 5:01:17 AM
N-Nitrosodiphenylamine	ND	0.20		mg/Kg	1	10/10/2012 5:01:17 AM
Naphthalene	ND	0.20		mg/Kg	1	10/10/2012 5:01:17 AM
2-Nitroaniline	ND	0.20		mg/Kg	1	10/10/2012 5:01:17 AM

Qualifiers:

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- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210372

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-8 (4-6")

Project: SWMU NO.1

Collection Date: 10/5/2012 10:20:00 AM

Lab ID: 1210372-006

Matrix: SOIL

Received Date: 10/6/2012 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
3-Nitroaniline	ND	0.20		mg/Kg	1	10/10/2012 5:01:17 AM
4-Nitroaniline	ND	0.40		mg/Kg	1	10/10/2012 5:01:17 AM
Nitrobenzene	ND	0.50		mg/Kg	1	10/10/2012 5:01:17 AM
2-Nitrophenol	ND	0.20		mg/Kg	1	10/10/2012 5:01:17 AM
4-Nitrophenol	ND	0.25		mg/Kg	1	10/10/2012 5:01:17 AM
Pentachlorophenol	ND	0.40		mg/Kg	1	10/10/2012 5:01:17 AM
Phenanthrene	ND	0.20		mg/Kg	1	10/10/2012 5:01:17 AM
Phenol	ND	0.20		mg/Kg	1	10/10/2012 5:01:17 AM
Pyrene	ND	0.20		mg/Kg	1	10/10/2012 5:01:17 AM
Pyridine	ND	0.50		mg/Kg	1	10/10/2012 5:01:17 AM
1,2,4-Trichlorobenzene	ND	0.20		mg/Kg	1	10/10/2012 5:01:17 AM
2,4,5-Trichlorophenol	ND	0.20		mg/Kg	1	10/10/2012 5:01:17 AM
2,4,6-Trichlorophenol	ND	0.20		mg/Kg	1	10/10/2012 5:01:17 AM
Surr: 2,4,6-Tribromophenol	97.6	21.3-145		%REC	1	10/10/2012 5:01:17 AM
Surr: 2-Fluorobiphenyl	91.8	20-131		%REC	1	10/10/2012 5:01:17 AM
Surr: 2-Fluorophenol	87.8	11.9-130		%REC	1	10/10/2012 5:01:17 AM
Surr: 4-Terphenyl-d14	79.3	25.1-149		%REC	1	10/10/2012 5:01:17 AM
Surr: Nitrobenzene-d5	93.8	25.6-137		%REC	1	10/10/2012 5:01:17 AM
Surr: Phenol-d5	94.4	20.3-132		%REC	1	10/10/2012 5:01:17 AM
METHOD 8260B/5035LOW: VOLATILES						Analyst: RAA
Benzene	0.00240	0.000812		mg/Kg	1	10/9/2012 9:10:16 PM
Toluene	0.00218	0.000812		mg/Kg	1	10/9/2012 9:10:16 PM
Ethylbenzene	0.00249	0.000812		mg/Kg	1	10/9/2012 9:10:16 PM
Xylenes, Total	0.0128	0.00162		mg/Kg	1	10/9/2012 9:10:16 PM
Methyl tert-butyl ether (MTBE)	0.00810	0.000812		mg/Kg	1	10/9/2012 9:10:16 PM
1,2,4-Trimethylbenzene	0.0102	0.000812		mg/Kg	1	10/9/2012 9:10:16 PM
1,3,5-Trimethylbenzene	0.00249	0.000812		mg/Kg	1	10/9/2012 9:10:16 PM
1,2-Dichloroethane (EDC)	ND	0.000812		mg/Kg	1	10/9/2012 9:10:16 PM
1,2-Dibromoethane (EDB)	ND	0.000812		mg/Kg	1	10/9/2012 9:10:16 PM
Naphthalene	0.0113	0.00162		mg/Kg	1	10/9/2012 9:10:16 PM
1-Methylnaphthalene	0.0164	0.00325		mg/Kg	1	10/9/2012 9:10:16 PM
2-Methylnaphthalene	0.0168	0.00325		mg/Kg	1	10/9/2012 9:10:16 PM
Acetone	0.114	0.00812		mg/Kg	1	10/9/2012 9:10:16 PM
Bromobenzene	ND	0.000812		mg/Kg	1	10/9/2012 9:10:16 PM
Bromodichloromethane	ND	0.000812		mg/Kg	1	10/9/2012 9:10:16 PM
Bromoform	ND	0.000812		mg/Kg	1	10/9/2012 9:10:16 PM
Bromomethane	ND	0.000812		mg/Kg	1	10/9/2012 9:10:16 PM
2-Butanone	0.0177	0.00812		mg/Kg	1	10/9/2012 9:10:16 PM
Carbon tetrachloride	ND	0.000812		mg/Kg	1	10/9/2012 9:10:16 PM
Chlorobenzene	ND	0.000812		mg/Kg	1	10/9/2012 9:10:16 PM
Chloroethane	ND	0.000812		mg/Kg	1	10/9/2012 9:10:16 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210372

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-8 (4-6")

Project: SWMU NO.1

Collection Date: 10/5/2012 10:20:00 AM

Lab ID: 1210372-006

Matrix: SOIL

Received Date: 10/6/2012 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
METHOD 8260B/5035LOW: VOLATILES						Analyst: RAA
Chloroform	ND	0.000812		mg/Kg	1	10/9/2012 9:10:16 PM
Chloromethane	ND	0.000812		mg/Kg	1	10/9/2012 9:10:16 PM
2-Chlorotoluene	ND	0.000812		mg/Kg	1	10/9/2012 9:10:16 PM
Carbon disulfide	ND	0.00812		mg/Kg	1	10/9/2012 9:10:16 PM
4-Chlorotoluene	ND	0.000812		mg/Kg	1	10/9/2012 9:10:16 PM
cis-1,2-DCE	ND	0.000812		mg/Kg	1	10/9/2012 9:10:16 PM
cis-1,3-Dichloropropene	ND	0.000812		mg/Kg	1	10/9/2012 9:10:16 PM
1,2-Dibromo-3-chloropropane	ND	0.000812		mg/Kg	1	10/9/2012 9:10:16 PM
Dibromochloromethane	ND	0.000812		mg/Kg	1	10/9/2012 9:10:16 PM
Dibromomethane	ND	0.000812		mg/Kg	1	10/9/2012 9:10:16 PM
1,2-Dichlorobenzene	ND	0.000812		mg/Kg	1	10/9/2012 9:10:16 PM
1,3-Dichlorobenzene	ND	0.000812		mg/Kg	1	10/9/2012 9:10:16 PM
1,4-Dichlorobenzene	ND	0.000812		mg/Kg	1	10/9/2012 9:10:16 PM
Dichlorodifluoromethane	ND	0.000812		mg/Kg	1	10/9/2012 9:10:16 PM
1,1-Dichloroethane	ND	0.000812		mg/Kg	1	10/9/2012 9:10:16 PM
1,1-Dichloroethene	ND	0.000812		mg/Kg	1	10/9/2012 9:10:16 PM
1,2-Dichloropropane	ND	0.000812		mg/Kg	1	10/9/2012 9:10:16 PM
1,3-Dichloropropane	ND	0.000812		mg/Kg	1	10/9/2012 9:10:16 PM
2,2-Dichloropropane	ND	0.000812		mg/Kg	1	10/9/2012 9:10:16 PM
1,1-Dichloropropene	ND	0.000812		mg/Kg	1	10/9/2012 9:10:16 PM
Hexachlorobutadiene	ND	0.000812		mg/Kg	1	10/9/2012 9:10:16 PM
Isopropylbenzene	ND	0.000812		mg/Kg	1	10/9/2012 9:10:16 PM
4-Isopropyltoluene	ND	0.000812		mg/Kg	1	10/9/2012 9:10:16 PM
Methylene chloride	ND	0.00244		mg/Kg	1	10/9/2012 9:10:16 PM
n-Butylbenzene	ND	0.000812		mg/Kg	1	10/9/2012 9:10:16 PM
2-Hexanone	ND	0.00812		mg/Kg	1	10/9/2012 9:10:16 PM
n-Propylbenzene	0.00136	0.000812		mg/Kg	1	10/9/2012 9:10:16 PM
sec-Butylbenzene	ND	0.000812		mg/Kg	1	10/9/2012 9:10:16 PM
Styrene	ND	0.000812		mg/Kg	1	10/9/2012 9:10:16 PM
4-Methyl-2-pentanone	ND	0.00812		mg/Kg	1	10/9/2012 9:10:16 PM
tert-Butylbenzene	ND	0.000812		mg/Kg	1	10/9/2012 9:10:16 PM
1,1,1,2-Tetrachloroethane	ND	0.000812		mg/Kg	1	10/9/2012 9:10:16 PM
1,1,2,2-Tetrachloroethane	ND	0.000812		mg/Kg	1	10/9/2012 9:10:16 PM
Tetrachloroethene (PCE)	ND	0.000812		mg/Kg	1	10/9/2012 9:10:16 PM
trans-1,2-DCE	ND	0.000812		mg/Kg	1	10/9/2012 9:10:16 PM
trans-1,3-Dichloropropene	ND	0.000812		mg/Kg	1	10/9/2012 9:10:16 PM
1,2,3-Trichlorobenzene	ND	0.000812		mg/Kg	1	10/9/2012 9:10:16 PM
1,2,4-Trichlorobenzene	ND	0.000812		mg/Kg	1	10/9/2012 9:10:16 PM
1,1,1-Trichloroethane	ND	0.000812		mg/Kg	1	10/9/2012 9:10:16 PM
1,1,2-Trichloroethane	ND	0.000812		mg/Kg	1	10/9/2012 9:10:16 PM
Trichloroethene (TCE)	ND	0.000812		mg/Kg	1	10/9/2012 9:10:16 PM
Trichlorofluoromethane	ND	0.000812		mg/Kg	1	10/9/2012 9:10:16 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1210372

Date Reported: 11/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 1-8 (4-6')

Project: SWMU NO.1

Collection Date: 10/5/2012 10:20:00 AM

Lab ID: 1210372-006

Matrix: SOIL

Received Date: 10/6/2012 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
METHOD 8260B/5035LOW: VOLATILES						Analyst: RAA
1,2,3-Trichloropropane	ND	0.000812		mg/Kg	1	10/9/2012 9:10:16 PM
Vinyl chloride	ND	0.000812		mg/Kg	1	10/9/2012 9:10:16 PM
Surr: 1,2-Dichloroethane-d4	99.2	70-130		%REC	1	10/9/2012 9:10:16 PM
Surr: 4-Bromofluorobenzene	113	70-130		%REC	1	10/9/2012 9:10:16 PM
Surr: Dibromofluoromethane	105	70-130		%REC	1	10/9/2012 9:10:16 PM
Surr: Toluene-d8	89.2	70-130		%REC	1	10/9/2012 9:10:16 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits